RESPONSE ACTION COMPLETION REPORT

UNION PACIFIC RAILROAD
HOUSTON WOOD PRESERVING WORKS
RCRA PERMIT NO. HW-50343/SWR NO. 31547
HOUSTON, TEXAS

JULY 18, 2016

Prepared for:

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PBW Project No. 1358

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY
Response Action Completion Report

Cover Page

Regulatory ID number (Solid waste registration number, VCP ID number, etc) SWR No. 31547
check one: X Initial RACR submittal for this on-site property ___ Subsequent RACR submittal
Report date: July 11, 2016 TCEQ Region No.: 12

TCEQ Program (check one)

X Corrective Action (Mail Code 127)
___ Voluntary Cleanup Program (Mail Code 221)
___ Petroleum Storage Tank Program (Mail Code 137)
___ Superfund PRP Lead (Mail Code 143)
___ Municipal Solid Waste Permits (Mail Code 124)

On-Site Property Information

On-Site Property Name: Union Pacific Railroad Houston Wood Preserving Works Site
Street no. 4910 Pre dir: ___ Street name Liberty Street type: Road Post dir: ___
City: Houston County: Harris County Code: 101 Zip: 77007
Nearest street intersection or location description: Site is located south of Liberty Rd. between Kashmere St. and Lockwood St, and north of Lee St.

Latitude: Decimal Degrees (circle one) North 29.787413
Longitude: Decimal Degrees (circle one) West 95.321062

Off-Site Affected Property Information

Off-Site Affected Property Name: ___
Street no. ___ Pre dir: ___ Street name: ___ Street type: ___ Post dir: ___
City: ___ County: ___ County Code: ___ Zip: ___

____ Check if there are no off-site properties affected

Contact Person Information and Acknowledgement

Person (or company) Name: Union Pacific Railroad
Contact Person: Geoffrey Reeder Title: Manager, Site Remediation
Mailing Address: 24125 Aldine Westfield Road
City: Spring State: TX Zip: 77373 E-mail address GBREEDER@UP.COM
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By my signature below, I acknowledge the requirement of §350.2(a) that no person shall submit information to the executive director or to parties who are required to be provided information under this chapter which they know or reasonably should have known to be false or intentionally misleading, or fail to submit available information which is critical to the understanding of the matter at hand or to the basis of critical decisions which reasonably would have been influenced by that information. Violation of this rule may subject a person to the imposition of civil, criminal, or administrative penalties.

Signature of Person Geoffrey Reeder Digitally signed by Geoffrey Reeder DN: cn=Geoffrey Reeder, o=Union Pacific Railroad, ou=Environmental Site Remediation, email=gbreeder@up.com, c=US Date: 2016.07.18 18:05:43 -05'00' Name, print: Geoffrey Reeder Date: 071816

Check the reports/forms submitted:

Remedy Standard A

___ Self-Implementation Notice Submittal date: _____

___ Response Action Plan - Approval date: _____

Remedy Standard B

X Response Action Plan - Approval date: Currently under review. Corrective action approved under the TCEQ Area of Contamination (AOC) Approval dated February 9, 2015 (and amended February 22, 2016).

List all media (surface soil, subsurface soil, groundwater, sediment, surface water, air) that contained or contains a PCLE zone and specify the response action taken for each media. Indicate the type of removal, decontamination, physical control, or institutional control action that was used in the response action. If a media with a PCLE zone was not addressed in the response action, provide an explanation below.

Media	COCs[1]	Removal	Decontamination	Physical Control	Institutional Control	Modified Response Objective[2]		
						PMZ	WCU	TI
Surface Soil	Benzene, SVOCs, metals	X		X	X			
Subsurface Soil	SVOCs			X	X			
Groundwater	Benzene, SVOCs				X	X		X

Is there a media that contains a PCLE zone that was not addressed in the response action? **X** yes ___ no

If yes, provide justification for not addressing the PCLE zone in the response action.

This Response Action Completion Report (RACR) only addresses the response actions for the surface and subsurface soil PCLE Zones. The response action for the groundwater PCLE zone is detailed in the Response Action Plan (RAP) dated November 21, 2014, and revised dated December 7, 2015. Following approval of the RAP by the TCEQ and implementation of the proposed response action, a separate RACR will be submitted to the TCEQ for the groundwater PCLE zone.

Current land use of the on-site affected property: ___ Residential **X** Commercial/industrial

Projected future land use of the on-site property (if known): ___ Residential **X** Commercial/industrial

Explain why you believe the response action to be complete.

As discussed in the RAP (PBW, 2015), the response action objectives (RAOs) for surface and subsurface soil PCLE Zones was to excavate impacted soils with COCs above cPCLs and consolidate the soils within the Site using the Area of Contamination approach, and control exposure through Remedy Standard B using physical barriers such that on-site commercial/industrial and off-site residential pathways will not be

[1] Specify either a specific COC or, if the response action is the same for all COCs in one type, specify the type of COC (for example, VOCs, SVOCs, metals).

[2] If a modified groundwater response objective was used, check the type(s) of modifications.

exposed to concentrations of COCs in excess of the critical human health PCLs (§350.33(a)(1)). In addition, COC concentrations in the surface and subsurface soils will not create a leachate that will lead to cPCL exceedances at the alternate point of exposure wells within the proposed Plume Management Zone (PMZ) (detailed in the RAP, but not addressed in this RACR). Soil responses across the Site were implemented differently depending on the area within the Site, with controls placed in the following areas:

- Former Houston Wood Preserving Works (HWPW) Operational Areas: Surface soils with cPCL exceedances from the following Areas of Concern (AOCs) and Solid Waste Management Units (SWMUs) were excavated and consolidated within the Recent Process Area (SWMU 4), Original Process Area (SWMU 5) and AST Area (SWMU 8) under the Area of Contamination policy:

  - Inactive Wastewater Lagoon (AOC 6),
  - Location of the Former Incinerator (AOC 4),
  - Surrounding the Tank Car Storage Area (SWMU 7),
  - Oil/Water Separator (SWMU 11),
  - Areas north of the Recent Process Area (SWMU 4),
  - Areas north of the Original Process Area (SWMU 5) and
  - Areas north of the AST Area (SWMU 8)

  Confirmation samples collected along the walls and base of the excavations verified that surface soil PCLE Zones were removed to cPCLs assuming commercial/industrial land use. In these areas where surface soils were excavated, the base of excavation confirmation samples also confirmed that the subsurface soils do not appear to be impacted above cPCLs. The areas excavated were backfilled with clean fill.

  Two Remedy Standard B physical controls were constructed within the Former HWPW operational areas: 1) a Soil Cap and 2) an Asphalt Cap (roadway improvement). The Soil Cap construction includes installation of a vapor barrier, with geotextile fabric and placement of an engineered soil cap (12 inches of clayey soil and 6 inches of top soil) to cover the consolidated soil and remaining surface soil PCLE zone on the former operational areas. The Soil Cap is vegetated and sloped to minimize infiltration to control potential leachate migration from the surface and subsurface soils to the GWBUs. The Soil Cap serves to contain and prevent exposure to COCs above cPCLs within the surface and subsurface soil PCLE Zones at the Site.

  The surface soil PCLE zone along the Southern Drainage Ditch (SDD) (SWMU No. 2), including the oil/water separator (SWMU 11) east of the former AST Area (SWMU 8), was capped in place using an asphalt cover (2.5-in thick over gravel road base) as part of a roadway improvement. The Soil Cap and Asphalt Cap will be maintained under the post-response action care period as detailed in the RAP (PBW, 2015).

- City of Houston Right-of-Way (ROW): The area immediately north of the Recent Process Area (SWMU 4), Original Process Area (SWMU 5), and AST Area (SWMU No. 8) within the City of Houston right of way (ROW) between the UPRR property boundary and Liberty Road (approximately 8 feet wide and 550 feet long) was addressed through a combination of soil

excavation of the top 9-inches (consolidated within the on-site soil-capped area) and construction of a physical barrier (concrete sidewalk) preventing contact with remaining surface soils and limiting infiltration. After the soils were excavated, UPRR constructed a concrete sidewalk approximately 8 feet wide and 690 feet long serving as the physical barrier covering the remaining surface soil PCLE zone within the City of Houston ROW. As part of the post-response action care detailed in the RAP (PBW, 2015), the concrete sidewalk will be inspected to ensure the physical barrier provides protection for residential receptors against exposure to the COCs above cPCLs in surface soils in this area.

- Englewood Intermodal Yard area: The surface soil PCLE zone in the Intermodal Yard area is currently covered with a physical barrier (concrete pavement), preventing contact with the soil PCLE Zone and infiltration. As part of the post-response action care, the concrete pavement in the area of the surface soil PCLE Zone will be inspected to ensure continued on-site worker protection.

- UPRR Main Lines Ballast Area: The area between the former HWPW operational areas and the Englewood Intermodal Yard (approximately 100 feet width) is covered with railroad ballast, ties, and rail. UPRR will use the existing railroad ballast as an engineering control for preventing on-site worker exposure to impacted surface soils in this area.

The physical controls at the Site will be maintained and appropriate maintenance, repair of the caps will be performed as needed. UPRR will implement a health and safety program to restrict any construction activity within the capped areas. In the event construction activities are necessary, a health and safety plan and soil management plan will be implemented to ensure worker protection and proper management of soils with COCs above cPCLs.

Institutional controls were also implemented at the Site. The affected property was deed restricted to commercial-industrial land use and for the use of physical controls on surface soils in accordance with §350.31(g). A restrictive covenant was implemented for the concrete sidewalk cap area within the City of Houston ROW.

Below is a summary of the site investigation and regulatory chronology at the UPRR Former Houston Wood Preserving Works facility (listed in reverse order).

Date	Description
May 2016	UPRR completes the response actions authorized under the Area of Contamination to address the surface and subsurface soil Protective Concentration Level Exceedance (PCLE) Zones as detailed in the updated Response Action Plan (RAP) dated December 7, 2015.
February 2016	TCEQ approves the request to extend the termination date for the Area of Contamination from February 15, 2016 to March 7, 2016 in a letter dated February 22, 2016
January 2016	Begin response actions (excavation/placement and cap constriction) activities to address surface soil PCLE Zones. PBW conducts 2016 first semi-annual groundwater monitoring event for the Solid Waste Management Unit (SWMU) 1. PBW submits on behalf of UPRR a request to extend the termination date from February 15, 2015 to March 7, 2016 for the Area of Contamination set by the TCEQ.
December 2015	Union Pacific Railroad (UPRR) submits the RCRA Part A and B Permit Renewal Application (Revision No. 2) with Response Action Plan (RAP) (Revision No. 1) to the TCEQ dated December 7, 2015. Remediation contractor begins site preparation for response actions under the Area of Contamination.
November 2015	UPRR receives the TCEQ letter dated November 5, 2015 detailing the agency's review of the September 18, 2015 submittal titled Additional Information for Clean Closure Equivalence Demonstration. The TCEQ Industrial and Hazardous Waste (I&HW) Permits Section was unable to accept the request for discontinuing post-closure care of the former surface impoundment, SWMU 1.
November 2015	Meeting with UPRR, Pastor, Behling & Wheeler (PBW), and the TCEQ on November 4, 2015 discussing the October 23, 2015 technical comment letter from the TCEQ.
October 2015	UPRR receives additional technical comments from the TCEQ in a letter dated October 23, 2015 on the RAP regarding the Plume Management Zones and Technical Impracticability Demonstration provided in the Response Action Plan. PBW submits on behalf of UPRR a request to extend the termination date from December 15, 2015 to February 15, 2016 for the Area of Contamination set by the TCEQ.
September 2015	PBW submits to the TCEQ the Additional Information for Clean Closure Equivalence Demonstration dated September 18, 2015 that included historical data and letters from 1983, 1984, and 1991 to demonstrate clean closure of the soils under the former surface impoundment (SWMU 1). The letter also included a request to cease the post-closure care for SWMU 1.

Date	Description
August 2015	UPRR receives Technical Notice of Deficiency (NOD) Letter dated August 5, 2015 on the RCRA Part A and B Permit Renewal Application and Response Action Plan from the TCEQ. PBW conducts additional soil sampling to refine the surface soil PCLE Zones.
July 2015	PBW submits to the TCEQ the Corrective Action Monitoring Report: 2015 First Semi-Annual Event dated July 16, 2015; PBW conducts 2015 second semi-annual groundwater monitoring event for the SWMU No. 1.
April 2015	PBW submits to the TCEQ newspaper tear sheets and affidavits that public notice was published in English and Spanish in the *Houston Chronicle* on April 2 and *La Subasta* on March 31, respectively as required once the RCRA Permit Renewal/Compliance Plan with Major Amendment was administratively complete. PBW conducts additional soil sampling to refine the surface soil PCLE Zones at the Site.
March 2015	TCEQ issues a letter dated March 13, 2015 declaring the RCRA Permit Renewal/Compliance Plan with Major Amendment was administratively complete on March 13, 2015.
February 2015	PBW submits a response letter to the TCEQ dated February 13, 2015 for the TCEQ Administrative NOD on the RCRA Part A and B Permit Renewal Application. TCEQ issues an approval letter dated February 19, 2015 for the Area of Contamination approach to address the surface soil PCLE Zones.
January 2015	PBW submits to the TCEQ the Corrective Action Monitoring Report: 2014 Second Semi-Annual Event dated January 15, 2015; PBW conducts 2015 first semi-annual groundwater monitoring event for the SWMU No. 1.
December 2014	UPRR submits the RCRA Part A and B Permit Renewal Application with Response Action Plan (RAP) to the TCEQ dated December 10, 2014. UPRR receives the TCEQ Administrative NOD Letter dated December 17, 2014.
November 2014	RCRA Permit Pre-Application Meeting with UPRR, PBW, and TCEQ dated November 6, 2014. PBW submits to the TCEQ the Request for Preliminary Review of Area of Contamination dated November 20, 2014 to address the planned response action for the surface soil PCLE Zones at the Site.
September 2014	UPRR holds public meeting with residents near the Site to detail institutional controls for off-site groundwater Plume Management Zone (PMZ).
July/August 2014	PBW conducts site-wide groundwater sampling event.
May 2014	PBW oversees installation of seven new monitoring wells (MW-51C, MW-76C, MW-77A, MW-78A, MW-79A, MW-80B, and MW-81B) in the Englewood Intermodal Yard to evaluate DNAPL extent and extent of chemicals of concern (COCs) in the B-CZ unit to the southeast, and one replacement well MW-34CR

Date	Description
	to replace MW-34C. Soil samples also collected from City of Houston right of way (ROW) along north perimeter of the Site.
January 2014	PBW conducts site-wide groundwater sampling event.
July 2013	PBW conducts site-wide groundwater sampling event.
February/March 2013	PBW conducts cone penetrometer testing (CPT)/rapid optical screening tool (ROST) and soil investigation at the Englewood Intermodal Yard adjacent to the UPRR Houston Wood Preserving Works (HWPW) site.
January/February 2013	PBW conducts site-wide groundwater sampling event (95 wells). PBW submits Proposed DNAPL Recovery Pilot Test letter to TCEQ dated February 5, 2013, and initiates monthly DNAPL recovery from on-site and off-site wells (10-12 wells) (planned for 24 months).
November 2012	Meet with TCEQ regarding proposed CPT/ROST investigation of Englewood Intermodal Yard based on DNAPL detected from the December 2011 investigation.
July 2012	PBW conducts site-wide groundwater sampling event.
January 2012	PBW conducts site-wide groundwater sampling event.
July 2012	PBW conducts site-wide groundwater sampling event.
December 2011	PBW installs additional monitoring wells in the cohesive zone B-CZ to evaluate extent of DNAPL in the B-CZ.
July 2011	PBW conducts site-wide groundwater sampling event.
April 2011	TCEQ approves the Affected Property Assessment Report (APAR) (including updates and addendums).
March 2011	PBW submits the Revised Updated APAR Addendum to the TCEQ. UPRR repairs fence around site.
January 2011	PBW conducts site-wide groundwater sampling event.
December 2010/ January 2011	UPRR/PBW submits Off-Site Notification Letters to off-site properties indicating Notice of Information Availability for the site, as required with the submittal of the Updated APAR Addendum (Oct 2012) .

Date	Description
October 22, 2010	PBW submits the Updated APAR Addendum to the TCEQ.
June/July 2010	PBW conducts additional soil (along northeast portion of Site) and groundwater investigation (A-TZ, B-CZ, C-TZ and D-TZ wells); including site-wide groundwater monitoring event.
February 16, 2010	UPRR Response to TCEQ Comment Letter dated November 18, 2009.
January 2010	PBW conducts site-wide groundwater sampling event; selected wells are analyzed for Volatile Organic Compounds (VOCs) by EPA Method 8620.
November 18, 2009	TCEQ Comment Letter on Revised APAR.
July 2009	PBW submits APAR Addendum to TCEQ.
January 2009	PBW conducts additional soil and groundwater investigation.
July 2008	PBW conducts additional CPT-ROST and groundwater investigation
January 2007	PBW conducts additional soil and groundwater investigation
August 2006	ERM-Southwest, Inc. (ERM) conducted additional soil and groundwater investigation
April 2006	ERM conducted additional soil and groundwater investigation
September 6, 2005	UPRR Response to TCEQ Response Letter dated August 1, 2005
August 2005	TCEQ Response to UPRR Response Letter dated June 9, 2005
June 9, 2005	UPRR Response to TCEQ Letter dated April 15, 2005
April 15, 2005	TCEQ Response to UPRR Response Letter dated November 19, 2004
November 19, 2004	UPRR Response to October 8, 2004 TCEQ Letter
October 8, 2004	TCEQ Comment Letter on Revised APAR
June 10, 2004	Revised APAR submitted to the TCEQ by ERM, Inc. on behalf of UPRR
November 7, 2001	Texas Natural Resources Conservation Commission (TNRCC) provides comments to July 5, 2001 response letter.
July 5, 2001	Follow-up response to November 6, 2000 TNRCC comment letter on the On-Site APAR submitted to TNRCC on behalf of UPRR.

Date	Description
January 9, 2001	Initial response to November 6, 2000 TNRCC comments.
November 6, 2000	TNRCC provides comments to On-Site APAR.
July 10, 2000	Affected Property Assessment Report for On-Site Property (On-Site APAR) submitted to TNRCC on behalf of UPRR by ERM.
February 20, 2000	Letter submitted to the TNRCC regarding proposed Phase 2-C investigation for further delineation of off-site areas
September 10, 1999	Phase 2-B RFI/EOC Investigation Report submitted to TNRCC on behalf of UPRR by ERM
April 27, 1998	Interim Stabilization Measures Report – Southern Drainage Ditch, submitted to TNRCC on behalf of UPRR by ERM.
February 13, 1998	Phase 2-A RFI/EOC Investigation Report submitted to TNRCC on behalf of UPRR by ERM.
January 13, 1997	RFI portion of the Phase 1 RFI/EOC Investigation Report approved by TNRCC
November 26, 1996	EOC portion of the Phase 1 RFI/EOC Investigation Report approved by TNRCC
May 23, 1996	Phase 1 RFI/EOC Report submitted on behalf of Southern Pacific Transportation Company (SPTCo) by Terranext
October 16, 1995	RFI Work Plan approved by TNRCC
September 29, 1995	EOC Work Plan approved by TNRCC
January 10, 1995	Operation and Maintenance Plan approved by TNRCC
November 3, 1994	Revised Compliance Schedule approved by TNRCC
October 14, 1994	RCRA Facility Investigation (RFI) Work Plan submitted on behalf of SPTCo
September 16, 1994	Extent of Contamination (EOC) Work Plan submitted on behalf of SPTCo
September 7, 1994	Revised Compliance Schedule submitted on behalf of SPTCo
August 19, 1994	Operation and Maintenance Plan and Compliance Schedule submitted on behalf of SPTCo
June 20, 1994	Permit No. HW-50343-000 and Compliance Plan CP-50343-000 issued by TNRCC.

Date	Description
October 1993	RCRA Facility Assessment completed on behalf of U.S. EPA by PRC Environmental Management, Inc.
May 13, 1991	RCRA Permit Application submitted by SPTCo

Note: Not all groundwater sampling events are listed in the chronology

Checklist for Report Completeness

Use this checklist to determine the portions of the form that must be submitted for this report. Answer all questions by checking Yes or No. If the answer is Yes include that portion of the report. If the answer is No, do not complete or submit that portion of the report. All form contents that are marked "Required" must be submitted. Form contents marked with an asterisk (*) are not included in the blank form and are to be provided by the person.

			Report Contents	
		Required	**Cover Page**	☒
		Required	**Executive Summary**	☒
		Required	**Checklist for Report Completeness**	☒
		Required	**Worksheet 1.0** Confirmation of Response Action Objectives	☒
		Required	**Attachment 1A*** Maps and Cross Sections	☒
		Required	**Attachment 1B*** Graphs	☐
		Required	**Attachment 1C*** Response Action Diagrams	☒
No ☐	Was a plume management zone used as part of the response action?	☐ Yes	**Worksheet 2.0** Plume Management Zone	☐
	CURRENTLY UNDER TCEQ REVIEW PENDING RAP APPROVAL		**Attachment 2A*** Map of Plume Management Zone	☐
No ☐	Was an area of technical impracticability approved for use as part of the response action?	☐ Yes	**Worksheet 3.0** Technical Impracticability	☐
	CURRENTLY UNDER TCEQ REVIEW PENDING RAP APPROVAL		**Attachment 3A*** Map of Technical Impracticability Area	☐
No ☐	Were institutional controls used or required as part of the response action?	☒ Yes	**Worksheet 4.0** Institutional Controls	☒
		Required	**Worksheet 5.0** Performance Measures and Problems	☒
No ☐	Did the response action require any operation and maintenance activities?	☒ Yes	**Worksheet 6.0** Operation and Maintenance	☒
No ☒	Has there been any change to the plans for post-response action care from that submitted in the RAP?	☐ Yes	**Worksheet 7.0** Post-Response Action Care	☐
No ☐	Was any information for this report obtained from outside sources?	☒ Yes	**Appendix 1*** References	☒
No ☒	Was an ESA and/or Compensatory Restoration used as part of the response action?	☐ Yes	**Appendix 2*** ESA and Compensatory Restoration	☐
No ☐	Were institutional controls or landowner concurrence required in the response action?	☒ Yes	**Appendix 3*** Institutional Controls and Landowner Concurrence	☒

Checklist for Report Completeness

ID No. SWR No. 31547 | **Report Date: 07/18/16**

				Report Contents
No ☐	Is there data or boring/monitor well information not previously submitted?	☒ Yes →	**Appendix 4*** Data Tables, Boring Logs, and Well Completions	☒
No ☒	Did sampling procedures differ from those described in the RAP?	☐ Yes →	**Appendix 5*** Sampling Procedures	☐
No ☐	Has any sampling been conducted for which the analytical results were not previously submitted?	☒ Yes →	**Appendix 6*** Laboratory Data Packages	☒
No ☒	Were statistics or geostatistics used in the response action?	☐ Yes →	**Appendix 7*** Statistical Methodology	☐
No ☐	Were any wastes generated that were not reported through STEERS?	☒ Yes →	**Appendix 8*** Waste Disposition	☒

Confirmation of Response Action Objectives	RACR Worksheet 1.0	Page 1 of 15
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Use this worksheet to describe the attainment of the response action objectives in each media.

Response Action Objectives

What was the selected remedy standard for this affected property? ___ A **X** B

List the environmental media to which this applies	Surface and subsurface soil *(groundwater to be addressed in separate RACR following approval of the RAP)*

Repeat this section for each medium that had a different response action objective.

Provide a detailed description of the response action. Describe the removal actions, decontamination actions, treatment system(s), physical or institutional control actions, and any actions for ecological considerations (ecological services analysis and compensatory restoration plans) that were conducted in each media and indicate if there were any differences between the actions taken and the actions proposed in the SIN or RAP.

The Response Action Objectives (RAO) for the surface and subsurface soil PCLE Zones is to control exposure through physical barriers such that commercial/industrial workers will not be exposed to concentrations of COCs in excess of the critical human health PCLs (§350.33(a)(1)). Prior to implementing the response action, the surface soil PCLE zone extended across the Recent Process Area (SWMU 4), Original Process Area (SWMU 5), Water Treatment and Boiler System (SWMU 6), Aboveground Storage Tank Area (SWMU 8), Oil/Water Separators (SWMU 11), Location of the Former Incinerator (AOC 4), down the Southern Drainage Ditch (SDD) (SWMU 2), and across the Former Inactive Wastewater Lagoon (Area of Concern (AOC) 6). The surface soil PCLE Zone also extended north of the Site onto the City of Houston right of way (ROW) and south across the UPRR main lines and into the Englewood Intermodal Yard (as detailed in the Response Action Plan (RAP), PBW, 2015).

Three key approaches were implemented to protect commercial/industrial workers from exposure to COCs in surface and subsurface soils:

- Former HWPW Operation Areas: Using the Area of Contamination approach (as defined by the Affected Property (Attachment 1A-1)), surface soils with critical Protective Concentration Level (cPCL) exceedances (assuming commercial/industrial land use) near the Former Incinerator (AOC 4), in the Inactive Wastewater Lagoon (AOC 6), areas north of the Recent Process Area (SWMU 4), Original Process Area (SWMU 5), and AST Area (SWMU No. 8) were excavated and consolidated in the area of SWMUs 4, 5, and 8 under the Soil Cap. The Soil Cap area was then covered with a vapor barrier with geotextile fabric and an engineered soil cap (12 inches of clayey soil and 6 inches of top soil) to prevent human exposure to the impacted soils above c PCLs. The surface soil PCLE zone along the Southern Drainage Ditch (SDD) (SWMU No. 2), including the oil/water separator (SWMU 11) east of the former AST Area (SWMU 8), was capped in place using asphalt cover (2.5-in thick over gravel road base) as part of a roadway improvement.

- Englewood Intermodal Yard area: The surface soil PCLE zone in the Intermodal Yard area is currently covered with a physical barrier (concrete pavement), preventing contact and infiltration. As part of the post-response action care, the concrete pavement in the area of the surface soil PCLE Zone will be inspected to ensure continued on-site worker protection.

- UPRR Main Lines Ballast Area: The area between the former wood treating works area and the Englewood Intermodal Yard (approximately 100 feet width) is covered with railroad ballast, ties,

and rail. UPRR will use the existing railroad ballast as an engineering control for preventing on-site worker exposure to impacted surface soils in this area. Since this area is owned and controlled by UPRR, UPRR will implement a health and safety program to restrict any construction activity in the area of the railroad lines. In the event construction activities are necessary, a health and safety plan will be implemented to ensure worker protection from COCs in the surface soils.

To address potential exposure to surface soil PCLE Zone off-Site, the following will be implemented to protect residents (i.e. occasional trespasser) from exposure to COCs in surface and subsurface soils:

- City of Houston Right of Way (ROW): The area immediately north of the AST Area (SWMU No. 8) within the City of Houston right of way (ROW) between the UPRR property boundary and Liberty Road (approximately 7 to 8 feet wide and approximately 690 feet long) was addressed through a combination of limited soil excavation (placed within the capped area) and construction of a concrete sidewalk to restrict exposure to the surface soil PCLE zone. The soil excavation in this area was limited due to the presence of a high pressure natural gas pipeline within the ROW.

The Affected Property (including the entire Site (HWPW and Englewood Intermodal Yard)) (Attachment 1A-1) was also deed restricted for commercial-industrial land use, for the use of physical controls on surface and subsurface soil, and restrictions on soil excavation within the capped areas in accordance with §350.31(g).

Through the response actions implemented at the Site, the following SWMUs and AOCs were remediated either through surface soil excavation or capping through physical control:

SWMU	Description	AOC	Description
2	Southern Drainage Ditch	1	Diesel Storage Tank
4	Recent Process Area	4	Location of Former Incinerator
5	Original Process Area	6	Inactive Wastewater Lagoon
6	Water Treatment and Boiler System	7	Location of Former UST No. 44-023-21
7	Tank Car Storage Area		
8	Aboveground Storage Tank Area		
9	Location of Former UST No. 44-023-05		
10	Location of Former Sap Water Treatment Tank		
11	Oil/Water Separators		

Details of the response actions implemented at the Site are provided below.

Former HWPW Operation Areas

The response action for the surface soil PCLE zone at the Site was implemented through a combination of excavation and removal with consolidation and capping with a physical control (i.e., Soil Cap) under the Area of Contamination approach. The removal action was designed to remove surface soils containing chemicals of concern (COCs) at concentrations exceeding cPCLs. As detailed in the Affected Property Assessment Report (APAR), Updated Addendum dated March 2011 (PBW, 2011), on-site soil cPCLs were established for the Site by using the lowest of commercial/industrial PCLs for the following

pathways: $^{Tot}Soil_{Comb}$; $^{Air}Soil_{Inh\text{-}V}$ (Tier 1); and $^{GW}Soil_{Ing}$ (Tier 1 or 2). Comparing the maximum surface and subsurface soil analytical data to the critical commercial/industrial PCLs for on-site and residential PCLs for off-site, concentrations of the following COCs exceeded their respective critical PCLs:

Surface Soils

- 1,2-Diphenylhydrazine
- 2,4-Dinitrotoluene
- 2-Methylnaphthalene
- Arsenic
- Benzene
- Benzo(a)anthracene
- Benzo(a)pyrene
- Dibenzofuran
- Lead
- Naphthalene
- Pentachlorophenol

Of the COCs identified for surface soils, benzo(a)anthracene ($^{Tot}Soil_{Comb}$), benzo(a)pyrene ($^{Tot}Soil_{Comb}$), naphthalene ($^{Tot}Soil_{Comb}$), and pentachlorophenol ($^{GW}Soil_{Ing}$ (Tier 2)) are the most prevalent across at the Site and typically define the surface soil PCLE zones.

Prior to implementing the response action for the surface soil PCLE zone at the Site, additional soil samples were collected in April 2015 (soil borings SB-156 through SB-211) and January-February 2016 (soil borings around the perimeter of the areas to be excavated detailed below) to confirm the surface soil PCLE zones to be addressed through the response action (Appendix 4, Table 1). Based on the soil analytical data, the following surface soil PCLE zones or areas were excavated (Attachment 1A-1) as part of the Area of Contamination:

- Area A - areas north of the Recent Process Area (SWMU 4), Original Process Area (SWMU 5), and AST Area (SWMU No. 8);
- Area B – Surface soil hotspot located west of Area A;
- Area C – area with elevated COC concentrations near the Location of the Former Incinerator (AOC 4)
- Area D, E, & F – areas in the Former Inactive Wastewater Lagoon (AOC 6); and
- Area G – within the drainage ditch downgradient of the Southern Drainage Ditch (SWMU 2).

Details of the response actions conducted under the Area of Contamination are provided below. A photo log of the construction activities is provided in Appendix 1-B.

Site Preparation

Prior to response action activities, silt fencing was installed around the areas to-be disturbed including the areas of excavation (Areas A-G) and the Soil Cap area. The Soil Cap area was then mowed to remove the tall grass and vegetation in order to expose all structures, foundations and other debris that needed removal. The existing monitoring wells within the Soil Cap area were either plugged and abandoned by a licensed well driller or barricaded for protection if they were to remain. Several concrete structures

(containment walls, foundations, footings, etc.) within the areas of excavation or Soil Cap were pulverized into smaller pieces and placed in the center of the Soil Cap area. Trees and underbrush covering Areas D, E and F on the western end of the property were shredded (mulched) down to ground level. The tree root balls were excavated with the contaminated soils and disposed of within the Soil Cap. In order to access Areas D, E and F due to wet and muddy conditions, wooden mats were purchased and placed on the haul route to eliminate mud/soil from being tracked out of the contaminated areas on the wheels and tracks of haul trucks and equipment. Plastic sheeting was also placed beneath the wooden mats in order to provide a barrier between the soil and wooden mat.

Excavation, stockpiling, and placement of impacted soils within the Soil Cap Area

The surface soils within the public right-of-way of Liberty Road (from the back of curb to the HWPW property line) were excavated to a depth of approximately 9 inches for the sidewalk and 12 inches for the side slope area in preparation for the concrete sidewalk and side-slope. The excavated soils were transported to the Site, stockpiled on the eastern portion of the Soil Cap area, and kept covered with 6-mil plastic sheeting until final placement during cap construction.

The surface soils from Areas B, C, D, E and F were excavated to the vertical extent of the PCLE zone, five feet below grade. For most of Area A, the surface soils within the top 5 feet below grade were excavated. While excavating the surface soils from Area A on the eastern portion, several cast iron water lines were encountered at a depth of approximately 3.5 feet below grade. Excavation activities in this area ceased at the top of the underground water lines. Soil samples were collected at that depth, which resulted in concentrations being below the applicable cPCLs. No additional excavation was necessary in that area of Area A. Area G consisted of a drainage ditch where the side-slopes and bottom were excavated to approximately 3 feet below grade due to excavation activities encroaching into the supporting soil for the rail main line and underlying fiber optic utilities. Soil samples were collected at that depth, which resulted in concentrations being below the applicable cPCLs. Soils from the areas of excavation were excavated, loaded into haul trucks and transported to the Soil Cap area for placement using precautionary measures in order to eliminate any loss of soil. Excavated soils that were stockpiled within the Soil Cap area were kept covered using 6-mil plastic sheeting until they could be placed (levelled and compacted) during cap construction.

Based on spot elevations and post-excavation surveys, the following volumes of soil were excavated from the individual corrective action areas:

Excavation Area	Estimated Volume (cubic yards (cyds))
City of Houston ROW	144
Area A	4,061
Area B	713
Area C	463
Area D	852
Area E	537
Area F	1,347
Area G	280

Approximately 8,400 cubic yards (in-place) of soil were placed within the Area of Contamination near SWMUs 4, 5 and 8 and covered with an engineered Soil Cap, detailed later in this section.

In addition to the eight excavation areas, surface soils were also excavated near soil boring SB-107 located south the AOC 6 to remove a small hot spot of impacted soils above cPCLs in the drainage ditch. Approximately 6 cubic yards of soil were removed from this area and placed within the Soil Cap area.

The response action also included addressing two oil/water separators (SWMU 11) (buried tank car and concrete sump) that were to be cleaned out and filled in or removed. The concrete oil/water separator near the access road was cleaned out, visually inspected for residual waste, and backfilled with clean fill material. The top portion was then capped with concrete and the asphalt surfacing of the roadway improvement (asphalt cap). The original plan for the buried railcar oil/water separator was to be cleaned out, removed from the ground and disposed of properly. Due to the proximity of the buried tank car to two CenterPoint gas lines (6-in and 8-in lines) within the Liberty Road right-of-way, the original plan was changed to close the railcar in place by removing all soil from the tank car, and then backfilling and covering. The railcar separator was cleaned out using the mini-excavator and long-reach shovels, residual soils in the tank car were sampled (Appendix 4 – Table 1), then it was backfilled with flowable fill (cement stabilized sand) (bottom 2/3rd of the tank), clean sand (top 1/3rd), and covered with clean backfill to match surrounding grade.

During the excavation of Area A, a storm water drain pipe was encountered about 4 to 5 feet below grade running parallel with the north boundary of the excavation area and sloping from west to east. Approximately 350 feet of corrugated drain pipe (24-in diameter) was removed during the excavation activities to remove the surface soil in that area. Once the drain pipe sloped to below 5 feet below grade, the remainder of the drain pipe was left in place. Following excavation activities, the drain pipe was reinstalled using new, 24-in diameter corrugated pipe and sand backfill around the pipe. In addition, a storm drain inlet was discovered within the Soil Cap area. The drain was filled with a concrete plug and covered with plastic sheeting to prevent any migration of soils into the storm drain.

During excavation activities in Areas A, B, and C, numerous railroad ties were encountered. The railroad ties were transported to the soil cap area where the soil remnants on the ties were removed. The railroad ties were then loaded into roll-off bins and transported to a licensed landfill facility for disposal (see Waste Management section for details).

Verification Sampling

Verification sampling was performed at each of the excavation areas following excavation of soils to ensure that the affected soils containing COCs at concentrations in excess of the applicable cPCLs were removed. Both sidewall and bottom of excavation samples were collected from each excavated area and analyzed for the list of site-specific semi-volatile organic compounds (SVOCs) by EPA Method 8270. Site-specific volatile organic compounds (VOCs) such as benzene were not analyzed in the confirmation samples since none of the site-specific VOCs exceeded cPCLs in the areas that were excavated. The soil response action verification samples analytical results are summarized in Appendix 4, Table 2. Laboratory data packages and data usability summaries are provided in Appendix 6. The locations of verification

samples and the COC concentrations in the verification samples are shown on Attachment 1A-2 through Attachment 1A-26.

Confirmation samples from the walls of the excavations were collected using the excavator bucket where the depth of excavation was five feet or more. For the excavations where the depth was less than five feet, an excavator bucket was used if the field technician was not able to gain access to the excavation safely. The excavator operator would make sure the bucket was clean (no soils clinging to it), then would scrape the face of the excavation wall from bottom to top, collecting soil within the bucket. In order to confirm that the samples were not affected by the bucket, all soils used in the composite samples were from portions that were not in contact directly with the bucket. Based on the wall length of each excavation, multiple samples were collected in order to keep the interval distance between samples less than 50-feet (Attachment 1A-2 through Attachment 1A-26.). In two locations (southwest corners of both Areas A and B), the initial verification sample concentrations indicated that additional soil removal was required to meet response action objectives. Additional surface soil was excavated in these areas, and verification sampling was repeated to confirm that impacted soils with COC concentrations greater than cPCLs had been removed.

Bottom or floor samples from the base of the excavations were also sampled to evaluate any potential subsurface soil PCLE zones under the areas excavated. Most of the bottom samples were collected at 5 feet below grade, with exceptions in Areas A and G as previously discussed.

COC concentrations in the confirmation samples were below response action criteria in all of the verification samples collected from the original soil excavation areas, except for the southern portion of the west sidewall of Area A (Attachment 1A-2) and the western portion of the south sidewall of Area B (Attachment 1A-3). In both of these areas, additional surface soils were excavated and verification samples were collected. The additional excavation removed the surface soil PCLE Zone as confirmed with the additional confirmation soil samples collected along the excavation walls.

Clean, Fill Material for Excavations

Fill material that was free of trash, rubbish or other deleterious substances from an off-site location was used to backfill all excavated areas. Prior to bringing the material on-site, analytical testing was performed to ensure that the fill material was free from contamination. One representative soil sample was collected for every 5,000 cubic yards, or fraction thereof, of fill material from the source location. The source location's geographical coordinates (latitude/longitude) were also recorded for verification purposes. A copy of the analytical report for the clean backfill samples is provided in Appendix 6. Subcontracted haul trucks were used to transport the material from the source location to the Site. The backfill operations were coordinated in order to have the haul trucks dump the clean fill material directly within the excavated areas or adjacent to them. A bulldozer was used to evenly spread the clean backfill material within each excavation in maximum loose lifts of 8-inches. Compaction efforts for each lift consisted of several passes of tracking/compacting by the approximately 50,000-lb bulldozer until the areas of excavation approximately matched pre-construction topographic elevations. Several inches of top soil was then placed over the backfilled areas in order to enhance the re-establishment of grass and vegetation on the disturbed areas. The backfilled areas were also sloped to allow adequate storm water draining and limit ponding in these areas.

Soil Cap Construction

The engineered Soil Cap consisted of the following construction design as detailed in the RAP (December 2015) and provided in Attachment 1C:

- Placed a 6-mil thick plastic vapor barrier over the impacted soils,
- Covered the vapor barrier with geotextile fabric to protect the barrier during construction,
- Placed a minimum of a 12-inch layer of protective (clayey) soil,
- Placed a 6-inch layer of topsoil on top of the protective layer, and
- Reseeded the topsoil with a mixture of grasses and pollinator plants.

The purpose of the Soil Cap is to provide on-site worker protection from impacted soil with COC concentrations exceeding cPCLs using a physical barrier covering the consolidated soils and materials from the excavated areas and the remaining surface soil PCLE Zones within the former HWPW SWMUs 4, 5, and 8. The first phase in the construction of the Soil Cap consisted of placing the excavated soils from the City of Houston ROW along Liberty Road and Areas A through G within the limits of the cap area. Once the soils were consolidated within the cap area, a bulldozer was used to level and compact the excavated soils, starting from the west side of the cap area and progressing eastward. The bulldozer operator utilized GPS technology to match the engineered design of the cap. After the excavated soils were graded, a 6-mil thick plastic vapor barrier was installed to cover the contaminated soils. Immediately after the installation of the vapor barrier, a geotextile fabric was placed directly on top of the plastic barrier and then both layers were held in place using sandbags and/or mounds of the protective clay material. Edges of the vapor barrier and geotextile fabric were overlapped by a minimum of 24-inches to ensure a suitable seal.

The protective clay soil and topsoil materials were both from off-site sources and required the same analytical testing and source documentation as the backfill material previously discussed. Both soil materials were free of deleterious material, materials toxic to plant growth, rocks and other debris. A subcontracted trucking company was used to transport both the protective clay soil and topsoil from each source to the project Site. The protective clay soil layer was placed in one 12-inch lift by the bulldozer to match the design elevations using GPS technology mounted on the equipment. The topsoil layer was also placed in one 6-inch lift on top of the protective soil layer by the tracked bulldozer. No direct compaction effort was required for either soil layer besides the compaction of the tracked bulldozer. The designed volume of the engineered Soil Cap was approximately 10,000 cubic yards, but the overall volume of contaminated soils removed during excavation was approximately 8,400 cubic yards. In order to match the design grades of the plans on the eastern portion of the Soil Cap, the protective clay layer thickness was increased to reach the designed final grade.

Once the Soil Cap construction was completed, a topographic survey was conducted for the capped area. The post-construction topographic survey of the Soil Cap is provided in Attachment 1C-1 (As-Builts).

The south boundary of the Soil Cap was bounded by the existing concrete barriers, which were used in some areas as a retaining wall for the capping soils. Approximately 6-inch wide spaces were left between each concrete barrier and concrete blocks, filter fabric and hot mix asphalt were placed within the spaces to hold back any soils, but allow for runoff from the Soil Cap to be released.

No contaminated soils were placed within a six foot radius of each existing monitoring well that remained within the Soil Cap area. Each well was surrounded with clean backfill or protective clay and then covered with the 6-inch layer of topsoil.

Asphalt Roadway Improvements

To address the former SWMU 2 Southern Drainage Ditch, the asphalt cap was constructed over existing road base material that was already present in the area to serve as an asphalt roadway or access road for railroad personnel to signal boxes located near the UPRR rail siding track south of the SWMU 2 area. The asphalt cap construction consisted of grading, and filling as necessary, the existing gravel surface and placement of a minimum 2-inch thick, 16-foot wide hot mix asphalt surface on the access road along the south side of the former HWPW area and on the north side of the UPRR Main Line Railroad Ballast area. The grading of the access road was performed by the bulldozer in order to meet the required 2% cross slope from the north side to the south side to allow storm water to drain away from the Soil Cap area. The north side of the asphalt cap is bound by the concrete barriers that make up the south boundary of the Soil Cap. In addition to the asphalt cover, railroad ballast rock was placed along the entire length of the access road to tie the asphalt surface to the edge of railroad ballast along the UPRR rail siding track, just north of the west-bound main line rail. The asphalt roadway construction also included the installation of a concrete low water crossing near the southwest end of the asphalt cap (Attachment 1C).

Concrete Sidewalk and Side-Slope Construction – City of Houston ROW

The concrete sidewalk and concrete side-slope construction took place within the City of Houston Liberty Road right-of-way from the back of curb to the UPRR property line. The width of the area varied from 7 to 8 feet wide and the total length measured approximately 691-feet. The construction of the five foot wide concrete sidewalk consisted of excavating approximately 9-inches of soil, which was stockpiled on the eastern end of the Soil Cap area until placement. Approximately 3-inches of clean sand material sourced off-site was placed at the bottom of the excavated area and then the wooden forms and reinforcing steel were placed and concrete poured. The concrete sidewalk is approximately 6 inches thick. The concrete side-slope installed between the sidewalk and the UPRR property boundary was excavated to 12-inches in depth along the UPRR property line (beneath the chain-link fence). The excavated soil was also stockpiled and kept covered on the eastern end of the Soil Cap area until final placement during cap construction. The forms and reinforcing steel were then installed and the concrete was poured for the side-slope.

Security Fencing

The existing six-foot tall chain-linked security fence along Liberty Road remained in-place during the entirety of the construction project for security purposes, but a section of the fence was replaced due to damages that were not project related. Approximately 1,540-feet of new six foot tall chain-linked security fencing was installed along the west property boundary in order to restrict unauthorized access to the UPRR property. The route of the new fence along the west side of the property was heavily wooded and required clearing an approximate ten foot wide strip along the perimeter of UPRR's property.

Site Restoration

Site restoration at the site after construction and land disturbing activities were completed consisted of seeding the Soil Cap and disturbed areas using broadcast seeding and no-till drilling methods. The Soil Cap area was seeded with a mixture of grasses (Bermuda and Millett) and pollinator plants (Cosmos and Milkweed). The areas of excavation that were backfilled were seeded with only the grass mix. All disturbed areas were then hydromulched using a mixture of water, liquid fertilizer, seed, inoculant, tackifier and cellulose fiber. Shortly after the areas were seeded in late April, the Houston area received heavy rainfall in May 2016, which allowed significant growth of the vegetation in the capped and excavated areas (see photos in Appendix 1C-2).

Describe how the response action achieved the property-specific response objectives for the PCLE zone in each media in the context of the response objectives set forth in §350.32 or §350.33, as applicable. Explain how the response action was appropriate based on the hydrogeologic and COC characteristics. Describe any unprotective conditions that continued or resulted from the remedial actions and the actions taken to mitigate unprotective conditions.

Response objectives were achieved at each surface soil PCLE Zone by physical removal of affected soil or through consolidation and capping of the impacted soils using a physical barrier within the Soil Cap Area under the Area of Contamination approach. For the seven excavation areas (Areas A through G), which were backfilled with clean import fill, surface soils PCLE zones were effectively remediated under a Remedy Standard A response objective as demonstrated through verification sampling, with the only control necessary for those areas being an institutional control limiting future land use to commercial/industrial. Except for the City of Houston ROW sidewalk area, none of the other excavated areas require a physical control.

For the Soil Cap Area, Asphalt Roadway Cap, and City of Houston ROW Sidewalk areas, the response actions achieve Remedy Standard B response objectives through physical controls to prevent exposure to concentrations of COCs in the environmental media in excess of commercial/industrial critical human health PCLs. The Soil, Asphalt, and Concrete Sidewalk caps will contain the COCs by eliminating pathways such as; dermal contact/ingestion of soils, inhalation hazards (dust), and restricting leaching of COCs to storm water or groundwater. In addition, for the Soil Cap area, a vapor barrier was installed to restrict potential migration of vapors (specifically, naphthalene concentrations in surface/subsurface soils that indicated a potential for migration to outdoor air). The Soil Cap was vegetated to restrict erosion of the soil cap and resulting possible exposure to the impacted soils. The Asphalt and Concrete Sidewalk Caps were constructed to prevent erosion and exposure to impacted soils under the cap material. In addition, institutional controls will be in place to prohibit disturbance of the caps. The combination of these measures, along with long-term maintenance of the Soil, Asphalt, and Concrete Sidewalk caps, as well as the existing Railroad Ballast Cap and Englewood Intermodal Yard Concrete Cap, will reliably contain the soil COCs over time and prevent human health exposure to the COCs above critical human health PCLs.

If different from the information provided in the RAP, explain how the COCs were handled, treated,

disposed, or transferred to another media and document that the response action did not result in any additional exposure conditions due to response action activities.

The response actions for the surface soil PCLE Zones detailed in the RAP were implemented at the Site, except for the removal of the oil/water separators (SWMU 11). As previously discussed, the soil within and around the sides of the buried tank car separator was excavated and placed within the Soil Cap Area. The buried tank car was then backfilled with a flowable fill, clean sand, and clayey backfill within and around the tank car. Soil within the at-grade concrete oil/water separator located east of SWMU 8 was also excavated and the concrete structure was backfilled with clean fill and covered with the Asphalt Cap.

During consolidation activities, Site workers operated under a site-specific health and safety plan (HASP) and impacted soils will be consolidated within the surface soil Affected Property. Storm water protection (i.e., Storm Water Pollution Prevention Plan (SWPPP), silt fencing) activities were conducted during remediation activities to ensure the activities did not result in additional exposure conditions. During excavation and stockpiling activities within the Soil Cap area, impacted soils were covered with plastic to limit exposure to storm water during rainfall events. Dust suppression activities (with subsequent air monitoring and sampling activities after February 10, 2016) were implemented to control the potential migration of dust from the Site. Initial air monitoring during construction activities was conducted using visual observations and a photoionization detector (PID) to evaluate occupational exposures to potential vapors encountered during the excavation activities. After discussions with the TCEQ, an Air Monitoring Sampling and Analysis Plan (SAP) dated February 9, 2016 (provided in Appendix 5) was developed to establish real-time air monitoring downwind of dust-producing operations both at the excavation site and at the perimeter of the rail yard. The purpose of this monitoring was to identify those operations, if any, with the potential to generate dust above the site-specific action levels (as outlined in the Air SAP) and implement near immediate corrective action to minimize dust generation and offsite dust migration. To supplement real-time air monitoring efforts, analytical air samples were collected for PM_{10} and polycyclic aromatic hydrocarbons (PAHs) at locations downwind of remediation operations. In contrast to real-time methodology, analytical air samples are capable of making chemical-specific measurements (for PAHs) and are able to achieve sufficiently low limits of analytical sensitivity. Daily air samples were collected and analyzed for from February 10 through March 8, 2016. As discussed in the CTEH Air Monitoring and Sampling Report (Appendix 5), throughout the monitoring there were no action level exceedances of the TCEQ Air Monitoring Comparison Values (AMCVs) for the Site-specific PAHs (PAHs) that were tested during the daily air analytical monitoring (Appendix 5). Once the handling of impacted soil was completed, the Air SAP was revised on March 8, 2016 to eliminate the air analytical sampling and to continue real-time monitoring for particulate matter (PM_{10}). The TCEQ approved the revised Air SAP and Dust Control Plan on March 9, 2016. Throughout the real-time PM_{10} monitoring that began on February 10, 2016 and ended on April 28, 2016, there were no exceedances of the stop work action levels detailed in the Air SAP, indicating that the dust suppression activities during the remediation activities did not result in any additional exposure conditions.

During the excavation of Area A, a storm event occurred where storm water accumulated within the excavation. Approximately 9,000 gallons of storm water was removed from the excavation and was

containerized in a frac tank located on site. The storm water was characterized, and determined not to contain any of the listed hazardous waste constituents related to the Site above human health levels (i.e., storm water was evaluated through the "contain-in" determination as detailed in a letter dated March 23, 2016 that was confirmed by the TCEQ Waste Permits Division in a letter dated April 1, 2016 (Appendix 8)). The containerized storm water was characterized, profiled, and properly disposed of at Republic Services McCarty Road Landfill.

Explain how the response action achieved the objectives within the reasonable time frame.

The response action achieved the response action objectives of protection of human exposure to impacted surface soils above the critical human health PCL. The construction phase of the project began in early January 2016 and was completed in early May 2016. The required deed recordation for the various capped areas was also completed, thereby finalizing the on-site soil response actions for the Site. UPRR is awaiting the restrictive covenant for the City of Houston Right of Way area capped with the concrete sidewalk.

For the Englewood Intermodal Yard and rail ballast area, surface soils were left in place. A physical barrier (concrete and/or railroad ballast/ties/rail) is already in place to prevent exposure to surface soil in that area.

For the entire Affected Property, deed restriction of the Site to commercial-industrial use will also be implemented to prevent future exposure risk. The deed notice will be filed with the Harris County Clerk upon approval of the RAP. In accordance with the TCEQ regulatory guidance document *Institutional Controls Under TRRP* (RG-366/TRRP-16), proof of filing would be submitted to the TCEQ within 120 days of approval of the RAP.

Were physical controls used as part of the response action? X Yes ____ No

If yes, describe the type and purpose of the physical control and discuss how the physical control has proved effective.

The following physical controls were constructed or already in-place and will be effective in protecting human health and the environment at the Site:

- Former HWPW area: To protect on-site commercial/industrial receptors from the surface and subsurface soil PCLE Zone, the Soil Cap was constructed using a vapor barrier (6-mil plastic) with geotextile fabric, and an engineered soil cap (12-in clayey soil, 6-in topsoil) to cover the consolidated soil and surface and subsurface soil PCLE Zones (Attachment 1C). Approximately 19,000 cyds of clayey soil and top soil were used for the construction of the Soil Cap. The Soil Cap was then vegetated (with a pollinator /grass mix to attract pollinators in the area) and sloped to minimize infiltration over the surface/subsurface soil PCLE Zone. The vegetated cap will be maintained under the post-response action care to ensure no exposure to the soils with COC concentrations greater than cPCLs. Signs will be posted with language stating restrictions on construction activity within the capped area.

For the SDD (SWMU 2) along the southern boundary of the HWPW, UPRR constructed the Asphalt Cap to serve two purposes: 1) as a roadway for railroad operations (i.e. signals, locomotive crew change out); and 2) to protect on-site commercial/industrial receptors from surface soils with COC concentrations above cPCLs. The Asphalt Cap construction consisted of grading the existing road material, compacting and stabilizing the existing road material, and applying a hot mix asphalt with at least 2-inches minimum cover approximately 16 feet wide over the length of the roadway. The Asphalt Cap, which will restrict infiltration, was constructed to drain storm water away from the Soil and Asphalt Cap areas. The Asphalt Cap will be maintained under the post-response action care to ensure no exposure to the soils within the soil PCLE Zone covered by the cap. Signs will be posted with language stating restrictions on construction activity within the capped area.

- City of Houston ROW: The Concrete Sidewalk Cap serves as a physical barrier within the off-site area immediately north of the AST Area (SWMU No. 8) within the City of Houston ROW between the UPRR property boundary and Liberty Road (approximately 7 to 8 feet in width). The concrete sidewalk (~690 feet long and approximately 6-inches thick) restricts exposure to the remaining surface soil PCLE zone within this area. The concrete sidewalk will be routinely inspected as part of the post-response action care to ensure no exposure to the underlying soils with COC concentrations above cPCLs in this area. An institutional control will be placed on the City of Houston ROW to maintain the physical control on surface soils (Appendix 5), and signs will be posted with language stating restrictions on construction activity within the capped area.

- Englewood Intermodal Yard area: The surface and subsurface soil PCLE zone in the Intermodal Yard area is currently covered with a physical barrier (concrete pavement), preventing contact with impacted soils for on-site workers. As part of the post-response action care, the concrete pavement in the area of the surface soil PCLE Zone will be routinely inspected to ensure on-site worker protection. Attachment 1A-1 shows the Soil Affected Property and its location beneath the concrete parking lot on the Site. In addition, storm drains within the proposed response action area will be inspected and sediment in the drains if present will be sampled to evaluate if COCs from surface soils have migrated into the storm water drainage system.

- UPRR Main Lines Ballast Area: The area between the former HWPW area and the Englewood Intermodal Yard (approximately 100 feet width) is covered with railroad ballast, ties, and rail. UPRR will use the existing railroad ballast as an engineering control for preventing on-site worker exposure to impacted surface soils in this area. The railroad ballast area will be maintained as part of normal railroad operations. The track is owned and controlled by UPRR.

For each of these areas, signs will be posted with language stating restrictions on construction activity within the capped areas. In the event construction activities are necessary within a capped area, a health and safety plan will be implemented to ensure worker protection from COCs in the underlying surface soils and a soil management plan will be developed if soils are excavated as part of the construction activities.

Soil Response Action Objectives

When using removal and/or decontamination with controls or controls only, demonstrate that the physical control or combination of measures reliably contained COCs within and/or derived from the surface soil and subsurface soil PCLE zone materials over time.

Physical controls (various caps) in conjunction with an institutional control (deed notice/restrictive covenant) will permanently contain the COCs in the surface and subsurface soils. The Soil Cap, Asphalt Cap, Concrete Sidewalk Cap, and Englewood Intermodal Yard Concrete Cap will contain the COCs by eliminating pathways such as; dermal contact/ingestion of soils, inhalation hazards (dust), and leaching of COCs to storm water or groundwater. The UPRR Main Line Railroad Ballast Cap Area will also contain the COCs by eliminating pathways such as; dermal contact/ingestion of soils, and inhalation hazards (dust). Storm water will likely infiltrate the soils underlying the ballast material and could leach COCs into the shallow groundwater. However, with the proposed Plume Management Zone (PMZ) detailed in the RAP, the infiltration will not lead to either growth of or migration of the groundwater PCLE Zone in the shallow groundwater bearing unit (GWBU) A-TZ.

The caps will prevent erosion of the impacted soils from the Site to nearby drainage(s). The institutional control will be in place to prohibit disturbance of the caps. The combination of these measures, along with long-term maintenance of the caps detailed in the post-closure care will reliably contain the COCs over time.

Explain how the removal or decontamination action reduced the concentration of COCs to the critical surface soil and subsurface soil PCL throughout the soil PCLE zone and prevented COC concentrations above the critical soil PCLs from migrating beyond the original boundary of the soil PCLE zone.

For the excavation areas (Areas A through G), which were backfilled with clean imported fill, surface soils with COC concentrations above cPCLs were effectively reducing the COC concentrations below cPCLs in these areas under a Remedy Standard A response objective as demonstrated through verification sampling, with the only control necessary for those areas being an institutional control limiting current and future land use to commercial/industrial. During the construction activities, storm water protection activities were conducted to ensure the activities did not result in COCs in soils migrating beyond the existing soil PCLE Zones. During excavation of surface soils and stockpiling activities (prior to final grading and covering) within the Soil Cap area, impacted soils were also covered with plastic to limit exposure to storm water during rainfall events. Storm water that accumulated in the excavation was containerized, characterized, and properly disposed of in accordance with stated and federal rules and regulations. Dust suppression activities were also implemented within the construction area to control the potential migration of dust from the Site, as confirmed through air monitoring activities (Appendix 5).

Groundwater Response Action Objectives

Name of groundwater-bearing unit to which this information applies ***Will be addressed in separate RACR***

Repeat this section for each groundwater-bearing unit for which a different response action was conducted.

Groundwater classification 1 ___ 2 ___ 3 ___

Was a modified groundwater response action used for any part of the groundwater PCLE zone (§350.33(f)(2), (3), or (4))? ___ Yes ___ No

If yes, complete the appropriate portions of this report.

Explain how the removal or decontamination actions reduced the concentration of COCs to the critical groundwater PCL throughout the groundwater PCLE zone and prevented COC concentrations above the critical groundwater PCL from migrating beyond the original boundary of the groundwater PCLE zone. If COC concentrations above the critical groundwater PCL ever migrated beyond the original boundary of the groundwater PCLE zone, explain the actions taken to address the increase in the PCLE zone.

Explain how the response action prevented COCs from migrating to air at concentrations above the PCLs for air if the groundwater-to-air PCLs ($^{Air}GW_{Inh\text{-}V}$) were exceeded.

Explain how the response action prevented COCs from migrating to surface water at concentrations above the PCLs for groundwater discharges to surface water if surface water was a factor.

Explain how the response action prevented human and ecological receptor exposure to the groundwater PCLE zone.

Waste Management

Describe the volume and final disposition or reuse location of waste or environmental media that was removed from the affected property during the response action, if not previously reported under STEERS. Provide copies of all manifests, other documentation of disposition, and landowner consent for reuse of soil in Appendix 8.

The wastes generated at the Site as a result of the project included non-hazardous wastes such as weathered timber cross ties, storm water, and concrete and construction debris. The volumes of the non-hazardous wastes removed consisted of the following:

- Approximately 9,000 gallons of petroleum-affected storm water (Manifest #2971873 and #2971874). Storm water was evaluated through the "contained-in" determination as detailed in a letter prepared by PBW dated March 23, 2016 that was confirmed by the TCEQ Waste Permits Division in a letter dated April 1, 2016 (Appendix 8);
- Approximately 180 cubic yards of weathered timber cross ties (Manifest #2971859 - #2971861 and #2971867 - #2971872); and
- Approximately 20 cubic yards of concrete and construction debris (Manifest #2876428 - #2876429).

These non-hazardous wastes from the Site were transported to the nearby Republic Services' McCarty Road Landfill by Stericycle Specialty Waste Solutions, Inc. Copies of the waste manifests and documentation are provided in Appendix 8. Other non-hazardous wastes generated during the project construction consisted of general household trash which included paper, cardboard and miscellaneous other wastes.

The hazardous wastes generated during the project included recovered creosote and water, petroleum contaminated solids, F034 soil cuttings, steel pipe with creosote residue, empty poly tote, soiled personal protective equipment (PPE), and PVC pipe. The volumes of the hazardous wastes removed consisted of the following:

- Two drums (55-gallons each) of PPE and PVC Pipe pieces (Manifest #009007780);
- Seven drums (55-gallons each) of creosote liquid waste (F034) (Manifests #009007781, #009550758 and #009004982);
- One empty poly tote that was used to temporary store creosote sludge (Manifest #009550758);
- Approximately 10 cubic yards of solid waste (F034) (Manifest #009549457);
- One drum (55-gallons) of soil and creosote (Manifest #009549679); and
- Approximately 3 cubic yards of steel pipe with creosote residue (Manifest #003182983).

All of the wastes except for the steel pipe were transported from the site to Clean Harbors' Deer Park Incineration Facility in La Porte using Clean Harbors' equipment and personnel. The steel pipe was transported to Chemical Waste Management's Lake Charles Landfill by Chemical Waste Management Transportation. Copies of the waste manifests and documentation are provided in Appendix 8. The hazardous wastes will be entered into the TCEQ STEERs system under SWR No. 31457.

Plume Management Zone	RACR Worksheet 2.0 Page 1 of 1	
	ID No. SWR No. 31547	Report Date: 07/18/16

Complete this worksheet when a PMZ was used as part of the response action. Include in Attachment 2A a map of the PMZ with alternate POE(s) and attenuation monitoring points identified and the current groundwater PCLE zone (if applicable). If a PMZ was not used, do not submit this worksheet.

Groundwater-bearing unit _____

Repeat this worksheet for each groundwater-bearing unit for which a PMZ was used.

Groundwater classification ____ 2 ____ 3

Is/was NAPL present? ____ Yes ____ No

If so, describe how the response action achieved the performance criteria in §350.33(f)(4)(E).

If this is a Class 2 groundwater, explain how the response action ensured that leachate from the surface soil and subsurface soil PCLE zones did not increase concentration of COCs greater than the measured concentrations at time of RAP submittal. (§350.33(a)(2))

Provide documentation that the COCs did not migrate beyond the downgradient boundary of the PMZ at concentrations above the critical PCL. Include supporting documentation in Attachments 1A, 1B, and 2A.

List the attenuation action level determined for each attenuation monitoring point. Illustrate the attenuation monitoring points, initial, maximum, and final groundwater PCLE zones (or groundwater concentrations if less than the critical PCL) on the map in Attachment 2A.

COC	Attenuation Monitoring Point (well number)	Attenuation Action Level (mg/L)	Maximum concentration measured at the attenuation monitoring point (mg/L)

Technical Impracticability	RACR Worksheet 3.0 Page 1 of 1	
	ID No. SWR No. 31547	Report Date: 07/18/16

Use this worksheet to document the use of technical impracticability to modify the groundwater response objectives. Also complete Worksheet 2.0 to document the plume management zone for the area of technical impracticability. Include a map of the groundwater PCLE zone and area of technical impracticability in Attachment 3A. If technical impracticability was not used as part of the response action, do not submit this worksheet.

If additional information beyond that provided in the RAP is available, describe how it was determined that it was technically impractical to reduce the COC concentrations in groundwater to the critical PCLs. Describe the response actions taken that did not prove effective. Provide graphs in Attachment 1B to illustrate COC concentrations over time and with distance from the source for each response action that did not prove effective. Describe in Worksheet 1.0 the removal/decontamination actions that were conducted for any PCLE zone outside the area of technical impracticability.

Did COCs above the critical PCL migrate beyond the area of technical impracticability and/or beyond the initial boundary of the PCLE zone?

___ yes ___ no

If yes, explain the actions taken to mitigate the migration of COCs.

Institutional Controls	RACR Worksheet 4.0 Page 1 of 2	
	ID No. SWR No. 31547	Report Date: 07/18/16

Complete this worksheet if an institutional control will be or has been used as part of the response action. Include in Appendix 3 copies of filed institutional controls and drafts of the proposed institutional controls, copies of landowner concurrences, and a list of landowners from whom landowner concurrence will be requested.

Specify the property for which this applies. UPRR Houston Wood Preserving Works, 4910 Liberty Road

Repeat this worksheet for each different property for which an institutional control will be used.

Institutional Control	Type of Institutional Control[3]				Property Ownership		Anticipated or actual filing date[4]
	Deed notice	Restrictive covenant	VCP Certificate of Completion	Equivalent zoning or governmental ordinance	Check if pertinent tract of land is owned by the person	Check if the pertinent tract of land is owned by an innocent owner or operator	
Document use of commercial/industrial land use (§350.31(g))	X						
Document use of physical or institutional control under Remedy Standard B §350.31(g))	X						
Document notice of on-going long term response action (§350.31(h))							
Document use of occupational inhalation criteria as RBELs (§350.74(b)(1))							
Document variance from the default exposure factors (§350.74(j)(2)(L))							
Document the use of a non-default soil exposure area (§350.51(l)(3)&(4))							
Document WCU exclusion area (§350.33(f)(2))							
Document establishing a PMZ (§350.33(f)(4)(C)(l))							
Document the demonstration of technical impracticability (§350.33(f)(3)(F))							
Relocation of soils containing COCs for reuse (§350.36(b)(4) and (c)(4))							
Other (specify)							

[3] Check the appropriate box(es) to indicate the type of institutional control required for the response action.
[4] Specify date or amount of time after RAP approval.

Institutional Controls	RACR Worksheet 4.0 Page 2 of 2	
	ID No. SWR No. 31547	Report Date: 07/18/16

Complete this worksheet if an institutional control will be or has been used as part of the response action. Include in Appendix 3 copies of filed institutional controls and drafts of the proposed institutional controls, copies of landowner concurrences, and a list of landowners from whom landowner concurrence will be requested.

Specify the property for which this applies. City of Houston ROW (Concrete Sidewalk Cap area)

Repeat this worksheet for each different property for which an institutional control will be used.

Institutional Control	Type of Institutional Control[5]				Property Ownership		Anticipated or actual filing date[6]
	Deed notice	Restrictive covenant	VCP Certificate of Completion	Equivalent zoning or governmental ordinance	Check if pertinent tract of land is owned by the person	Check if the pertinent tract of land is owned by an innocent owner or operator	
Document use of commercial/industrial land use (§350.31(g))							
Document use of physical or institutional control under Remedy Standard B §350.31(g))		X					
Document notice of on-going long term response action (§350.31(h))							
Document use of occupational inhalation criteria as RBELs (§350.74(b)(1))							
Document variance from the default exposure factors (§350.74(j)(2)(L))							
Document the use of a non-default soil exposure area (§350.51(l)(3)&(4))							
Document WCU exclusion area (§350.33(f)(2))							
Document establishing a PMZ (§350.33(f)(4)(C)(l))							
Document the demonstration of technical impracticability (§350.33(f)(3)(F))							
Relocation of soils containing COCs for reuse (§350.36(b)(4) and (c)(4))							
Other (specify)							

[5] Check the appropriate box(es) to indicate the type of institutional control required for the response action.
[6] Specify date or amount of time after RAP approval.

Performance Measures

List and describe the performance measures for each environmental medium containing a PCLE zone that were used to determine if reasonable progress is being made by the response action in a timely manner. Provide documentation that these performance measures were met. Attach additional information if necessary.

Not applicable, physical barriers were constructed to meet the performance measures in a timely manner (construction completed within five months).

Problems

Complete the table for the response action. When the response action consisted of several components or multiple actions, complete one table for each major component or action.

Response Action Name/Designation: Soil Excavation/Cap Construction

List the problems that were encountered during the response action, describe the impact of each problem, and the response to the problem.

Description of the Problem	Impact	Did this cause a response action failure?		Corrective Response
		Yes	No	
Significant rain events	Ongoing maintenance of silt fencing, storm water management and disposal, resulted in approx. one week of cumulative delays.		X	Constructed and maintained containment berms and storm water control BMPs. Containerized accumulated rain water in Area A excavation in on-site frac tank.
Encountering storm water drain line in Area A/Storm Drain within Soil Cap	Removal of approximately 350 feet of corrugated drain pipe to remove soils in top 5 feet, additional time necessary to re-install the drain pipe		X	Installed new, 24-in corrugated drain pipe following excavation activities within Area A. Joined new drain pipe with existing drain pipe that was >5 feet bgs. Storm drain within Soil Cap was plugged with concrete and covered with plastic to seal off prior to soil placement.
Encountering unmarked, private water lines in Area A	Restricted depth of soil excavation to approximately 3.5 feet bgs on east portion of Area A.		X	Excavation floor confirmation samples in the area where the water lines were encountered indicated COCs less than cPCLs; therefore, no impacts to the response action.

SWMU 11 – Railcar Oil/Water Separator – unable to safely remove the buried rail car due to proximity of large diameter (6 and 8-in) natural gas lines operated by Centerpoint Energy	Original plan was to remove the buried tank car oil/water separator; modified closure to close in place.		X	Sampling of bottom of tank car indicated COCs in residual soils in the tank were less than cPCLs (C/I). Bottom 2/3^{rds} of tank car was backfilled with flowable fill, with the balance of the tank car filled with sand and clean backfill. Surface soils were excavated around the tank car (except north side closest to gas lines) and backfilled with clean fill.

Operation and Maintenance	RACR Worksheet 6.0 Page 1 of 1	
	ID No.: SWR No. 31547	Report Date:07/18/16

Use this worksheet to describe the operation and maintenance (O&M) activities conducted for each response action.

Response Action Name/Designation: **Remedy Std. B – Soil/Concrete Cap, Asphalt Roadway**

List all portions of the response action to which this information applies. Repeat this worksheet for each major component or operation.

Describe the O&M and inspection activities that were conducted to operate and maintain response action components.

The inspection and maintenance program for the capped areas is described within the RAP Worksheet 5.0 (PBW, 2015).

Post-Response Action Care	RACR Worksheet 7.0 Page 1 of 1	
	ID No. SWR No. 31547	Report Date:07/18/16

Complete this worksheet only if the information has changed from that submitted in the RAP. If the information does not apply or if the RAP contains the most current information, do not submit this worksheet.

Not applicable, details provided in the RAP (PBW, 2015).

What is the proposed initial post-response action care period? (default 30 yr.) _____ years

If the proposed initial post-response action care period is less than 30 years, provide a technical justification in accordance with §350.33(h).

What is the foreseeable land use during the post-response action care period? _____

Describe how the future use of the property will not compromise the integrity of the physical controls, will not interfere with the function of the monitoring systems, will not pose a threat to human health or the environment, and will be in accordance with any institutional controls.

Describe the proposed post-response action care activities. Describe the type of monitoring and/or inspections to be performed. Discuss the rationale for not including any COC(s) analyzed during the response action, monitoring or sampling point location, frequency of monitoring and/or inspections, and the duration of the monitoring program.

Will PRAC sampling procedures be the same as those as previously documented for monitoring and/ or confirmation sampling? ____ Yes ____ No
If no, provide in Appendix 6 a description of the monitoring or sampling collection procedures to be conducted during the post-response action care period.

Cost Estimate
Complete this portion of the form only if this information has changed from that submitted in the RAP.

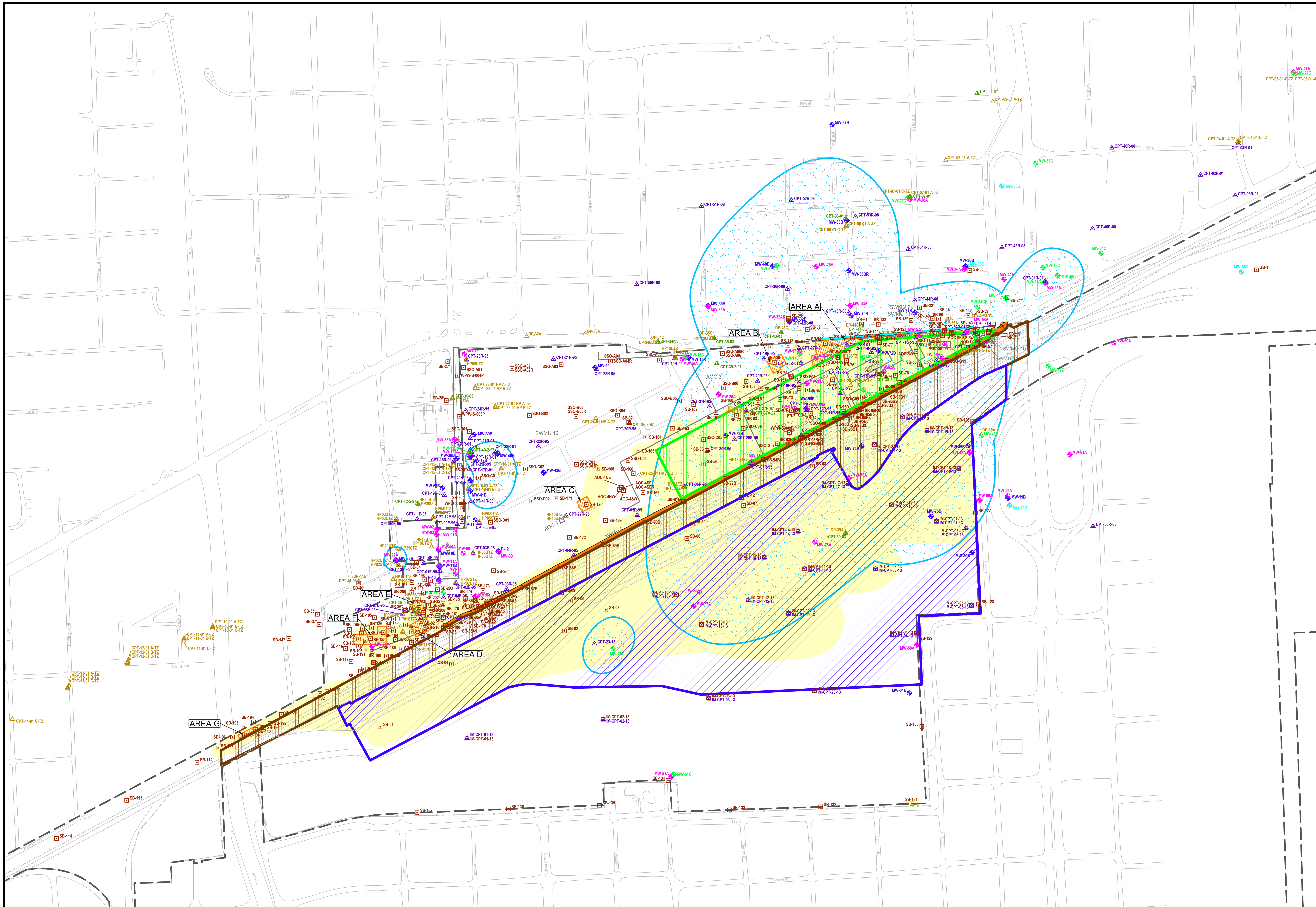
Specify the physical control to which this information applies: _____
Complete this worksheet for each physical control that will be used as part of the response action.

What is the total estimated annual cost of O&M for the PRAC period? $ _____

What is the total estimated cost for a third party to perform PRAC activities? $ _____

Identify the type of financial assurance mechanism to be used, and the contact person managing fiduciary responsibility, if known.

Does the person meet the criteria and definition of a small business? (see §350.33(n)) ____ Yes ____ No
If yes and the person desires to pursue the reduced amount of financial assurance, attach a legally binding affidavit. Include in the affidavit the information requested in 30 TAC §350.33(l), (m), and (n).



EXPLANATION

- UPRR Property Boundary
- Road, Parking Lot, Sidewalk
- Fence
- Railroad
- A-TZ Monitoring Well Location
- B-CZ/B-TZ Monitoring Well Location
- C-TZ Monitoring Well Location
- D-TZ Monitoring Well Location
- A-TZ Temporary Monitoring Well Location
- CPT with Rost Location
- CPT Location
- Hydropunch Sample Location
- Soil Boring Location
- Soil Affected Property
- Groundwater Affected Property
- Surface Soils Excavated within AOC and Consolidated in Soil Cap Area
- Railroad Ballast Cap Area
- Asphalt Cap Area
- Soil Cap
- Concrete Sidewalk Cap
- Concrete Cap Area

Note:
* Soil analytical data rejected by validator.

SWMU/AOC AREAS

No.	Description
SWMU 1	Closed Surface Impoundment
SWMU 2	Northern and Southern Drainage Ditches
SWMU 4	Recent Process Area
SWMU 5	Original Process Area
SWMU 6	Water Treatment and Boiler System
SWMU 7	Tank Car Storage Area
SWMU 8	Aboveground Storage Tank Area
SWMU 9	Location of Former UST No. 44-023-05
SWMU 10	Location of Former Sap Water Treatment Tank
SWMU 11	Oil/Water Separators
SWMU 12	Railroad Tie Storage Area
AOC 1	Diesel Storage Tank
AOC 3	Contaminated Portion of City Water Line
AOC 4	Location of Former Incinerator
AOC 5	City Storm Sewer
AOC 6	Inactive Wastewater Lagoon
AOC 7	Location of Former UST No. 44-023-21

Note:
Locations of SWMU-9 and AOCs 1, 3, 5 and 7 area approximate.

STATE OF TEXAS
ERIC C. MATZNER
GEOLOGY
LIC. # 795
LICENSED
PROFESSIONAL GEOSCIENTIST

N

Scale in Feet
0 200 400

Source:
Base map from ERM-Southwest, Inc APAR Addendum, Fig 3-1, dated June 2004.

UNION PACIFIC RAILROAD CO.

HOUSTON WOOD PRESERVING WORKS

Attachment 1A-1

AFFECTED PROPERTY MAP

PROJECT: 1358	BY: ADJ	REVISIONS
DATE: JUNE, 2016	CHECKED: ECM	

PASTOR, BEHLING & WHEELER, LLC
CONSULTING ENGINEERS AND SCIENTISTS

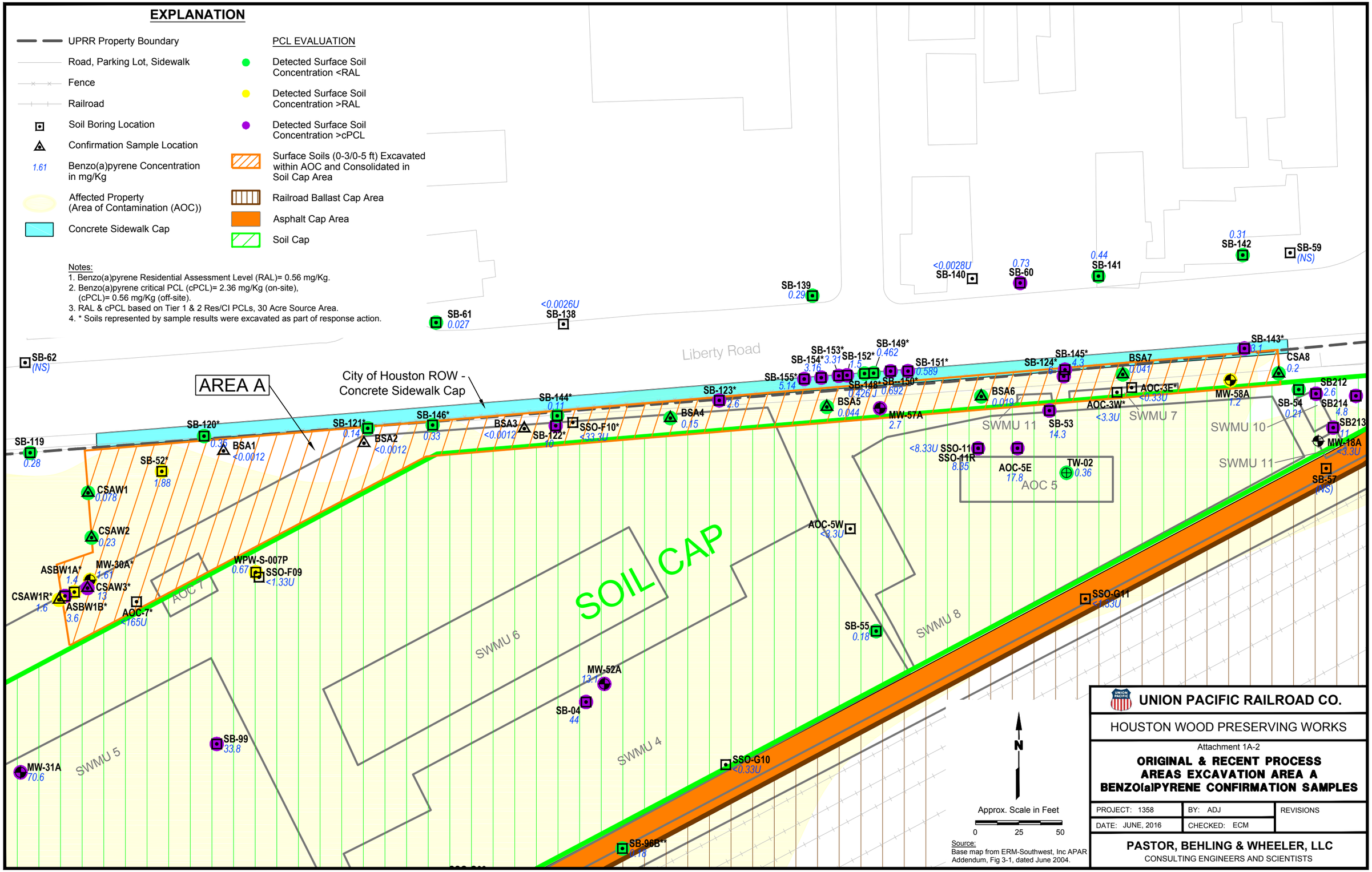
EXPLANATION

- UPRR Property Boundary
- Road, Parking Lot, Sidewalk
- Fence
- Railroad
- Soil Boring Location
- Confirmation Sample Location
- 1.61 Benzo(a)pyrene Concentration in mg/Kg
- Affected Property (Area of Contamination (AOC))
- Concrete Sidewalk Cap

PCL EVALUATION

- Detected Surface Soil Concentration <RAL
- Detected Surface Soil Concentration >RAL
- Detected Surface Soil Concentration >cPCL
- Surface Soils (0-3/0-5 ft) Excavated within AOC and Consolidated in Soil Cap Area
- Railroad Ballast Cap Area
- Asphalt Cap Area
- Soil Cap

Notes:
1. Benzo(a)pyrene Residential Assessment Level (RAL)= 0.56 mg/Kg.
2. Benzo(a)pyrene critical PCL (cPCL)= 2.36 mg/Kg (on-site), (cPCL)= 0.56 mg/Kg (off-site).
3. RAL & cPCL based on Tier 1 & 2 Res/CI PCLs, 30 Acre Source Area.
4. * Soils represented by sample results were excavated as part of response action.



Source:
Base map from ERM-Southwest, Inc APAR Addendum, Fig 3-1, dated June 2004.

UNION PACIFIC RAILROAD CO.

HOUSTON WOOD PRESERVING WORKS

Attachment 1A-2

ORIGINAL & RECENT PROCESS AREAS EXCAVATION AREA A BENZO[a]PYRENE CONFIRMATION SAMPLES

PROJECT: 1358	BY: ADJ	REVISIONS
DATE: JUNE, 2016	CHECKED: ECM	

PASTOR, BEHLING & WHEELER, LLC
CONSULTING ENGINEERS AND SCIENTISTS

EXPLANATION

- UPRR Property Boundary
- Road, Parking Lot, Sidewalk
- Fence
- Railroad
- Soil Boring Location
- Confirmation Sample Location
- 1.61 Benzo(a)pyrene Concentration in mg/Kg
- Affected Property (Area of Contamination (AOC))
- Concrete Sidewalk Cap

PCL EVALUATION

- Detected Surface Soil Concentration <RAL
- Detected Surface Soil Concentration >RAL
- Detected Surface Soil Concentration >cPCL
- Surface Soils (0-5 ft) Excavated within AOC and Consolidated in Soil Cap Area
- Railroad Ballast Cap Area
- Asphalt Cap Area
- Soil Cap

Notes:
1. Benzo(a)pyrene Residential Assessment Level (RAL)= 0.56 mg/Kg.
2. Benzo(a)pyrene critical PCL (cPCL)= 2.36 mg/Kg (on-site), (cPCL)= 0.56 mg/Kg (off-site).
3. RAL & cPCL based on Tier 1 & 2 Res/CI PCLs, 30 Acre Source Area.
4. * Soils represented by sample results were excavated as part of response action.

Liberty Road

MW-33A 0.003J
MW-32A 0.0023J
SB-62 (NS)
SB-61 0.027
SB-119 0.28
SB-118 0.31
SB-51 0.27
SSO-A06 <1.33U

AREA A
City of Houston ROW - Concrete Sidewalk Cap
SB-120* 0.36
BSA1 <0.0012
SB-121* 0.14
BSA2 <0.0012
SB-146* 0.33
SB-52* 1.88
CSAW1 0.078
CSAW2 0.23
ASBW1A* 1.4
MW-30A* 1.61
CSAW3* 13
CSAW1R* 1.6
ASBW1B* 3.6
AOC-7* <165U
WPW-S-007P 0.67
SSO-F09 <1.33U
AOC 7

AREA B
CSBN2 0.2
CSBN1 0.031
CSBB1 <0.0012
CSBE1 0.94
SB-156* 4
CSBB2 <0.0012
CSBW1 0.033
CSBS1* 5.9
CSBS2 0.015
CSBS1R* 8.9
BSBS1RA* 0.32
CSBS1RR* 0.16
BSBS1RB 1.8

SB-157 0.04
SSO-F08 0.24
SB-99 33.8
SB-158 0.39
MW-31A 70.6
SWMU 5
SWMU
AOC 3
SSO-B06 <1.33U
SB-159 0.66
SOIL CAP
SB-160 0.085
SSO-F07 <6.66U
SB-162 0.0099
TW-01 0.681
SB-08 <330U
SB-07 27
SB-161 0.049
SB-03 <3.3U

N

Approx. Scale in Feet
0 25 50

Source:
Base map from ERM-Southwest, Inc APAR Addendum, Fig 3-1, dated June 2004.

UNION PACIFIC RAILROAD CO.

HOUSTON WOOD PRESERVING WORKS

Attachment 1A-3

ORIGINAL & RECENT PROCESS AREAS EXCAVATION AREA B BENZO[a]PYRENE CONFIRMATION SAMPLES

PROJECT: 1358	BY: ADJ	REVISIONS
DATE: JUNE, 2016	CHECKED: ECM	

PASTOR, BEHLING & WHEELER, LLC
CONSULTING ENGINEERS AND SCIENTISTS

EXPLANATION

- UPRR Property Boundary
- Road, Parking Lot, Sidewalk
- Fence
- Railroad
- Soil Boring Location
- Confirmation Sample Location
- 1.61 Benzo(a)pyrene Concentration in mg/Kg
- Affected Property (Area of Contamination (AOC))

PCL EVALUATION

- Detected Surface Soil Concentration <RAL
- Detected Surface Soil Concentration >RAL
- Detected Surface Soil Concentration >cPCL
- Surface Soils (0-5 ft) Excavated within AOC and Consolidated in Soil Cap Area
- Railroad Ballast Cap Area
- Asphalt Cap Area
- Soil Cap

Notes:
1. Benzo(a)pyrene Residential Assessment Level (RAL)= 0.56 mg/Kg.
2. Benzo(a)pyrene critical PCL (cPCL)= 2.36 mg/Kg (on-site), (cPCL)= 0.56 mg/Kg (off-site).
3. RAL & cPCL based on Tier 1 & 2 Res/CI PCLs, 30 Acre Source Area.
4. * Soils represented by sample results were excavated as part of response action.

SB-165 0.14
SSO-C04 <0.33U
SSO-C03 <6.66U
SB-168 1.7
SB-166 0.0066
AOC-4NE <0.33U
AOC-4SE <0.66U
AOC-4NW <0.66U
AOC-4SW <0.33U
SB-167 0.0042
SB-171 0.16
SSO-D02 <0.33U
AREA C
CSCN1 0.097
CSCE1 0.31
BSC1 0.0033 J
SB-170* 3.6
CSCW1 0.081
CSCS1 0.0045
AOC 4
SB-169 0.042
SB-90B 2.13
SB-172 0.082
SB-89B 31.2

N

Approx. Scale in Feet
0 25 50

Source:
Base map from ERM-Southwest, Inc APAR Addendum, Fig 3-1, dated June 2004.

UNION PACIFIC RAILROAD CO.

HOUSTON WOOD PRESERVING WORKS

Attachment 1A-4

FORMER INCINERATOR (AOC 4) AREA EXCAVATION AREA C BENZO(a)PYRENE CONFIRMATION SAMPLES

PROJECT: 1358	BY: ADJ	REVISIONS
DATE: JUNE, 2016	CHECKED: ECM	

PASTOR, BEHLING & WHEELER, LLC
CONSULTING ENGINEERS AND SCIENTISTS

EXPLANATION

- UPRR Property Boundary
- Road, Parking Lot, Sidewalk
- Fence
- Railroad
- Soil Boring Location
- Confirmation Sample Location
- 1.61 Benzo(a)pyrene Concentration in mg/Kg
- Affected Property (Area of Contamination (AOC))

PCL EVALUATION

- Detected Surface Soil Concentration <RAL
- Detected Surface Soil Concentration >RAL
- Detected Surface Soil Concentration >cPCL
- Surface Soils (0-5 ft) Excavated within AOC and Consolidated in Soil Cap Area
- Railroad Ballast Cap Area
- Asphalt Cap Area
- Concrete Cap Area

Notes:
1. Benzo(a)pyrene Residential Assessment Level (RAL)= 0.56 mg/Kg.
2. Benzo(a)pyrene critical PCL (cPCL)= 2.36 mg/Kg (on-site), (cPCL)= 0.56 mg/Kg (off-site).
3. RAL & cPCL based on Tier 1 & 2 Res/CI PCLs, 30 Acre Source Area.
4. * Soils represented by sample results were excavated as part of response action.

SWMU 1

AREA E

AREA F

AREA D

AOC 6

Second St.

SB-198 0.008; SB-199 0.21; SB-197 0.014; SB-203 0.52; SB-200 0.075; SB-201 0.0043J; SB-202 0.016; SB-173 0.026; SB-175 0.094; SB-174 0.0067; SB-86A9 0.89; SB-176 1.7; SB-177 0.0053; SB-86C1 0.11; SB-86B 1.61; SB-86A 4.96; SB-86A2 14.6; SB-178 <0.0006; SB-179 17; SB-180 0.18; SB-181 0.066; SB-211 0.56; SB-204 0.057; SB-205 0.99; SB-206 0.14; SB-207 0.13; SB-208 0.36; SB-209 0.1; SB-210* 5.3; SB-183 0.13J; SB-105 0.015; SB-81 0.31; SB-80 1.5; SB-115 <0.0056J; SB-187 <0.0006; SB-186 0.12; SB-185 0.83; SB-184 0.055; SB-188 0.085; SB-79* 3.45; SB-108* 23.2; SB-84* 31.8; SB-106* 10.6; SB-83 0.82; SB-116 0.028; SB-109 0.072; SB-191 0.8; SB-190 2.2; SB-189 0.011; SB-100 0.013; SB-117 0.061; SB-107 3.6; SB-101 0.1; SB-04 0.152J; CSEN1 0.017; ESB3 0.011; BSE2 0.0047; CSEE1 0.26; ESB4 0.067; BSE1 0.71; ESB2 0.27; CSEW1 0.25; SB-182* 8.1J; ESB1 1.2; CSES1 0.65; DSB4 0.34; DSB3 0.27; CSDN1 0.41; CSDE2 0.27; SB-82* 2.63; DSB5 0.39; CSDN2 1.1; DSB2 0.19; CSDE1 0.64; DSB6 0.49; CSDW1 0.21; BSD2 1.1; BSD1 0.37; CSDS2 1.5; DSB1 0.55; DSB7 0.51; CSDS1 0.24; DSB8 1.3; CSDW2; FSB3 0.055; CSFN3 0.32; BSF3 0.014; CSFE2 0.51; FSB2 0.037; CSFN1 0.27; CSFN2 0.99; BSF1 0.04; BSF2 0.0034 J; CSFE1 0.12; CSFW1 <0.0012; CSFS1 0.02; CSFS2 0.71; CSFS3 0.33; FSB1 0.042; CSDCH107W 0.27; CSDCH107E 0.0088

Approx. Scale in Feet: 0 25 50

Source: Base map from ERM-Southwest, Inc APAR Addendum, Fig 3-1, dated June 2004.

UNION PACIFIC RAILROAD CO.

HOUSTON WOOD PRESERVING WORKS

Attachment 1A-5

FORMER INACTIVE WASTEWATER LAGOON (AOC 6) EXCAVATION AREAS D, E, & F BENZO(a)PYRENE CONFIRMATION SAMPLES

PROJECT: 1358	BY: ADJ	REVISIONS
DATE: JUNE, 2016	CHECKED: ECM	

PASTOR, BEHLING & WHEELER, LLC
CONSULTING ENGINEERS AND SCIENTISTS

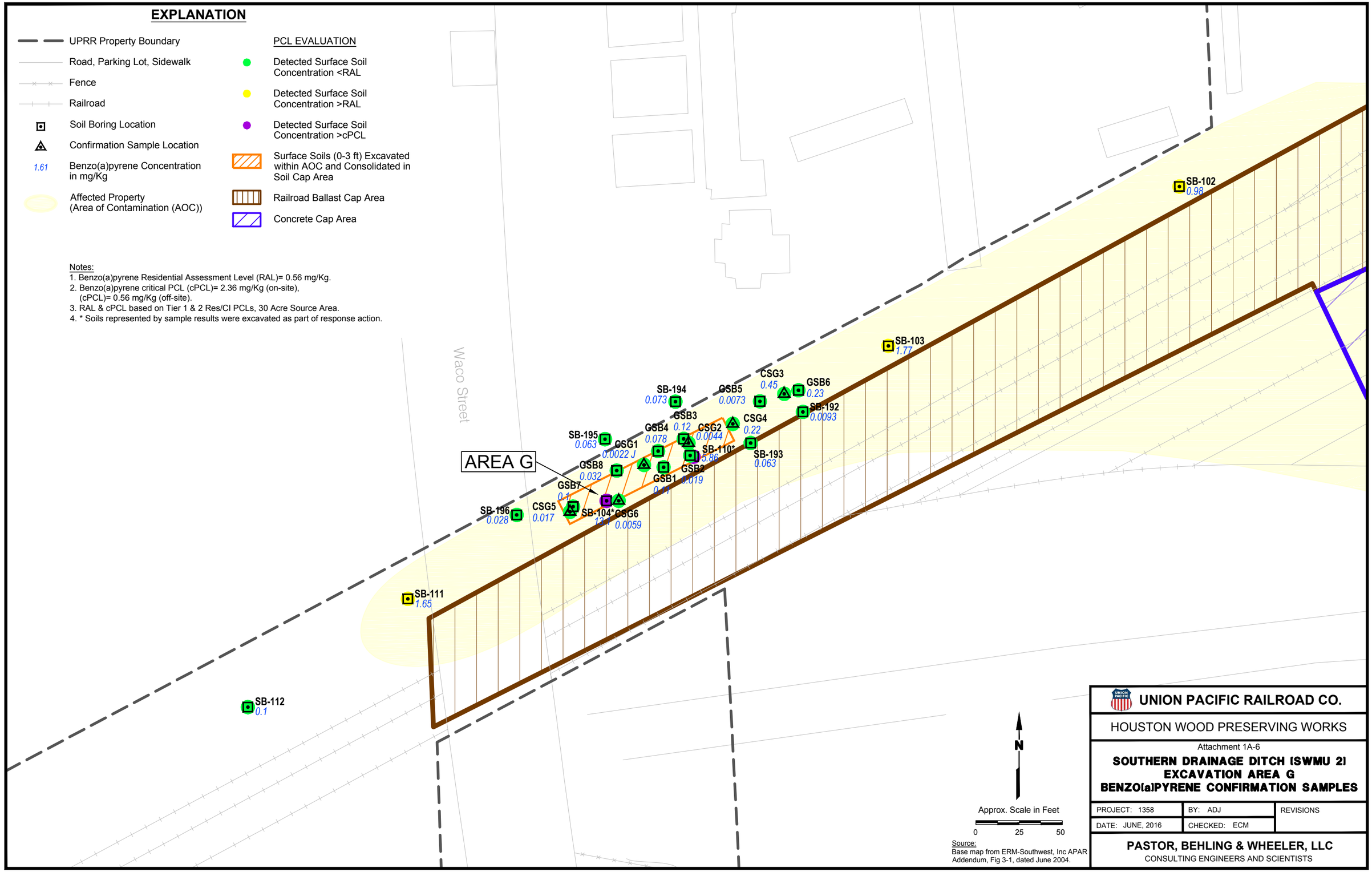
EXPLANATION

- UPRR Property Boundary
- Road, Parking Lot, Sidewalk
- Fence
- Railroad
- Soil Boring Location
- Confirmation Sample Location
- 1.61 Benzo(a)pyrene Concentration in mg/Kg
- Affected Property (Area of Contamination (AOC))

PCL EVALUATION

- Detected Surface Soil Concentration <RAL
- Detected Surface Soil Concentration >RAL
- Detected Surface Soil Concentration >cPCL
- Surface Soils (0-3 ft) Excavated within AOC and Consolidated in Soil Cap Area
- Railroad Ballast Cap Area
- Concrete Cap Area

Notes:
1. Benzo(a)pyrene Residential Assessment Level (RAL)= 0.56 mg/Kg.
2. Benzo(a)pyrene critical PCL (cPCL)= 2.36 mg/Kg (on-site), (cPCL)= 0.56 mg/Kg (off-site).
3. RAL & cPCL based on Tier 1 & 2 Res/CI PCLs, 30 Acre Source Area.
4. * Soils represented by sample results were excavated as part of response action.



Source:
Base map from ERM-Southwest, Inc APAR Addendum, Fig 3-1, dated June 2004.

UNION PACIFIC RAILROAD CO.

HOUSTON WOOD PRESERVING WORKS

Attachment 1A-6

SOUTHERN DRAINAGE DITCH (SWMU 2)
EXCAVATION AREA G
BENZO(a)PYRENE CONFIRMATION SAMPLES

PROJECT: 1358	BY: ADJ	REVISIONS
DATE: JUNE, 2016	CHECKED: ECM	

PASTOR, BEHLING & WHEELER, LLC
CONSULTING ENGINEERS AND SCIENTISTS

EXPLANATION

- UPRR Property Boundary
- Road, Parking Lot, Sidewalk
- Fence
- Railroad
- Soil Boring Location
- Confirmation Sample Location
- 1.61 Benzo(a)anthracene Concentration in mg/Kg
- Affected Property (Area of Contamination (AOC))
- Concrete Sidewalk Cap

PCL EVALUATION

- Detected Surface Soil Concentration <RAL
- Detected Surface Soil Concentration >RAL
- Detected Surface Soil Concentration >cPCL
- Surface Soils (0-3/0-5 ft) Excavated within AOC and Consolidated in Soil Cap Area
- Railroad Ballast Cap Area
- Asphalt Cap Area
- Soil Cap

Notes:
1. Benzo(a)anthracene Residential Assessment Level (RAL)= 5.6 mg/Kg.
2. Benzo(a)anthracene critical PCL (cPCL)= 23 mg/Kg (on-site), (cPCL)= 5.6 mg/Kg (off-site).
3. RAL & cPCL based on Tier 1 & 2 Res/CI PCLs, 30 Acre Source Area.
4. 4. * Soils represented by sample results were excavated as part of response action.

AREA A

City of Houston ROW - Concrete Sidewalk Cap

Liberty Road

SOIL CAP

SB-62 (NS)
SB-61 0.022
<0.0032U SB-138
SB-139 0.14
<0.0034U SB-140
<0.005J SB-60
0.28 SB-141
0.11 SB-142
SB-59 (NS)
SB-119 0.18
SB-120* 0.36
BSA1 <0.0019
SB-121* 0.085
BSA2 <0.0019
SB-146* 0.17
BSA3 0.011
SB-144* 0.35
SB-122* 91
SSO-F10* 44.6
BSA4 0.45
SB-123* 1.4
SB-153* 3.85
SB-154* 2.5
SB-152* 1.32
SB-149* 0.522
SB-155* 4.37
SB-148* 0.553
SB-150* 0.648
SB-151* 0.934
BSA5 0.095
MW-57A 2.4
BSA6 0.037
SB-145* 3
SB-124* 5.9
BSA7 <0.0019
AOC-3E* <0.33U
SB-143* 1.1
CSA8 0.13
MW-58A 1.3
AOC-3W* 3.6
SB-53 17.1
SB-54 0.16
SB214 8.8
SB212 11
SB213 8.4
MW-18A <3.3U
SB-52* 2.14
CSAW1 0.081
CSAW2 0.28
ASBW1A* 2.4
MW-30A* 2.94
CSAW3* 22
CSAW1R* 2.8
ASBW1B* 7
AOC-7* 220
AOC 7
WPW-S-007P <0.66U
SSO-F09 <1.33U
SWMU 6
SWMU 5
SWMU 4
SWMU 7
SWMU 10
SWMU 11
10.8 SSO-11 SSO-11R (NS)
AOC-5E 21.5
AOC 5
TW-02 3.04
SB-57 (NS)
AOC-5W <3.3U
SB-55 0.23
SWMU 8
SSO-G11 <1.33U
MW-52A 39.6
SB-04 130
SB-99 55.9
MW-31A 156
SSO-G10 <0.33U
SB-96B 0.59

N

Approx. Scale in Feet
0 25 50

Source:
Base map from ERM-Southwest, Inc APAR Addendum, Fig 3-1, dated June 2004.

UNION PACIFIC RAILROAD CO.

HOUSTON WOOD PRESERVING WORKS

Attachment 1A-7

ORIGINAL & RECENT PROCESS AREAS EXCAVATION AREA A BENZO(a)ANTHRACENE CONFIRMATION SAMPLES

PROJECT: 1358	BY: ADJ	REVISIONS
DATE: JUNE, 2016	CHECKED: ECM	

PASTOR, BEHLING & WHEELER, LLC
CONSULTING ENGINEERS AND SCIENTISTS

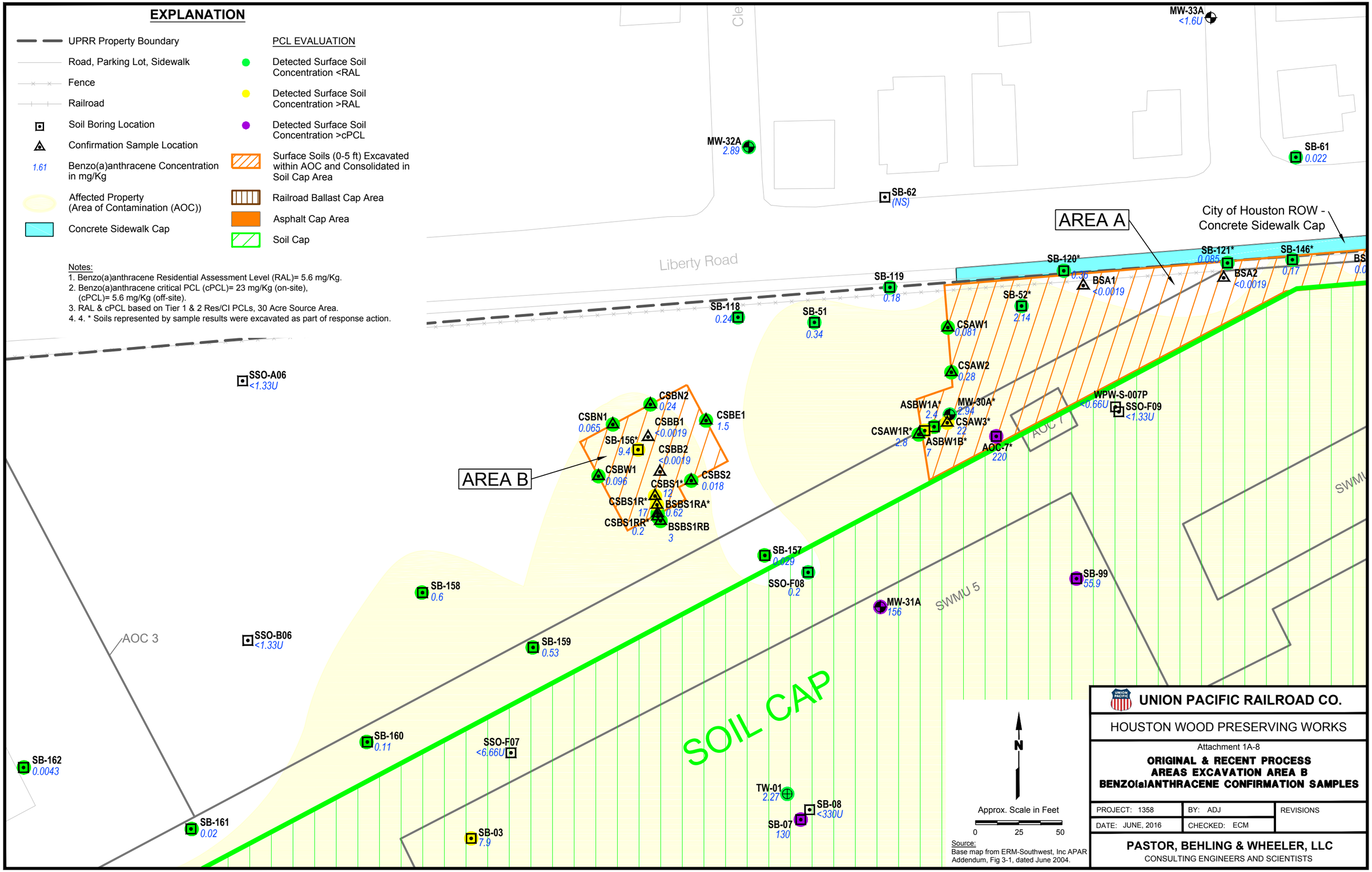
EXPLANATION

- UPRR Property Boundary
- Road, Parking Lot, Sidewalk
- Fence
- Railroad
- Soil Boring Location
- Confirmation Sample Location
- 1.61 Benzo(a)anthracene Concentration in mg/Kg
- Affected Property (Area of Contamination (AOC))
- Concrete Sidewalk Cap

PCL EVALUATION

- Detected Surface Soil Concentration <RAL
- Detected Surface Soil Concentration >RAL
- Detected Surface Soil Concentration >cPCL
- Surface Soils (0-5 ft) Excavated within AOC and Consolidated in Soil Cap Area
- Railroad Ballast Cap Area
- Asphalt Cap Area
- Soil Cap

Notes:
1. Benzo(a)anthracene Residential Assessment Level (RAL)= 5.6 mg/Kg.
2. Benzo(a)anthracene critical PCL (cPCL)= 23 mg/Kg (on-site), (cPCL)= 5.6 mg/Kg (off-site).
3. RAL & cPCL based on Tier 1 & 2 Res/CI PCLs, 30 Acre Source Area.
4. 4. * Soils represented by sample results were excavated as part of response action.



Source:
Base map from ERM-Southwest, Inc APAR Addendum, Fig 3-1, dated June 2004.

UNION PACIFIC RAILROAD CO.

HOUSTON WOOD PRESERVING WORKS

Attachment 1A-8

ORIGINAL & RECENT PROCESS AREAS EXCAVATION AREA B BENZO(a)ANTHRACENE CONFIRMATION SAMPLES

PROJECT: 1358	BY: ADJ	REVISIONS
DATE: JUNE, 2016	CHECKED: ECM	

PASTOR, BEHLING & WHEELER, LLC
CONSULTING ENGINEERS AND SCIENTISTS

EXPLANATION

- UPRR Property Boundary
- Road, Parking Lot, Sidewalk
- Fence
- Railroad
- Soil Boring Location
- Confirmation Sample Location
- 1.61 Benzo(a)anthracene Concentration in mg/Kg
- Affected Property (Area of Contamination (AOC))

PCL EVALUATION

- Detected Surface Soil Concentration <RAL
- Detected Surface Soil Concentration >RAL
- Detected Surface Soil Concentration >cPCL
- Surface Soils (0-5 ft) Excavated within AOC and Consolidated in Soil Cap Area
- Railroad Ballast Cap Area
- Asphalt Cap Area
- Soil Cap

Notes:
1. Benzo(a)anthracene Residential Assessment Level (RAL)= 5.6 mg/Kg.
2. Benzo(a)anthracene critical PCL (cPCL)= 23 mg/Kg (on-site), (cPCL)= 5.6 mg/Kg (off-site).
3. RAL & cPCL based on Tier 1 & 2 Res/CI PCLs, 30 Acre Source Area.
4. 4. * Soils represented by sample results were excavated as part of response action.

SB-165 0.13
SSO-C04 <0.33U
SSO-C03 <6.66U
SB-168 0.82
SB-166 0.0074
<0.33U AOC-4NE
AOC-4SE <0.66U
AOC-4NW <0.66U
AOC-4SW <0.33U
SB-167 0.0069
SB-171 0.022
SSO-D02 <0.33U
AREA C
CSCN1 0.18
CSCE1 0.31
BSC1 0.0031 J
SB-170* 4.7
CSCW1 0.053
CSCS1 0.011
AOC 4
SB-169 0.031
SB-90B 1.34
SB-172 0.01
SB-89B 77.1

N

Approx. Scale in Feet
0 25 50

Source:
Base map from ERM-Southwest, Inc APAR Addendum, Fig 3-1, dated June 2004.

UNION PACIFIC RAILROAD CO.

HOUSTON WOOD PRESERVING WORKS

Attachment 1A-9

FORMER INCINERATOR (AOC 4) AREA
EXCAVATION AREA C
BENZO(a)ANTHRACENE CONFIRMATION SAMPLES

PROJECT: 1358	BY: ADJ	REVISIONS
DATE: JUNE, 2016	CHECKED: ECM	

PASTOR, BEHLING & WHEELER, LLC
CONSULTING ENGINEERS AND SCIENTISTS

EXPLANATION

- UPRR Property Boundary
- Road, Parking Lot, Sidewalk
- Fence
- Railroad
- Soil Boring Location
- Confirmation Sample Location
- 1.61 Benzo(a)anthracene Concentration in mg/Kg
- Affected Property (Area of Contamination (AOC))

PCL EVALUATION

- Detected Surface Soil Concentration <RAL
- Detected Surface Soil Concentration >RAL
- Detected Surface Soil Concentration >cPCL
- Surface Soils (0-5 ft) Excavated within AOC and Consolidated in Soil Cap Area
- Railroad Ballast Cap Area
- Asphalt Cap Area
- Concrete Cap Area

Notes:
1. Benzo(a)anthracene Residential Assessment Level (RAL)= 5.6 mg/Kg.
2. Benzo(a)anthracene critical PCL (cPCL)= 23 mg/Kg (on-site), (cPCL)= 5.6 mg/Kg (off-site).
3. RAL & cPCL based on Tier 1 & 2 Res/CI PCLs, 30 Acre Source Area.
4. 4. * Soils represented by sample results were excavated as part of response action.

SWMU 1

AREA E

AREA F

AREA D

AOC 6

Second St.

SB-198 0.0056
SB-199 0.044
SB-197 0.0095
SB-203 0.11
SB-200 0.087
SB-201 <0.0018
SB-202 0.014
SB-173 0.017
SB-175 0.078
SB-174 <0.0004
SB-86A9 0.84
SB-176 6.7
SB-177 0.0048
SB-86B 2.61
SB-86C1 0.15
SB-86A 17.6
SB-86A2 40.8
SB-178 <0.0004
ESB3 0.011
CSEN1 0.019
BSE2 0.0026 J
SB-204 0.017
ESB4 0.043
CSEE1 0.064
SB-205 0.11
CSEW1 0.18
BSE1 1.2
SB-182* 5.3
ESB2 0.62
ESB1 0.67
CSES1 0.39
SB-207 0.025
SB-208 0.18
SB-206 0.21
SB-211 0.15
SB-181 0.13
SB-179 1.2
SB-105 0.013
SB-81 0.077
DSB4 0.085
DSB3 0.54
CSDN1 0.28
SB-82* 0.36
CSDE2 0.13
DSB5 0.69
CSDN2 0.34
DSB2 0.036
SB-80 0.22
SB-180 0.2
BSD2 0.28
CSDE1 0.17
DSB6 0.83
CSDW1 0.25
SB-210* 0.19
BSD1 1.8
CSDS2 0.72
DSB1 0.34
SB-209 0.015
DSB7 0.26
CSDS1 2.3
CSDW2 0.27
DSB8 0.74
SB-183 0.096 J
SB-115 <0.0048J
SB-187 <0.0004
SB-186 0.098
FSB3 0.017
CSFN3 0.4
SB-185 1.3
SB-184 0.016
SB-188 0.076
BSF3 0.021
CSFE2 0.13
CSFN1 0.29
CSFN2 3.5
SB-79* 2.03
FSB2 0.011
SB-84* 21.6
BSF2 0.0057
SB-83 0.39
CSFW1 <0.002
BSF1 0.01
SB-108* 15.3
SB-106* 5.49
CSFE1 0.023
CSFS1 0.01
CSFS2 0.21
CSFS3 0.028
FSB1 0.033
SB-109 0.059
SB-116 0.024
SB-191 0.25
SB-189 0.0039 J
SB-190 3.5
SB-100 0.01
SB-117 0.039
CSDCH107W 0.055
CSDCH107E 0.0057
SB-107 1.26
SB-04 0.165J
SB-101 0.047

Approx. Scale in Feet
0 25 50

Source:
Base map from ERM-Southwest, Inc APAR Addendum, Fig 3-1, dated June 2004.

UNION PACIFIC RAILROAD CO.

HOUSTON WOOD PRESERVING WORKS

Attachment 1A-10

FORMER INACTIVE WASTEWATER LAGOON (AOC 6) EXCAVATION AREAS D, E, & F BENZO(a)ANTHRACENE CONFIRMATION SAMPLES

PROJECT: 1358	BY: ADJ	REVISIONS
DATE: JUNE, 2016	CHECKED: ECM	

PASTOR, BEHLING & WHEELER, LLC
CONSULTING ENGINEERS AND SCIENTISTS

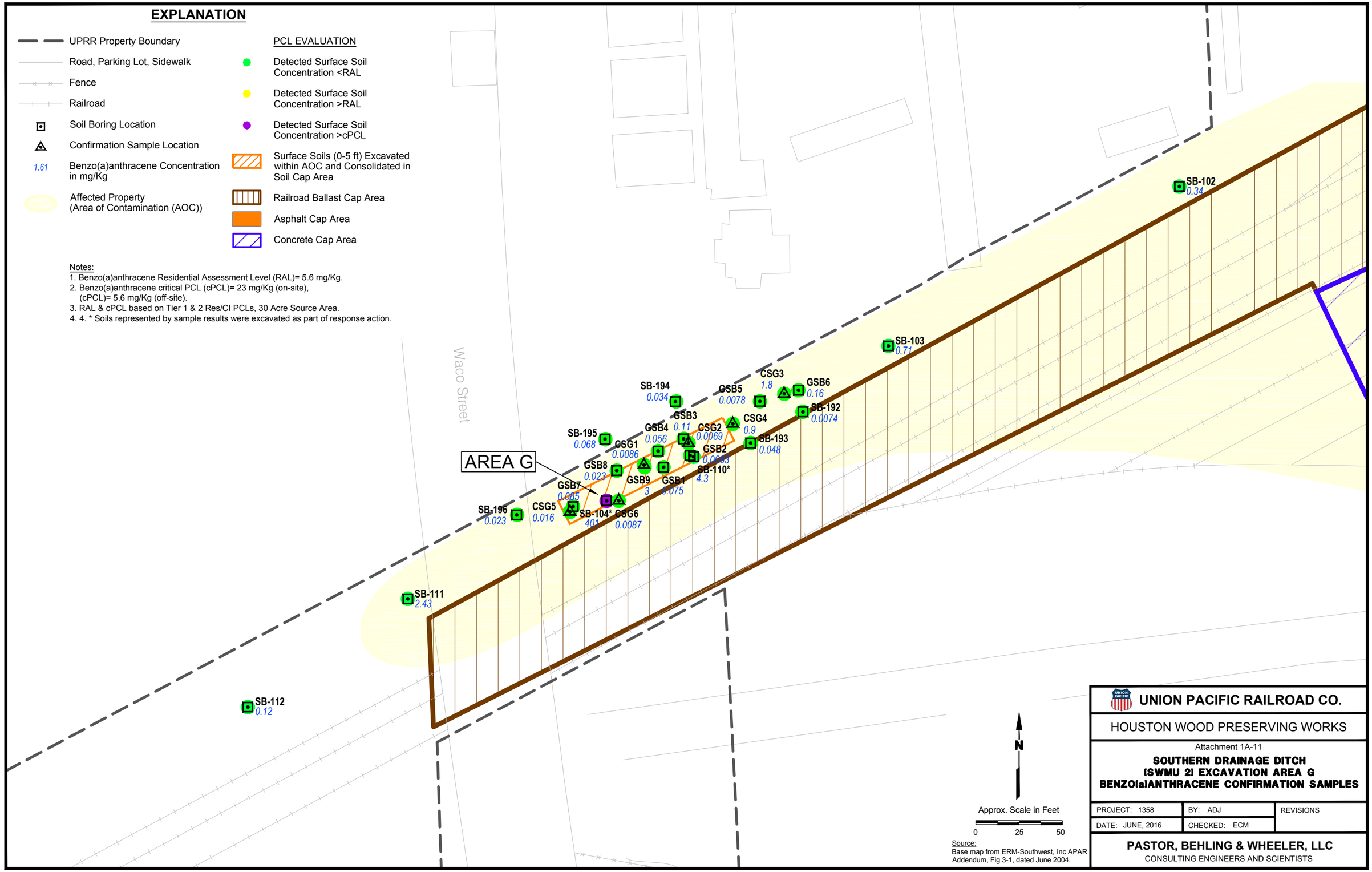
EXPLANATION

- UPRR Property Boundary
- Road, Parking Lot, Sidewalk
- Fence
- Railroad
- Soil Boring Location
- Confirmation Sample Location
- 1.61 Benzo(a)anthracene Concentration in mg/Kg
- Affected Property (Area of Contamination (AOC))

PCL EVALUATION

- Detected Surface Soil Concentration <RAL
- Detected Surface Soil Concentration >RAL
- Detected Surface Soil Concentration >cPCL
- Surface Soils (0-5 ft) Excavated within AOC and Consolidated in Soil Cap Area
- Railroad Ballast Cap Area
- Asphalt Cap Area
- Concrete Cap Area

Notes:
1. Benzo(a)anthracene Residential Assessment Level (RAL)= 5.6 mg/Kg.
2. Benzo(a)anthracene critical PCL (cPCL)= 23 mg/Kg (on-site), (cPCL)= 5.6 mg/Kg (off-site).
3. RAL & cPCL based on Tier 1 & 2 Res/CI PCLs, 30 Acre Source Area.
4. 4. * Soils represented by sample results were excavated as part of response action.



Source:
Base map from ERM-Southwest, Inc APAR Addendum, Fig 3-1, dated June 2004.

UNION PACIFIC RAILROAD CO.

HOUSTON WOOD PRESERVING WORKS

Attachment 1A-11

SOUTHERN DRAINAGE DITCH (SWMU 2) EXCAVATION AREA G BENZO(a)ANTHRACENE CONFIRMATION SAMPLES

PROJECT: 1358	BY: ADJ	REVISIONS
DATE: JUNE, 2016	CHECKED: ECM	

PASTOR, BEHLING & WHEELER, LLC
CONSULTING ENGINEERS AND SCIENTISTS

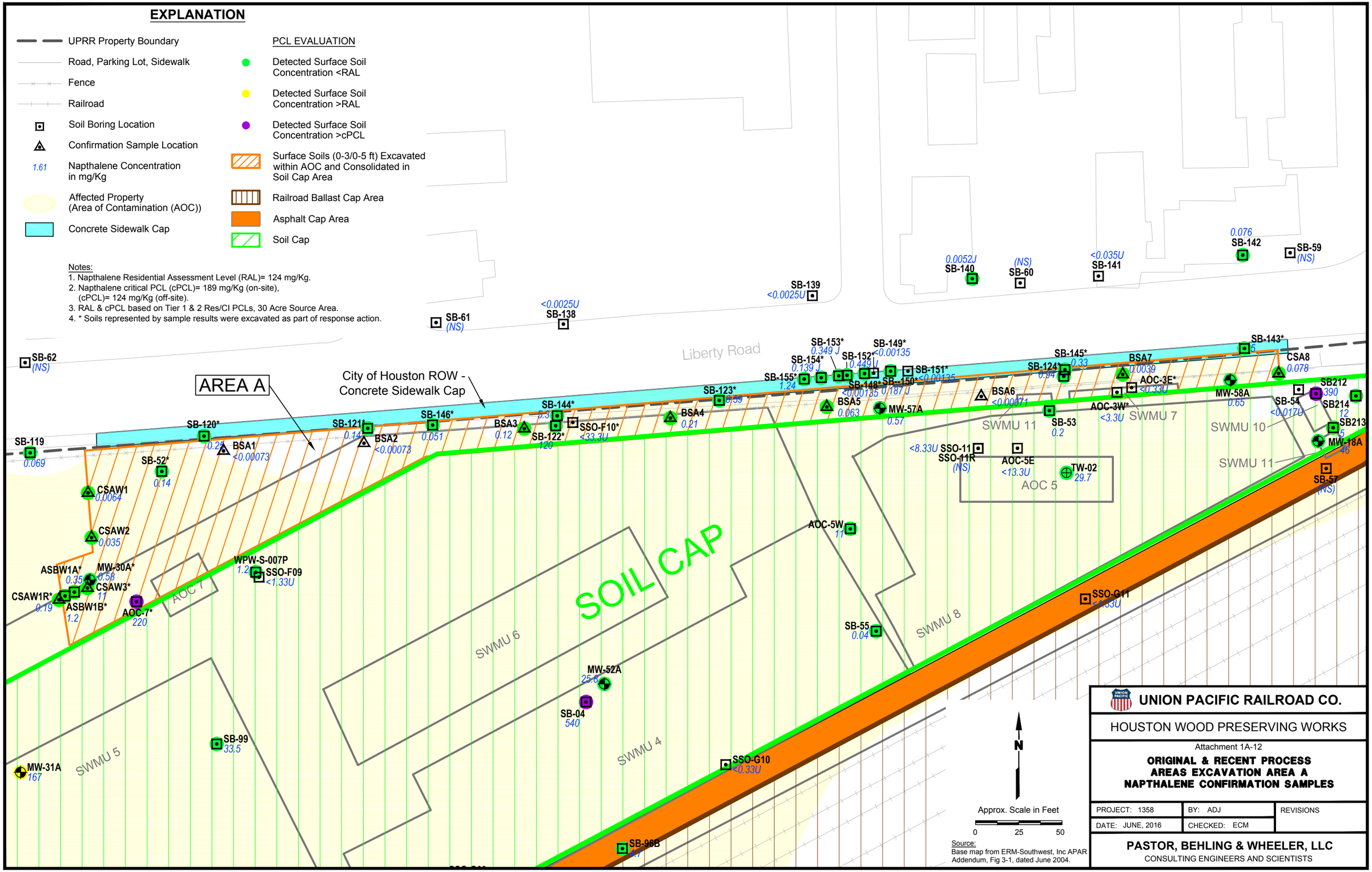
EXPLANATION

- UPRR Property Boundary
- Road, Parking Lot, Sidewalk
- Fence
- Railroad
- Soil Boring Location
- Confirmation Sample Location
- 1.61 Napthalene Concentration in mg/Kg
- Affected Property (Area of Contamination (AOC))
- Concrete Sidewalk Cap

PCL EVALUATION

- Detected Surface Soil Concentration <RAL
- Detected Surface Soil Concentration >RAL
- Detected Surface Soil Concentration >cPCL
- Surface Soils (0-3/0-5 ft) Excavated within AOC and Consolidated in Soil Cap Area
- Railroad Ballast Cap Area
- Asphalt Cap Area
- Soil Cap

Notes:
1. Napthalene Residential Assessment Level (RAL)= 124 mg/Kg.
2. Napthalene critical PCL (cPCL)= 189 mg/Kg (on-site), (cPCL)= 124 mg/Kg (off-site).
3. RAL & cPCL based on Tier 1 & 2 Res/CI PCLs, 30 Acre Source Area.
4. * Soils represented by sample results were excavated as part of response action.



Source:
Base map from ERM-Southwest, Inc APAR Addendum, Fig 3-1, dated June 2004.

UNION PACIFIC RAILROAD CO.

HOUSTON WOOD PRESERVING WORKS

Attachment 1A-12

ORIGINAL & RECENT PROCESS AREAS EXCAVATION AREA A NAPTHALENE CONFIRMATION SAMPLES

PROJECT: 1358	BY: ADJ	REVISIONS
DATE: JUNE, 2016	CHECKED: ECM	

PASTOR, BEHLING & WHEELER, LLC
CONSULTING ENGINEERS AND SCIENTISTS

EXPLANATION

- UPRR Property Boundary
- Road, Parking Lot, Sidewalk
- Fence
- Railroad
- Soil Boring Location
- Confirmation Sample Location
- 1.61 Napthalene Concentration in mg/Kg
- Affected Property (Area of Contamination (AOC))
- Concrete Sidewalk Cap

PCL EVALUATION

- Detected Surface Soil Concentration <RAL
- Detected Surface Soil Concentration >RAL
- Detected Surface Soil Concentration >cPCL
- Surface Soils (0-5 ft) Excavated within AOC and Consolidated in Soil Cap Area
- Railroad Ballast Cap Area
- Asphalt Cap Area
- Soil Cap

Notes:
1. Napthalene Residential Assessment Level (RAL)= 124 mg/Kg.
2. Napthalene critical PCL (cPCL)= 189 mg/Kg (on-site), (cPCL)= 124 mg/Kg (off-site).
3. RAL & cPCL based on Tier 1 & 2 Res/CI PCLs, 30 Acre Source Area.
4. * Soils represented by sample results were excavated as part of response action.

Liberty Road

AREA A

City of Houston ROW - Concrete Sidewalk Cap

AREA B

SOIL CAP

AOC 7

AOC 3

SWMU 5

SWMU

MW-33A 0.009J

MW-32A 0.0252

SB-61 (NS)

SB-62 (NS)

SB-118 0.039

SB-119 0.069

SB-51 <0.057J

SB-120* 0.25

SB-121* 0.14

SB-146* 0.051

BSA1 <0.00073

BSA2 <0.00073

SB-52* 0.14

CSAW1 0.0064

CSAW2 0.035

CSAW3* 11

ASBW1A* 0.35

ASBW1B* 1.2

CSAW1R* 0.19

MW-30A* 0.58

AOC-7* 220

WPW-S-007P 1.2

SSO-F09 <1.33U

CSBN1 0.26

CSBN2 0.28

CSBE1 0.37

CSBB1 <0.00071

CSBB2 0.0093

SB-156* 33

CSBW1 0.74

CSBS1* 3.7

CSBS2 0.007

CSBS1R* 2.8

BSBS1RA* 0.5

CSBS1RR* 0.092

BSBS1RB 8.6

SSO-A06 <1.33U

SSO-B06 <1.33U

SB-157 <0.00064

SSO-F08 0.027

SB-158 0.1

SB-159 3.7

SB-160 0.25

SSO-F07 <6.66U

SB-73 104

SB-99 33.5

MW-31A 167

TW-01 34.4

SB-08 4600

SB-07 3900

SB-74 2530

SB-03 180

SB-161 0.0047

SB-162 0.0043

N

Approx. Scale in Feet

0 25 50

Source:
Base map from ERM-Southwest, Inc APAR Addendum, Fig 3-1, dated June 2004.

UNION PACIFIC RAILROAD CO.

HOUSTON WOOD PRESERVING WORKS

Attachment 1A-13

ORIGINAL & RECENT PROCESS AREAS EXCAVATION AREA B NAPTHALENE CONFIRMATION SAMPLES

PROJECT: 1358	BY: ADJ	REVISIONS
DATE: JUNE, 2016	CHECKED: ECM	

PASTOR, BEHLING & WHEELER, LLC
CONSULTING ENGINEERS AND SCIENTISTS

EXPLANATION

- UPRR Property Boundary
- Road, Parking Lot, Sidewalk
- Fence
- Railroad
- Soil Boring Location
- Confirmation Sample Location
- 1.61 Napthalene Concentration in mg/Kg
- Affected Property (Area of Contamination (AOC))

PCL EVALUATION

- Detected Surface Soil Concentration <RAL
- Detected Surface Soil Concentration >RAL
- Detected Surface Soil Concentration >cPCL
- Surface Soils (0-5 ft) Excavated within AOC and Consolidated in Soil Cap Area
- Railroad Ballast Cap Area
- Asphalt Cap Area
- Soil Cap

Notes:
1. Napthalene Residential Assessment Level (RAL)= 124 mg/Kg.
2. Napthalene critical PCL (cPCL)= 189 mg/Kg (on-site), (cPCL)= 124 mg/Kg (off-site).
3. RAL & cPCL based on Tier 1 & 2 Res/CI PCLs, 30 Acre Source Area.
4. * Soils represented by sample results were excavated as part of response action.

SB-165 0.11
SSO-C04 <0.33U
SSO-C03 <6.66U
SB-168 0.12
SB-166 <0.0006
<0.33U AOC-4NE
AOC-4SE <0.66U
AOC-4NW <0.66U
AOC-4SW <0.33U
SB-167 0.004
SB-171 0.012
SSO-D02 <0.33U
AREA C
CSCN1 0.0045
CSCE1 0.014
BSC1 <0.00072
SB-170* 0.029
CSCW1 0.012
CSCS1 0.0095
AOC 4
SB-169 0.037
SB-90B 4.1
SB-172 0.0083
SB-89B 3.21
SWMU 2

N

Approx. Scale in Feet
0 25 50

Source:
Base map from ERM-Southwest, Inc APAR Addendum, Fig 3-1, dated June 2004.

UNION PACIFIC RAILROAD CO.

HOUSTON WOOD PRESERVING WORKS

Attachment 1A-14

FORMER INCINERATOR (AOC 4) AREA
EXCAVATION AREA C
NAPTHALENE CONFIRMATION SAMPLES

PROJECT: 1358	BY: ADJ	REVISIONS
DATE: JUNE, 2016	CHECKED: ECM	

PASTOR, BEHLING & WHEELER, LLC
CONSULTING ENGINEERS AND SCIENTISTS

EXPLANATION

- UPRR Property Boundary
- Road, Parking Lot, Sidewalk
- Fence
- Railroad
- Soil Boring Location
- Confirmation Sample Location
- 1.61 Napthalene Concentration in mg/Kg
- Affected Property (Area of Contamination (AOC))

PCL EVALUATION

- Detected Surface Soil Concentration <RAL
- Detected Surface Soil Concentration >RAL
- Detected Surface Soil Concentration >cPCL
- Surface Soils (0-5 ft) Excavated within AOC and Consolidated in Soil Cap Area
- Railroad Ballast Cap Area
- Asphalt Cap Area
- Concrete Cap Area

Notes:
1. Napthalene Residential Assessment Level (RAL)= 124 mg/Kg.
2. Napthalene critical PCL (cPCL)= 189 mg/Kg (on-site), (cPCL)= 124 mg/Kg (off-site).
3. RAL & cPCL based on Tier 1 & 2 Res/CI PCLs, 30 Acre Source Area.
4. * Soils represented by sample results were excavated as part of response action.

SWMU 1

AREA E

AREA F

AREA D

AOC 6

Second St.

SB-197 <0.00065
SB-198 <0.00065
SB-199 0.0037
SB-200 <0.00065
SB-201 <0.00069
SB-202 <0.00065
SB-203 0.081
SB-204 <0.00067
SB-205 <0.00066
SB-206 <0.00067
SB-207 <0.00065
SB-208 0.017
SB-209 0.0082
SB-210* 0.022
SB-211 0.0059
SB-105 <0.0017U
SB-81 0.015
SB-115 <0.0066U
SB-186 0.0045
SB-187 <0.0006
SB-188 <0.0006
SB-185 0.012
SB-184 <0.0006
SB-80 0.019
SB-82* 0.08
SB-79* 0.46
SB-84* 0.14
SB-83 0.0069
SB-106* <0.15U
SB-108* (NS)
SB-109 (NS)
SB-116 <0.0066U
SB-191 0.0079
SB-190 0.17
SB-189 <0.0006
SB-100 <0.0015U
SB-117 <0.0066U
SB-107 0.3
SB-101 0.0081
SB-04 <0.081
SB-176 0.22
SB-175 0.02
SB-174 <0.0006
SB-173 0.0044
SB-177 <0.00071
SB-178 0.031
SB-179 0.27
SB-180 0.018
SB-181 0.02
SB-183 0.0059
SB-86A9 0.06
SB-86C1 0.49
SB-86B 0.15
SB-86A 12
SB-86A2 35.4

ESB3 <0.00073
CSEN1 <0.00071
BSE2 <0.00074
ESB4 <0.00071
CSEE1 0.0022 J
CSEW1 0.029
BSE1 0.012
SB-182* 0.013
ESB2 <0.00074
ESB1 0.0042 J
CSES1 <0.00073
CSDN1 <0.00076
DSB4 0.0029 J
DSB3 0.028
CSDE2 0.0093
DSB5 0.0082
CSDN2 <0.00072
DSB2 0.0033 J
CSDE1 0.0097
DSB6 <0.00073
CSDW1 0.0067
BSD2 0.037
BSD1 7.1
CSDS2 0.048
DSB1 0.031
DSB7 0.19
CSDS1 0.35
CSDW2 0.0031 J
DSB8 0.13
FSB3 0.0023 J
CSFN3 0.012
BSF3 <0.00076
CSFE2 0.017
CSFN1 0.18
CSFN2 23
FSB2 0.0021 J
BSF1 0.0018 J
BSF2 0.001 J
CSFE1 0.0068
CSFW1 <0.00074
CSFS1 <0.00072
CSFS2 0.21
CSFS3 0.003 J
FSB1 <0.00073
CSDCH107W 0.04
CSDCH107E <0.0007

N

Approx. Scale in Feet
0 25 50

Source:
Base map from ERM-Southwest, Inc APAR Addendum, Fig 3-1, dated June 2004.

UNION PACIFIC RAILROAD CO.

HOUSTON WOOD PRESERVING WORKS

Attachment 1A-15

FORMER INACTIVE WASTEWATER LAGOON (AOC 6) EXCAVATION AREAS D, E, & F NAPTHALENE CONFIRMATION SAMPLES

PROJECT: 1358	BY: ADJ	REVISIONS
DATE: JUNE, 2016	CHECKED: ECM	

PASTOR, BEHLING & WHEELER, LLC
CONSULTING ENGINEERS AND SCIENTISTS

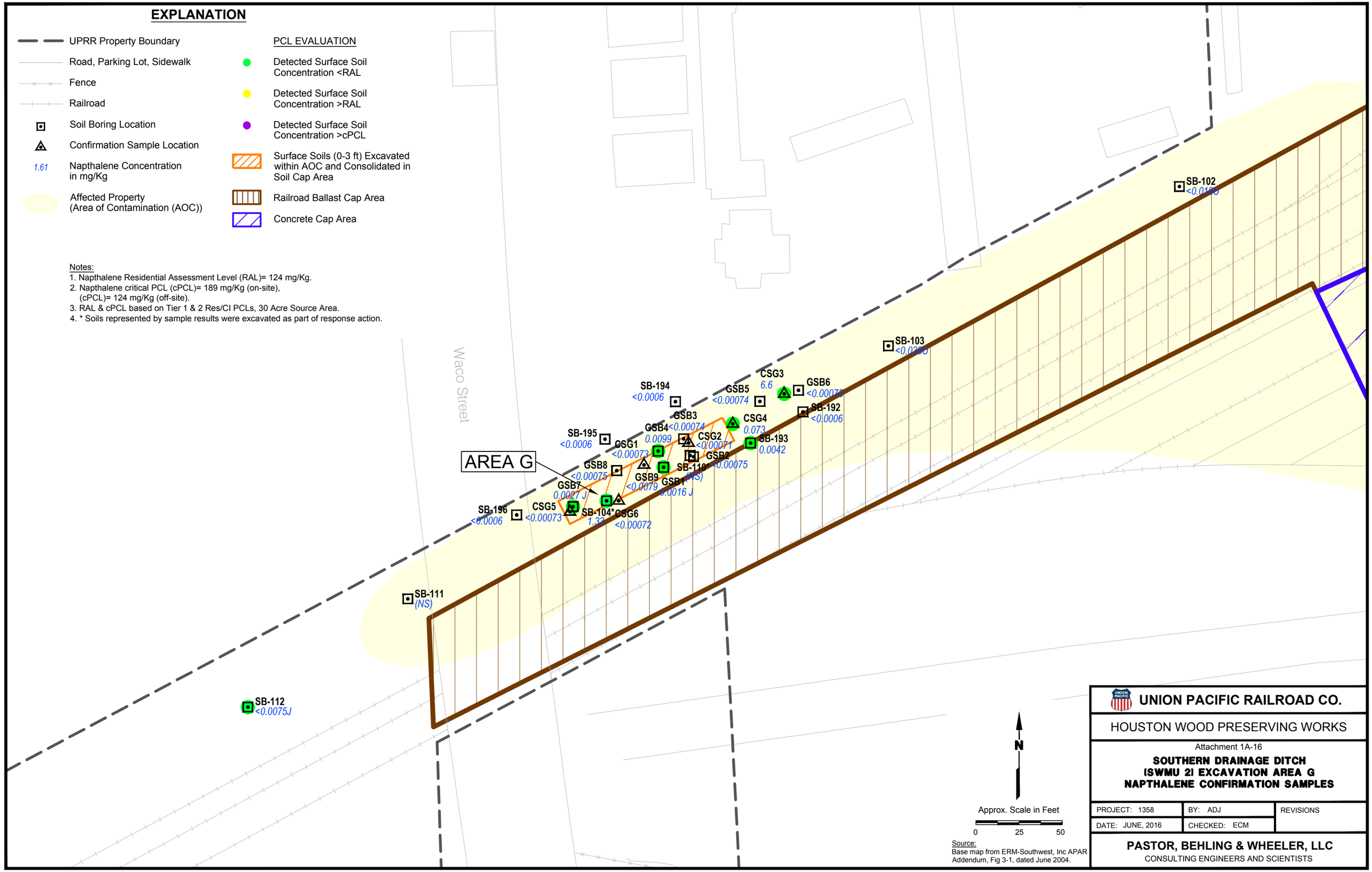
EXPLANATION

- UPRR Property Boundary
- Road, Parking Lot, Sidewalk
- Fence
- Railroad
- Soil Boring Location
- Confirmation Sample Location
- 1.61 Napthalene Concentration in mg/Kg
- Affected Property (Area of Contamination (AOC))

PCL EVALUATION

- Detected Surface Soil Concentration <RAL
- Detected Surface Soil Concentration >RAL
- Detected Surface Soil Concentration >cPCL
- Surface Soils (0-3 ft) Excavated within AOC and Consolidated in Soil Cap Area
- Railroad Ballast Cap Area
- Concrete Cap Area

Notes:
1. Napthalene Residential Assessment Level (RAL)= 124 mg/Kg.
2. Napthalene critical PCL (cPCL)= 189 mg/Kg (on-site), (cPCL)= 124 mg/Kg (off-site).
3. RAL & cPCL based on Tier 1 & 2 Res/CI PCLs, 30 Acre Source Area.
4. * Soils represented by sample results were excavated as part of response action.



Source:
Base map from ERM-Southwest, Inc APAR Addendum, Fig 3-1, dated June 2004.

UNION PACIFIC RAILROAD CO.

HOUSTON WOOD PRESERVING WORKS

Attachment 1A-16

SOUTHERN DRAINAGE DITCH (SWMU 2) EXCAVATION AREA G NAPTHALENE CONFIRMATION SAMPLES

PROJECT: 1358	BY: ADJ	REVISIONS
DATE: JUNE, 2016	CHECKED: ECM	

PASTOR, BEHLING & WHEELER, LLC
CONSULTING ENGINEERS AND SCIENTISTS

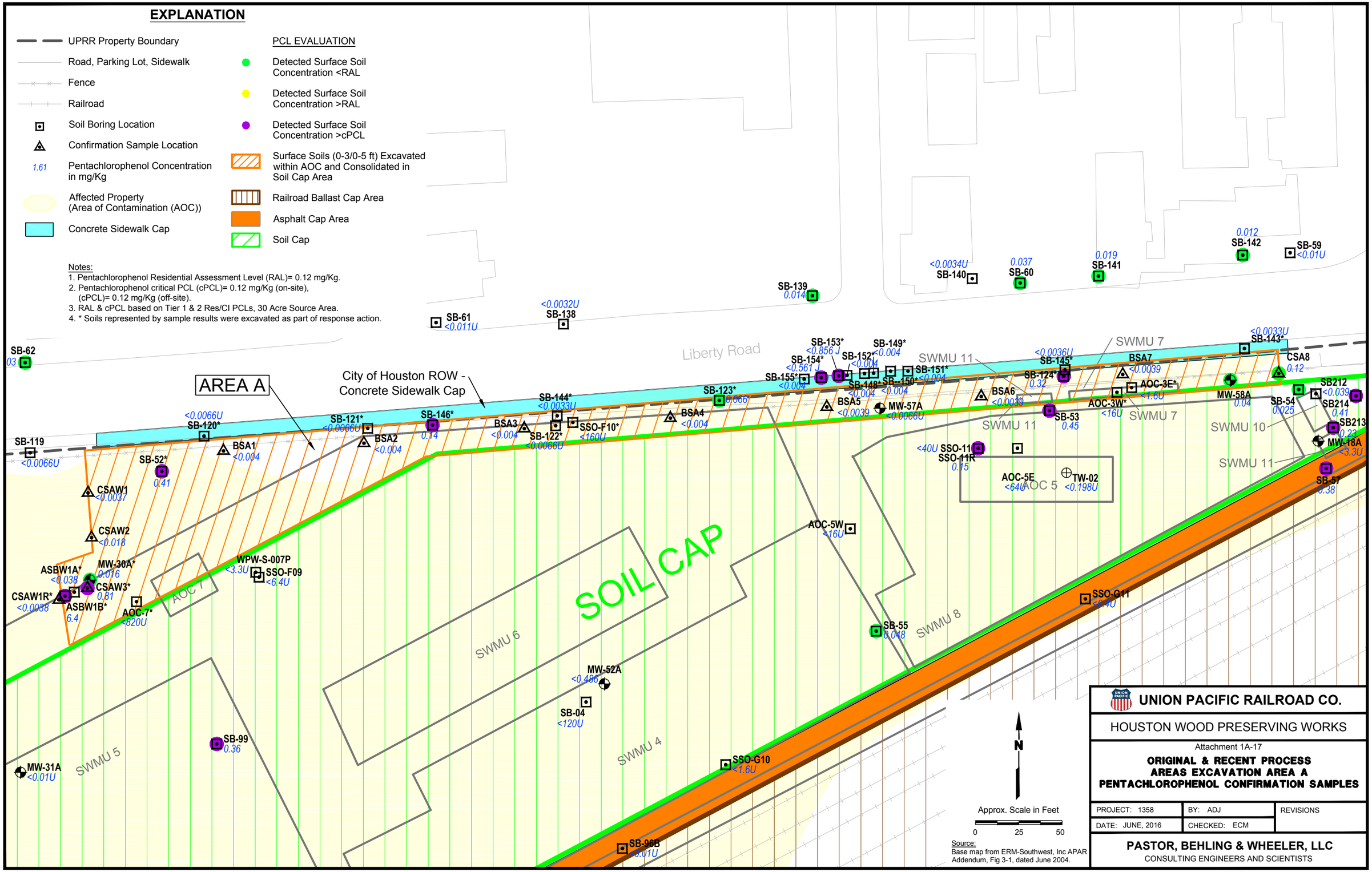
EXPLANATION

- UPRR Property Boundary
- Road, Parking Lot, Sidewalk
- Fence
- Railroad
- Soil Boring Location
- Confirmation Sample Location
- 1.61 Pentachlorophenol Concentration in mg/Kg
- Affected Property (Area of Contamination (AOC))
- Concrete Sidewalk Cap

PCL EVALUATION

- Detected Surface Soil Concentration <RAL
- Detected Surface Soil Concentration >RAL
- Detected Surface Soil Concentration >cPCL
- Surface Soils (0-3/0-5 ft) Excavated within AOC and Consolidated in Soil Cap Area
- Railroad Ballast Cap Area
- Asphalt Cap Area
- Soil Cap

Notes:
1. Pentachlorophenol Residential Assessment Level (RAL)= 0.12 mg/Kg.
2. Pentachlorophenol critical PCL (cPCL)= 0.12 mg/Kg (on-site), (cPCL)= 0.12 mg/Kg (off-site).
3. RAL & cPCL based on Tier 1 & 2 Res/CI PCLs, 30 Acre Source Area.
4. * Soils represented by sample results were excavated as part of response action.



Source:
Base map from ERM-Southwest, Inc APAR Addendum, Fig 3-1, dated June 2004.

UNION PACIFIC RAILROAD CO.

HOUSTON WOOD PRESERVING WORKS

Attachment 1A-17

ORIGINAL & RECENT PROCESS AREAS EXCAVATION AREA A PENTACHLOROPHENOL CONFIRMATION SAMPLES

PROJECT: 1358	BY: ADJ	REVISIONS
DATE: JUNE, 2016	CHECKED: ECM	

PASTOR, BEHLING & WHEELER, LLC
CONSULTING ENGINEERS AND SCIENTISTS

EXPLANATION

- UPRR Property Boundary
- Road, Parking Lot, Sidewalk
- Fence
- Railroad
- Soil Boring Location
- Confirmation Sample Location
- 1.61 Pentachlorophenol Concentration in mg/Kg
- Affected Property (Area of Contamination (AOC))
- Concrete Sidewalk Cap

PCL EVALUATION

- Detected Surface Soil Concentration <RAL
- Detected Surface Soil Concentration >RAL
- Detected Surface Soil Concentration >cPCL
- Surface Soils (0-5 ft) Excavated within AOC and Consolidated in Soil Cap Area
- Railroad Ballast Cap Area
- Asphalt Cap Area
- Soil Cap

Notes:
1. Pentachlorophenol Residential Assessment Level (RAL)= 0.12 mg/Kg.
2. Pentachlorophenol critical PCL (cPCL)= 0.12 mg/Kg (on-site), (cPCL)= 0.12 mg/Kg (off-site).
3. RAL & cPCL based on Tier 1 & 2 Res/CI PCLs, 30 Acre Source Area.
4. * Soils represented by sample results were excavated as part of response action.

Liberty Road

AREA A

City of Houston ROW - Concrete Sidewalk Cap

AREA B

SOIL CAP

AOC 7

AOC 3

SWMU 5

SWMU

MW-33A <0.01U

MW-32A <0.001U

SB-61 <0.011U

SB-62 0.03

SB-118 0.078

SB-119 <0.0066U

SB-120* <0.0066U

SB-121* <0.0066U

SB-146* 0.14

BSA1 <0.004

BSA2 <0.004

SB-51 0.49

SB-52* 0.41

CSAW1 <0.0037

CSAW2 <0.018

CSAW3* 0.81

CSAW1R* <0.0038

ASBW1A* <0.038

ASBW1B* 6.4

MW-30A* 0.016

AOC-7* <820U

WPW-S-007P <3.3U

SSO-F09 <6.4U

SSO-A06R 0.0763

CSBN1 <0.0039

CSBN2 <0.038

CSBE1 <0.04

CSBB1 <0.0039

CSBB2 <0.0039

SB-156* <0.0028

CSBW1 <0.0038

CSBS1* <0.038

CSBS2 <0.0037

CSBS1R* <0.019

BSBS1RA* <0.038

CSBS1RR* <0.0038

BSBS1RB <0.039

SB-157 0.013

SSO-F08R 0.035

SB-99 0.36

MW-31A <0.01U

SB-158 0.055

SB-159 0.056

SB-160 0.059

SSO-F07 <32U

SSO-B06 <6.4U

SB-162 <0.0029

SB-161 0.018

SB-03 <16U

TW-01 <0.00984U

SB-08 <1600U

SB-07 <124U

N

Approx. Scale in Feet

0 25 50

Source:
Base map from ERM-Southwest, Inc APAR Addendum, Fig 3-1, dated June 2004.

UNION PACIFIC RAILROAD CO.

HOUSTON WOOD PRESERVING WORKS

Attachment 1A-18

ORIGINAL & RECENT PROCESS AREAS EXCAVATION AREA B PENTACHLOROPHENOL CONFIRMATION SAMPLES

PROJECT: 1358	BY: ADJ	REVISIONS
DATE: JUNE, 2016	CHECKED: ECM	

PASTOR, BEHLING & WHEELER, LLC
CONSULTING ENGINEERS AND SCIENTISTS

EXPLANATION

- UPRR Property Boundary
- Road, Parking Lot, Sidewalk
- Fence
- Railroad
- Soil Boring Location
- Confirmation Sample Location
- 1.61 Pentachlorophenol Concentration in mg/Kg
- Affected Property (Area of Contamination (AOC))

PCL EVALUATION

- Detected Surface Soil Concentration <RAL
- Detected Surface Soil Concentration >RAL
- Detected Surface Soil Concentration >cPCL
- Surface Soils (0-5 ft) Excavated within AOC and Consolidated in Soil Cap Area
- Railroad Ballast Cap Area
- Asphalt Cap Area
- Soil Cap

Notes:
1. Pentachlorophenol Residential Assessment Level (RAL)= 0.12 mg/Kg.
2. Pentachlorophenol critical PCL (cPCL)= 0.12 mg/Kg (on-site), (cPCL)= 0.12 mg/Kg (off-site).
3. RAL & cPCL based on Tier 1 & 2 Res/CI PCLs, 30 Acre Source Area.
4. * Soils represented by sample results were excavated as part of response action.

SB-165 0.8
SSO-C04 <1.6U
SSO-C03 0.073
SB-168 <0.0024
SB-166 <0.0024
AOC-4NE <1.6U
AOC-4SER <0.022U
AOC-4NW <3.3U
AOC-4SW <1.6U
SB-167 <0.0024
SB-171 <0.0024
SSO-D02 <1.6U
AREA C
CSCN1 <0.0039
CSCE1 0.091
BSC1 <0.004
SB-170* 0.028
CSCW1 <0.0039
CSCS1 <0.0041
AOC 4
SB-169 <0.0024
SB-90B 2.13
SB-172 <0.0024
SB-89B 3.13

N

Approx. Scale in Feet
0 25 50

Source:
Base map from ERM-Southwest, Inc APAR Addendum, Fig 3-1, dated June 2004.

UNION PACIFIC RAILROAD CO.

HOUSTON WOOD PRESERVING WORKS

Attachment 1A-19

FORMER INCINERATOR (AOC 4) AREA
EXCAVATION AREA C
PENTACHLOROPHENOL CONFIRMATION SAMPLES

PROJECT: 1358	BY: ADJ	REVISIONS
DATE: JUNE, 2016	CHECKED: ECM	

PASTOR, BEHLING & WHEELER, LLC
CONSULTING ENGINEERS AND SCIENTISTS

EXPLANATION

- UPRR Property Boundary
- Road, Parking Lot, Sidewalk
- Fence
- Railroad
- Soil Boring Location
- Confirmation Sample Location
- 1.61 Pentachlorophenol Concentration in mg/Kg
- Affected Property (Area of Contamination (AOC))

PCL EVALUATION

- Detected Surface Soil Concentration <RAL
- Detected Surface Soil Concentration >RAL
- Detected Surface Soil Concentration >cPCL
- Surface Soils (0-5 ft) Excavated within AOC and Consolidated in Soil Cap Area
- Railroad Ballast Cap Area
- Asphalt Cap Area
- Concrete Cap Area

Notes:
1. Pentachlorophenol Residential Assessment Level (RAL)= 0.12 mg/Kg.
2. Pentachlorophenol critical PCL (cPCL)= 0.12 mg/Kg (on-site), (cPCL)= 0.12 mg/Kg (off-site).
3. RAL & cPCL based on Tier 1 & 2 Res/CI PCLs, 30 Acre Source Area.
4. * Soils represented by sample results were excavated as part of response action.

SWMU 1
AREA E
AREA F
AREA D
AOC 6
Second St.

SB-197 <0.0036
SB-198 <0.0035
SB-199 <0.0035
SB-200 <0.0036
SB-201 <0.0038
SB-202 <0.0036
SB-203 0.056
SB-173 0.011
SB-175 0.024
SB-174 <0.0024
SB-176 1
SB-177 <0.0024
SB-86A9 0.027
SB-86C1 0.028
SB-86B 0.13
SB-86A 0.028
SB-86A2 0.067
SB-178 <0.0024
SB-179 0.79
SB-180 0.047
SB-181 0.14
SB-211 <0.0036
SB-204 <0.0037
SB-205 <0.0036
SB-206 <0.0037
SB-207 <0.0036
SB-208 0.0057 J
SB-105 0.012
SB-81 <0.011U
SB-80 <0.011U
SB-82* 0.083
SB-210* 0.061
SB-183 0.014
SB-209 <0.0036
SB-115 <0.0066U
SB-187 <0.0024
SB-186 <0.0024
SB-185 <0.0024
SB-184 <0.0024
SB-188 <0.0024
SB-79* 0.08
SB-108* <0.480U
SB-106* <1.05U
SB-84* 0.12
SB-83 <0.012U
SB-109 <0.0093U
SB-116 0.0086
SB-191 0.0054 J
SB-190 <0.0024
SB-189 <0.0024
SB-100 0.011
SB-117 0.016
SB-107 <0.26U
SB-101 0.086
SB-04 <0.0903U

ESB3 <0.004
CSEN1 <0.0039
BSE2 <0.0041
ESB4 <0.0039
CSEE1 <0.0041
CSEW1 <0.004
BSE1 <0.0041
ESB2 <0.004
ESB1 0.023
CSES1 <0.04
DSB4 <0.0041
DSB3 <0.0039
CSDN1 <0.0041
CSDE2 <0.0039
DSB5 <0.0041
CSDN2 <0.04
DSB2 <0.0039
DSB6 <0.004
BSD2 <0.0041
CSDE1 0.014
CSDW1 <0.004
BSD1 <0.0039
CSDS2 <0.041
DSB1 <0.004
DSB7 <0.004
CSDS1 <0.0041
CSDW2 <0.004
DSB8 <0.021
FSB3 <0.0039
CSFN3 0.016
BSF3 <0.0042
CSFE2 <0.0038
CSFN1 <0.0039
CSFN2 <0.0042
FSB2 <0.0039
BSF1 <0.0039
BSF2 <0.0039
CSFE1 <0.004
CSFW1 <0.004
CSFS1 <0.0039
CSFS2 <0.0039
CSFS3 <0.0038
FSB1 <0.004
CSDCH107W <0.027
CSDCH107E <0.0038

Approx. Scale in Feet
0 25 50

Source:
Base map from ERM-Southwest, Inc APAR Addendum, Fig 3-1, dated June 2004.

UNION PACIFIC RAILROAD CO.

HOUSTON WOOD PRESERVING WORKS

Attachment 1A-20

FORMER INACTIVE WASTEWATER LAGOON (AOC 6) EXCAVATION AREAS D, E, & F PENTACHLOROPHENOL CONFIRMATION SAMPLES

PROJECT: 1358	BY: ADJ	REVISIONS
DATE: JUNE, 2016	CHECKED: ECM	

PASTOR, BEHLING & WHEELER, LLC
CONSULTING ENGINEERS AND SCIENTISTS

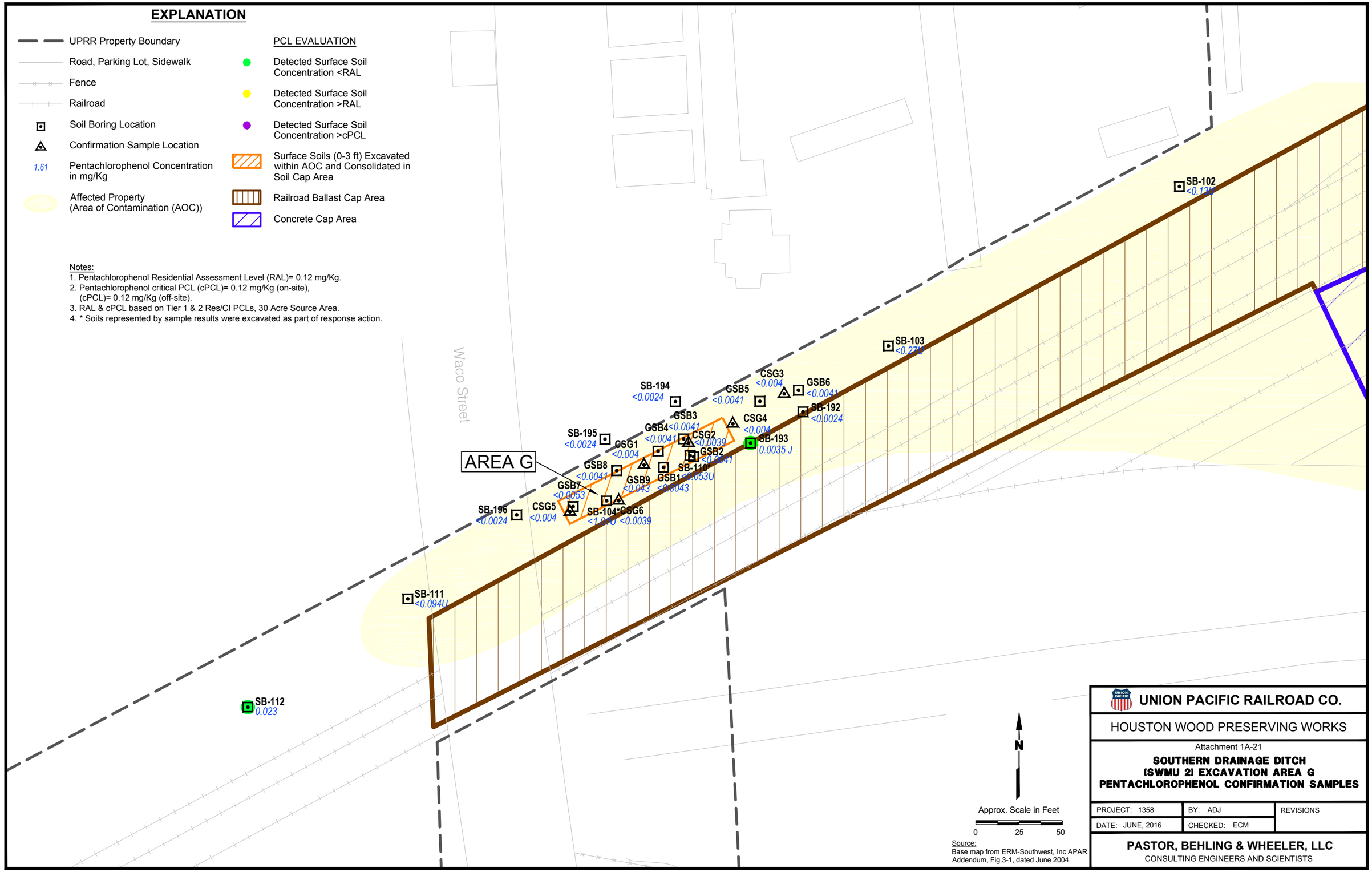
EXPLANATION

- UPRR Property Boundary
- Road, Parking Lot, Sidewalk
- Fence
- Railroad
- Soil Boring Location
- Confirmation Sample Location
- 1.61 Pentachlorophenol Concentration in mg/Kg
- Affected Property (Area of Contamination (AOC))

PCL EVALUATION

- Detected Surface Soil Concentration <RAL
- Detected Surface Soil Concentration >RAL
- Detected Surface Soil Concentration >cPCL
- Surface Soils (0-3 ft) Excavated within AOC and Consolidated in Soil Cap Area
- Railroad Ballast Cap Area
- Concrete Cap Area

Notes:
1. Pentachlorophenol Residential Assessment Level (RAL)= 0.12 mg/Kg.
2. Pentachlorophenol critical PCL (cPCL)= 0.12 mg/Kg (on-site), (cPCL)= 0.12 mg/Kg (off-site).
3. RAL & cPCL based on Tier 1 & 2 Res/CI PCLs, 30 Acre Source Area.
4. * Soils represented by sample results were excavated as part of response action.



Source:
Base map from ERM-Southwest, Inc APAR Addendum, Fig 3-1, dated June 2004.

UNION PACIFIC RAILROAD CO.

HOUSTON WOOD PRESERVING WORKS

Attachment 1A-21

SOUTHERN DRAINAGE DITCH (SWMU 2) EXCAVATION AREA G PENTACHLOROPHENOL CONFIRMATION SAMPLES

PROJECT: 1358	BY: ADJ	REVISIONS
DATE: JUNE, 2016	CHECKED: ECM	

PASTOR, BEHLING & WHEELER, LLC
CONSULTING ENGINEERS AND SCIENTISTS

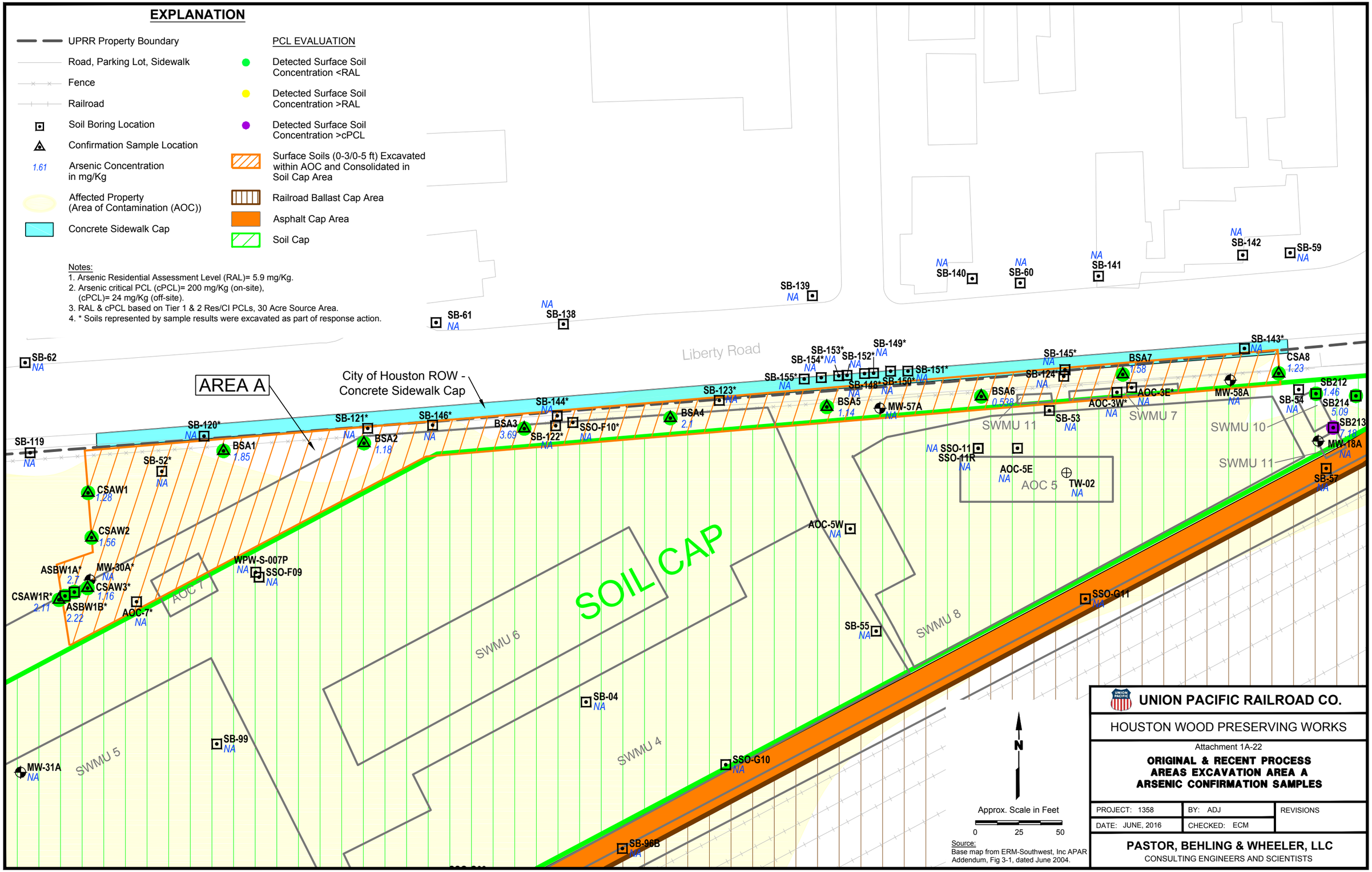
EXPLANATION

- UPRR Property Boundary
- Road, Parking Lot, Sidewalk
- Fence
- Railroad
- Soil Boring Location
- Confirmation Sample Location
- 1.61 Arsenic Concentration in mg/Kg
- Affected Property (Area of Contamination (AOC))
- Concrete Sidewalk Cap

PCL EVALUATION

- Detected Surface Soil Concentration <RAL
- Detected Surface Soil Concentration >RAL
- Detected Surface Soil Concentration >cPCL
- Surface Soils (0-3/0-5 ft) Excavated within AOC and Consolidated in Soil Cap Area
- Railroad Ballast Cap Area
- Asphalt Cap Area
- Soil Cap

Notes:
1. Arsenic Residential Assessment Level (RAL)= 5.9 mg/Kg.
2. Arsenic critical PCL (cPCL)= 200 mg/Kg (on-site), (cPCL)= 24 mg/Kg (off-site).
3. RAL & cPCL based on Tier 1 & 2 Res/CI PCLs, 30 Acre Source Area.
4. * Soils represented by sample results were excavated as part of response action.



Source:
Base map from ERM-Southwest, Inc APAR Addendum, Fig 3-1, dated June 2004.

UNION PACIFIC RAILROAD CO.

HOUSTON WOOD PRESERVING WORKS

Attachment 1A-22

ORIGINAL & RECENT PROCESS AREAS EXCAVATION AREA A ARSENIC CONFIRMATION SAMPLES

PROJECT: 1358	BY: ADJ	REVISIONS
DATE: JUNE, 2016	CHECKED: ECM	

PASTOR, BEHLING & WHEELER, LLC
CONSULTING ENGINEERS AND SCIENTISTS

EXPLANATION

- UPRR Property Boundary
- Road, Parking Lot, Sidewalk
- Fence
- Railroad
- Soil Boring Location
- Confirmation Sample Location
- 1.61 Arsenic Concentration in mg/Kg
- Affected Property (Area of Contamination (AOC))
- Concrete Sidewalk Cap

PCL EVALUATION

- Detected Surface Soil Concentration <RAL
- Detected Surface Soil Concentration >RAL
- Detected Surface Soil Concentration >cPCL
- Surface Soils (0-5 ft) Excavated within AOC and Consolidated in Soil Cap Area
- Railroad Ballast Cap Area
- Asphalt Cap Area
- Soil Cap

Notes:
1. Arsenic Residential Assessment Level (RAL)= 5.9 mg/Kg.
2. Arsenic critical PCL (cPCL)= 200 mg/Kg (on-site), (cPCL)= 24 mg/Kg (off-site).
3. RAL & cPCL based on Tier 1 & 2 Res/CI PCLs, 30 Acre Source Area.
4. * Soils represented by sample results were excavated as part of response action.

MW-33A 4.07
MW-32A NA
SB-61 NA
SB-62 NA
Liberty Road
AREA A
City of Houston ROW - Concrete Sidewalk Cap
SB-120* NA
SB-121* NA
SB-146* NA
BSA1 1.85
BSA2 1.18
SB-119 NA
SB-118 NA
SB-51 NA
SB-52* NA
CSAW1 1.28
CSAW2 1.56
CSAW3* 1.16
ASBW1A* 2.7
ASBW1B* 2.22
CSAW1R* 2.11
MW-30A* NA
AOC-7* NA
AOC 7
WPW-S-007P NA
SSO-F09 NA
SSO-A06 NA
AREA B
CSBN1 8.72
CSBN2 1.12
CSBE1 2.65
CSBB1 1.21
CSBB2 1.12
SB-156* 4.12
CSBW1 6.97
CSBS1* 0.609
CSBS2 1.33
CSBS1R* 1.8
BSBS1RA* 1.23
CSBS1RR* 0.889
BSBS1RB 0.814
SB-157 5.16
SSO-F08 NA
SB-158 34.7
SB-159 6.55
MW-31A NA
SB-99 NA
SWMU 5
AOC 3
SSO-B06 NA
SOIL CAP
SB-160 6.86
SSO-F07 NA
SB-162 2.33
SB-161 3.51
SB-03 NA
TW-01 NA
SB-08 NA
SB-07 NA

N

Approx. Scale in Feet
0 25 50

Source:
Base map from ERM-Southwest, Inc APAR Addendum, Fig 3-1, dated June 2004.

UNION PACIFIC RAILROAD CO.

HOUSTON WOOD PRESERVING WORKS

Attachment 1A-23

ORIGINAL & RECENT PROCESS AREAS EXCAVATION AREA B ARSENIC CONFIRMATION SAMPLES

PROJECT: 1358	BY: ADJ	REVISIONS
DATE: JUNE, 2016	CHECKED: ECM	

PASTOR, BEHLING & WHEELER, LLC
CONSULTING ENGINEERS AND SCIENTISTS

EXPLANATION

- UPRR Property Boundary
- Road, Parking Lot, Sidewalk
- Fence
- Railroad
- Soil Boring Location
- Confirmation Sample Location
- 1.61 Arsenic Concentration in mg/Kg
- Affected Property (Area of Contamination (AOC))

PCL EVALUATION

- Detected Surface Soil Concentration <RAL
- Detected Surface Soil Concentration >RAL
- Detected Surface Soil Concentration >cPCL
- Surface Soils (0-5 ft) Excavated within AOC and Consolidated in Soil Cap Area
- Railroad Ballast Cap Area
- Asphalt Cap Area
- Soil Cap

Notes:
1. Arsenic Residential Assessment Level (RAL)= 5.9 mg/Kg.
2. Arsenic critical PCL (cPCL)= 200 mg/Kg (on-site), (cPCL)= 24 mg/Kg (off-site).
3. RAL & cPCL based on Tier 1 & 2 Res/CI PCLs, 30 Acre Source Area.
4. * Soils represented by sample results were excavated as part of response action.

SB-165 12.5
SSO-C04 NA
SSO-C03 NA
SB-168 1.37
SB-166 1.77
NA AOC-4NE AOC-4SE NA
AOC-4NW NA AOC-4SW NA
SB-167 1.22
SB-171 5.72
SSO-D02 NA
AREA C
CSCN1 1.37
CSCE1 1.56
BSC1 1.43
SB-170* 3.66
CSCW1 1.35
CSCS1 1.1
AOC 4
SB-169 1.02
SB-90B NA
SB-172 1.37
SB-89B NA
SIMMONS

N

Approx. Scale in Feet
0 25 50

Source:
Base map from ERM-Southwest, Inc APAR Addendum, Fig 3-1, dated June 2004.

UNION PACIFIC RAILROAD CO.

HOUSTON WOOD PRESERVING WORKS

Attachment 1A-24

FORMER INCINERATOR (AOC 4) AREA
EXCAVATION AREA C
ARSENIC CONFIRMATION SAMPLES

PROJECT: 1358	BY: ADJ	REVISIONS
DATE: JUNE, 2016	CHECKED: ECM	

PASTOR, BEHLING & WHEELER, LLC
CONSULTING ENGINEERS AND SCIENTISTS

EXPLANATION

- UPRR Property Boundary
- Road, Parking Lot, Sidewalk
- Fence
- Railroad
- Soil Boring Location
- Confirmation Sample Location
- 1.61 Arsenic Concentration in mg/Kg
- Affected Property (Area of Contamination (AOC))

PCL EVALUATION

- Detected Surface Soil Concentration <RAL
- Detected Surface Soil Concentration >RAL
- Detected Surface Soil Concentration >cPCL
- Surface Soils (0-5 ft) Excavated within AOC and Consolidated in Soil Cap Area
- Railroad Ballast Cap Area
- Asphalt Cap Area
- Concrete Cap Area

Notes:
1. Arsenic Residential Assessment Level (RAL)= 5.9 mg/Kg.
2. Arsenic critical PCL (cPCL)= 200 mg/Kg (on-site), (cPCL)= 24 mg/Kg (off-site).
3. RAL & cPCL based on Tier 1 & 2 Res/CI PCLs, 30 Acre Source Area.
4. * Soils represented by sample results were excavated as part of response action.

SWMU 1

AREA E

AREA F

AREA D

AOC 6

Second St.

SB-197 1.15
SB-198 1.12
SB-199 1.55
SB-200 1.36
SB-201 0.758
SB-202 2.49
SB-203 2.92
SB-173 3.71
SB-175 3.26
SB-174 13.3
SB-86A9 NA
SB-177 1.21
SB-176 19.7
SB-86B NA
SB-86C1 NA
SB-86A NA
SB-86A2 NA
SB-178 6.148
SB-179 12.5
SB-180 13.2
SB-211 4.84
SB-181 32
SB-204 2.73
SB-205 2.36
SB-206 1.95
SB-207 1.62
SB-208 2.52
SB-105 NA
SB-81 NA
SB-115 NA
SB-187 0.562
SB-186 0.979
SB-185 3.9
SB-184 2.28
SB-188 1.07
SB-83 NA
SB-116 NA
SB-109 NA
SB-191 1.47
SB-190 1.05
SB-189 0.707
SB-100 NA
SB-80 NA
SB-209 0.703
SB-210* 2.68
SB-183 19.7
SB-117 NA
SB-107 NA
SB-04 60.5
SB-101 NA

ESB3 1.39
CSEN1 1.05
BSE2 0.868
ESB4 2.53
CSEE1 2.27
CSEW1 1.99
BSE1 1.4
SB-182* 0.839
ESB2 1.44
ESB1 1.37
CSES1 1.57

DSB4 3.49
DSB3 1.87
CSDN1 8.53
CSDE2 1.67
SB-82* NA
DSB5 3.37
CSDN2 3.04
DSB2 1.04
BSD2 1.44
CSDE1 2.04
DSB6 1.91
CSDW1 1.24
BSD1 0.86
CSDS2 2.19
DSB1 2.79
DSB7 1.28
CSDS1 177
CSDW2 1.41
DSB8* 339

FSB3 1.27
CSFN3 1.77
BSF3 1.63
CSFE2 1.35
SB-79* NA
FSB2 1.18
CSFN1 1.16
CSFN2 1.66
SB-84* NA
BSF2 0.752
CSFE1 2.16
CSFW1 1.49
SB-108* NA
BSF1 2.13
SB-106* NA
CSFS1 1.11
CSFS2 1.46
CSFS3 1.87
FSB1 2.7

CSDCH107W 2.76
CSDCH107E 1.42

Approx. Scale in Feet
0 25 50

Source:
Base map from ERM-Southwest, Inc APAR Addendum, Fig 3-1, dated June 2004.

UNION PACIFIC RAILROAD CO.

HOUSTON WOOD PRESERVING WORKS

Attachment 1A-25

FORMER INACTIVE WASTEWATER LAGOON (AOC 6) EXCAVATION AREAS D, E, & F ARSENIC CONFIRMATION SAMPLES

PROJECT: 1358	BY: ADJ	REVISIONS
DATE: JUNE, 2016	CHECKED: ECM	

PASTOR, BEHLING & WHEELER, LLC
CONSULTING ENGINEERS AND SCIENTISTS

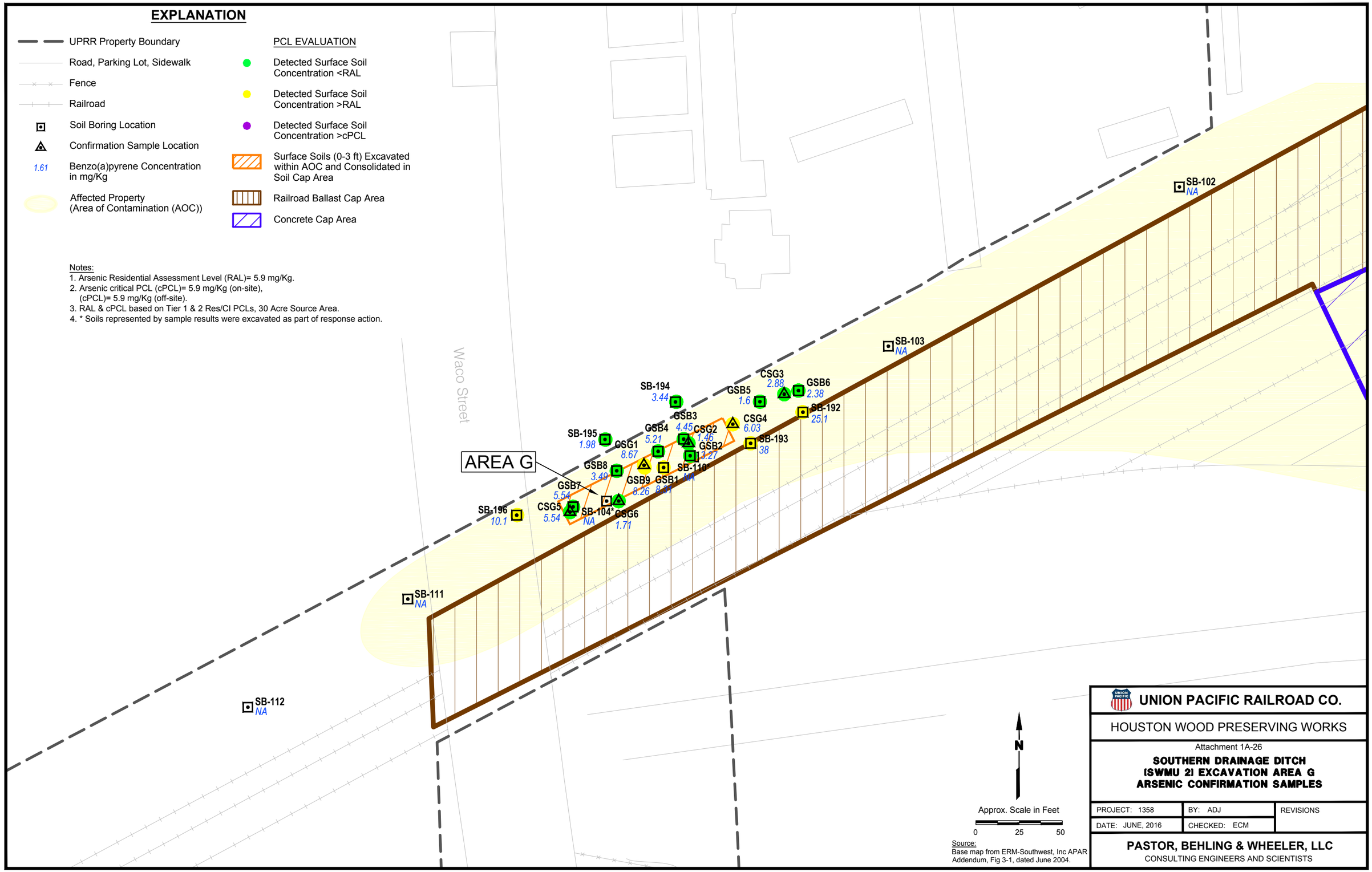
EXPLANATION

- UPRR Property Boundary
- Road, Parking Lot, Sidewalk
- Fence
- Railroad
- Soil Boring Location
- Confirmation Sample Location
- 1.61 Benzo(a)pyrene Concentration in mg/Kg
- Affected Property (Area of Contamination (AOC))

PCL EVALUATION

- Detected Surface Soil Concentration <RAL
- Detected Surface Soil Concentration >RAL
- Detected Surface Soil Concentration >cPCL
- Surface Soils (0-3 ft) Excavated within AOC and Consolidated in Soil Cap Area
- Railroad Ballast Cap Area
- Concrete Cap Area

Notes:
1. Arsenic Residential Assessment Level (RAL)= 5.9 mg/Kg.
2. Arsenic critical PCL (cPCL)= 5.9 mg/Kg (on-site), (cPCL)= 5.9 mg/Kg (off-site).
3. RAL & cPCL based on Tier 1 & 2 Res/CI PCLs, 30 Acre Source Area.
4. * Soils represented by sample results were excavated as part of response action.



N

Approx. Scale in Feet

0 25 50

Source:
Base map from ERM-Southwest, Inc APAR Addendum, Fig 3-1, dated June 2004.

UNION PACIFIC RAILROAD CO.

HOUSTON WOOD PRESERVING WORKS

Attachment 1A-26

SOUTHERN DRAINAGE DITCH (SWMU 2) EXCAVATION AREA G ARSENIC CONFIRMATION SAMPLES

PROJECT: 1358	BY: ADJ	REVISIONS
DATE: JUNE, 2016	CHECKED: ECM	

PASTOR, BEHLING & WHEELER, LLC
CONSULTING ENGINEERS AND SCIENTISTS

ENGINEERING DRAWINGS FOR

HOUSTON WOOD PRESERVING WORKS SOIL CAP AND ROADWAY IMPROVEMENTS

FOR

UNION PACIFIC RAILROAD COMPANY

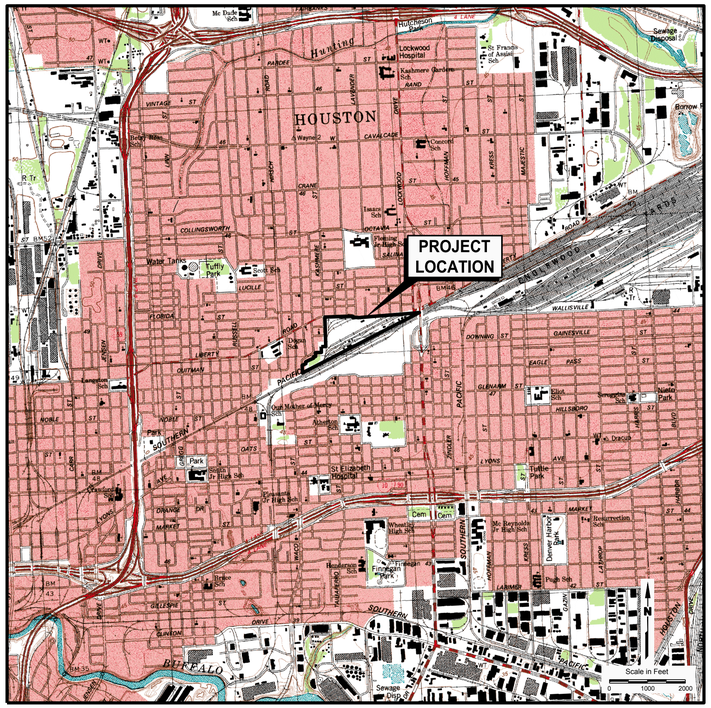
BY

PASTOR, BEHLING & WHEELER, LLC
ROUND ROCK, TEXAS
TEXAS ENGINEERING FIRM NO. 4760

DRAWING INDEX

CALL BEFORE YOU DIG!

CONTACT TE□AS ONE CALL CENTER
AT LEAST 48 HOURS BEFORE YOU DIG, DRILL OR BLAST
1-800-545-6005
OR (811)
CONTACT UNION PACIFIC CALL CENTER
1-800-336-9193
TERMINAL SUBDIVISION, MILE POST 358.6 TO 359.4



GENERAL NOTES

1. CONTRACTOR SHALL COORDINATE ALL WORK WITH APPROPRIATE UNION PACIFIC RAILROAD REPRESENTATIVES. CONTRACTOR SHALL COORDINATE ALL WORK WITHIN PUBLIC RIGHT-OF-WAY WITH THE APPROPRIATE CITY OF HOUSTON REPRESENTATIVES. CONTRACTOR IS RESPONSIBLE FOR AC□UIRING ANY NECESSARY PERMITS FOR CONSTRUCTION WITH CITY OF HOUSTON.

2. CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING E□ISTING ELEVATIONS, DIMENSIONS, STRUCTURE LOCATIONS, UTILITY LOCATIONS AND ALL OTHER E□ISTING SITE CONDITIONS PRIOR TO INITIATING CONSTRUCTION. E□ISTING INFORMATION SHOWN ON THE DRAWINGS HAS BEEN OBTAINED FROM AVAILABLE RECORDS AND IS NOT GUARANTEED TO BE CORRECT OR COMPLETE. E□ISTING INFORMATION IS SHOWN FOR THE CONVENIENCE OF THE CONTRACTOR AND ANY FAILURE BY THE CONTRACTOR TO VERIFY E□ISTING CONDITIONS WILL NOT RELIEVE HIM FROM THE RESPONSIBILITY OF COMPLETING THE WORK AT NO ADDITIONAL COST TO THE OWNER.

3. CONTRACTOR SHALL E□PLORE AHEAD OF HIS ACTIVITIES TO DETERMINE THE E□ACT LOCATION OF E□ISTING STRUCTURES AND UTILITIES. E□ISTING STRUCTURES AND UTILITIES NOT DESIGNATED FOR REMOVAL SHALL BE SUPPORTED AND PROTECTED FROM INJURY BY THE CONTRACTOR. IF E□ISTING STRUCTURES OR UTILITIES NOT DESIGNATED FOR REMOVAL ARE BROKEN OR INJURED, THEY SHALL BE RESTORED IMMEDIATELY BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER.

4. ALL CONTRACTOR TRUCKS SHALL BE CLEAN BEFORE LEAVING PROJECT LOCATION TO AVOID SPILLAGE OF MATERIAL ON PUBLIC ROADWAYS. CONTRACTOR IS RESPONSIBLE FOR CLEANING UP ALL MATERIAL SPILLS ON PUBLIC AND PRIVATE ROADS.

5. ACCESS TO THE PROJECT LOCATION MAY BE AFFECTED BY ADVERSE WEATHER. CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING ACCESS TO THE PROJECT LOCATION AT ALL TIMES.

AS-BUILT

REFERENCE	NO.	REVISIONS	BY	DATE
	1	AS-BUILT REVISIONS	SEG	JULY, 2016

THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORI□ED BY PATRICK J. BEHLING, P.E. NO. □98□2 ON JULY 8, 2016.

PATRICK J. BEHLING 79872 LICENSED PROFESSIONAL ENGINEER

PASTOR, BEHLING & WHEELER, LLC
CONSULTING ENGINEERS AND SCIENTISTS
TE□AS ENGINEERING FIRM NO. 4□60

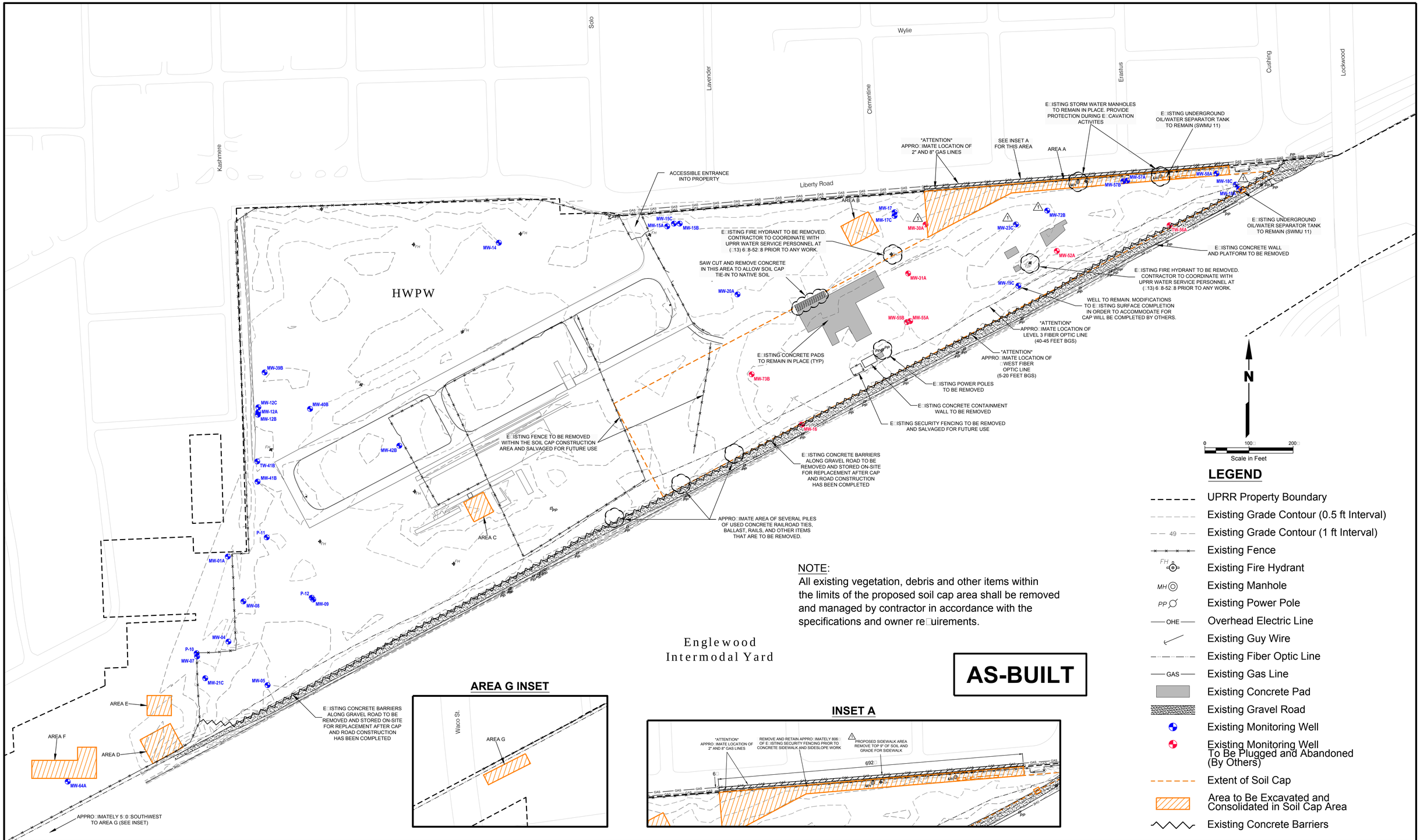
DESIGNED BY:	PJB
DRAWN BY:	AJD
CHECKED BY:	PJB
APPROVED BY:	PJB
FILE NAME:	1358□G1.DWG

UNION PACIFIC RAILROAD CO.

HOUSTON WOOD PRESERVING WORKS

COVER SHEET AND INDEX

DATE: OCTOBER 2015 | SHEET NO. **G1** | SE□ NO. **1**



AREA G INSET

INSET A

NOTE:
All existing vegetation, debris and other items within the limits of the proposed soil cap area shall be removed and managed by contractor in accordance with the specifications and owner re□uirements.

AS-BUILT

LEGEND

- UPRR Property Boundary
- Existing Grade Contour (0.5 ft Interval)
- 49 — Existing Grade Contour (1 ft Interval)
- Existing Fence
- FH — Existing Fire Hydrant
- MH — Existing Manhole
- PP — Existing Power Pole
- OHE — Overhead Electric Line
- Existing Guy Wire
- Existing Fiber Optic Line
- GAS — Existing Gas Line
- Existing Concrete Pad
- Existing Gravel Road
- Existing Monitoring Well
- Existing Monitoring Well To Be Plugged and Abandoned (By Others)
- Extent of Soil Cap
- Area to Be Excavated and Consolidated in Soil Cap Area
- Existing Concrete Barriers

REFERENCE	NO.	REVISIONS	BY	DATE
	1	AS-BUILT REVISIONS	SEG	JULY, 2016

THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY PATRICK J. BEHLING, P.E. NO. 79872 ON JULY 8, 2016.

PATRICK J. BEHLING 79872 LICENSED PROFESSIONAL ENGINEER

PASTOR, BEHLING & WHEELER, LLC
CONSULTING ENGINEERS AND SCIENTISTS
TEXAS ENGINEERING FIRM NO. 4760

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APPROVED BY:	PJB
FILE NAME:	1358_C1.DWG

UNION PACIFIC RAILROAD CO.

HOUSTON WOOD PRESERVING WORKS

DEMOLITION PLAN

DATE: OCTOBER 2015 | SHEET NO. C1 | SEQ NO. 1

Solo
Wylie
Lavender
Clementine
Elastus
Cushing
Lockwood
Kashmere
Liberty Road

HWPW

ACCESSIBLE ENTRANCE INTO PROPERTY

AREA E: EXCAVATED TO APPROXIMATELY 3-FT. (EAST PORTION) TO 5-FT. (WEST PORTION) BELOW GRADE, AND CONSOLIDATED INTO SOIL CAP AREA. E: EXCAVATED AREA FILLED WITH CLEAN FILL AND BROUGHT TO GRADE.

APPROX. 350' OF 24" CMP STORM DRAIN REPLACED WITHIN AREA A

SEE INSET A FOR THIS AREA

EXISTING UNDERGROUND OIL/WATER SEPARATOR TANK ABANDONED IN PLACE (SWMU 11). TANK CHECKED OUT AND BACKFILLED WITH CLEAN SOIL.

END OF ROADWAY IMPROVEMENTS TIED INTO EXISTING ROADWAY SURFACE

N: 728830.45
E: 3167711.25
EL: 47.71

N: 728852.13
E: 3168294.18
EL: 48.41

N: 728851.13
E: 3168260.88
EL: 48.38

AREA A

AREA B

AREA C

AREA D

AREA E

AREA F

AREA G

20'-20' COVERED CONCRETE CONTAINER STORAGE AREA

SOIL CAP

EXISTING UNDERGROUND OIL/WATER SEPARATOR TANK ABANDONED IN PLACE (SWMU 11). TANK CHECKED OUT AND BACKFILLED WITH CLEAN SOIL.

APPROXIMATE LOCATION OF GRADE BREAK (HIGH POINT)

AREA EXCAVATED TO 5-FT. BELOW GRADE, AND CONSOLIDATED INTO SOIL CAP AREA. EXCAVATED AREA FILLED WITH CLEAN FILL AND BROUGHT TO GRADE.

N: 728352.74
E: 3166810.03
EL: 47.69

N: 728141.69
E: 3166921.90
EL: 47.82

INSTALLED APPROX. 1540' OF NEW SECURITY FENCING

30' WIDE LOW WATER CROSSING

ASPHALT ROADWAY IMPROVEMENTS (APPROXIMATE 16' WIDE BY 2,800' LONG)

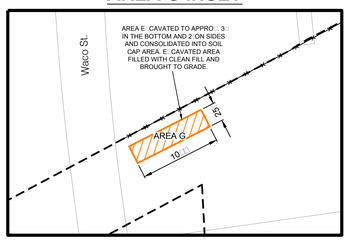
END OF ROADWAY IMPROVEMENTS TIED INTO EXISTING ROADWAY SURFACE

AREAS E: EXCAVATED TO 5-FT. BELOW GRADE, AND CONSOLIDATED INTO SOIL CAP AREA. E: EXCAVATED AREAS FILLED WITH CLEAN FILL AND BROUGHT TO GRADE.

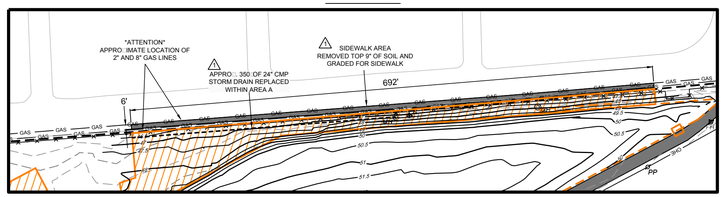
APPROXIMATELY 5.0' SOUTHWEST TO AREA G (SEE INSET)

Englewood
Intermodal Yard

AREA G INSET



INSET A



AS-BUILT

N

0 100' 200'
Scale in Feet

LEGEND

- UPRR Property Boundary
- Pre-Construction Grade Contour (0.5 ft Interval)
- 49 Pre-Construction Grade Contour (1 ft Interval)
- As-Built Grade Contour (0.5 ft Interval)
- As-Built Grade Contour (1 ft Interval)
- Existing Fence
- FH Existing Fire Hydrant
- MH Existing Manhole
- PP Existing Power Pole
- OHE Overhead Electric Line
- Existing Guy Wire
- GAS Existing Gas Line
- Existing Concrete Pad
- Asphalt Road Improvements
- Extent of Soil Cap
- Drainage Flow Direction
- Area Excavated and Consolidated in Soil Cap Area
- Installed Security Fence (New and/or Repaired)

REFERENCE	NO.	REVISIONS	BY	DATE
	1	AS-BUILT REVISIONS	SEG	JULY, 2016

THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY PATRICK J. BEHLING, P.E. NO. 79872 ON JULY 8, 2016.

PATRICK J. BEHLING 79872 LICENSED PROFESSIONAL ENGINEER

PASTOR, BEHLING & WHEELER, LLC
CONSULTING ENGINEERS AND SCIENTISTS
TEXAS ENGINEERING FIRM NO. 4760

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CHECKED BY:	PJB
APPROVED BY:	PJB
FILE NAME:	1358_C2.DWG

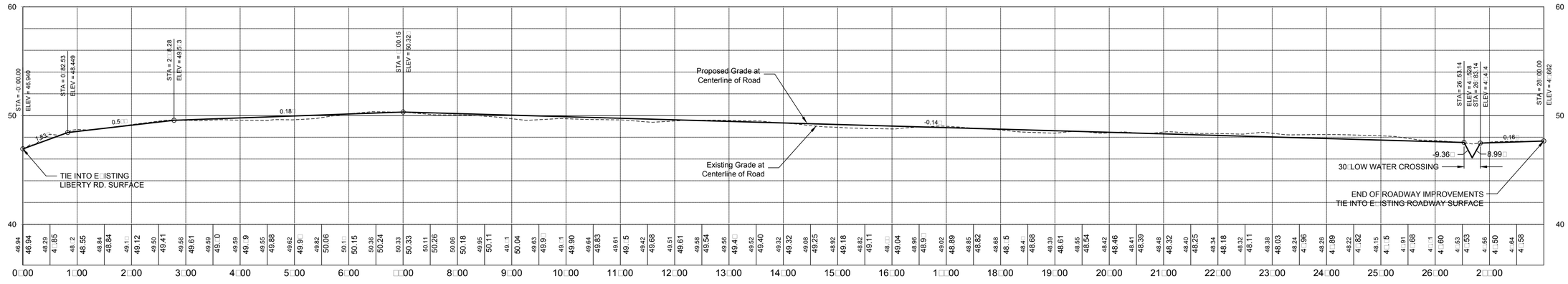
UNION PACIFIC RAILROAD CO.

HOUSTON WOOD PRESERVING WORKS

GRADING PLAN

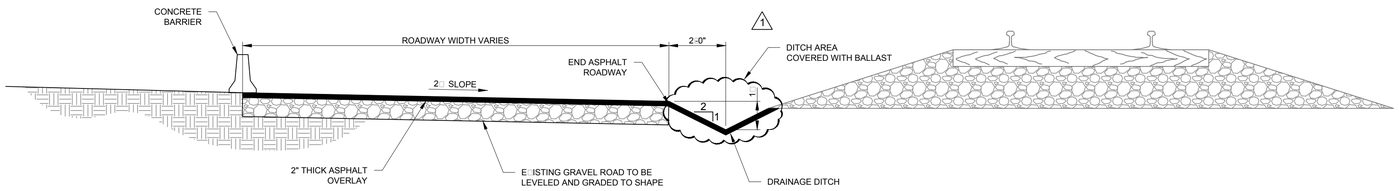
DATE: OCTOBER 2015 | SHEET NO. C2 | SEQ NO. 1

ATTACHMENT 1C-1



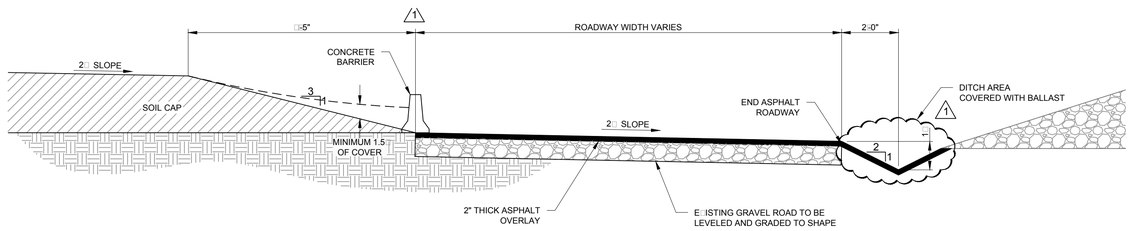
1 / C3 ACCESS ROAD PROFILE

VERTICAL SCALE: 1"=5'
HORIZONTAL SCALE: 1"=100'



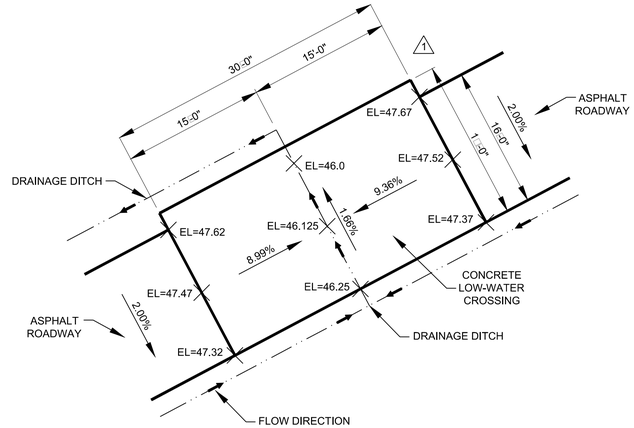
2 / C3 ACCESS ROAD DETAIL

NOT TO SCALE



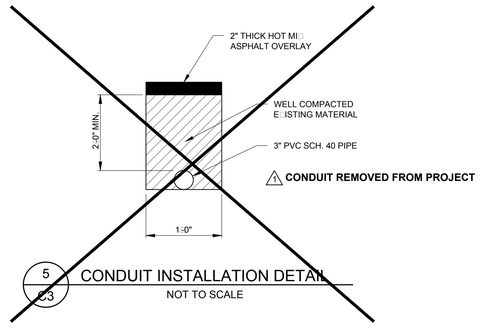
3 / C3 ACCESS ROAD DETAIL

NOT TO SCALE



4 / C3 LOW WATER CROSSING

NOT TO SCALE



1 CONDUIT REMOVED FROM PROJECT

5 / C3 CONDUIT INSTALLATION DETAIL

NOT TO SCALE

AS-BUILT

REFERENCE	NO.	REVISIONS	BY	DATE
	1	AS-BUILT REVISIONS	SEG	JULY, 2016

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PATRICK J. BEHLING 79872 LICENSED PROFESSIONAL ENGINEER

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CONSULTING ENGINEERS AND SCIENTISTS
TEXAS ENGINEERING FIRM NO. 4760

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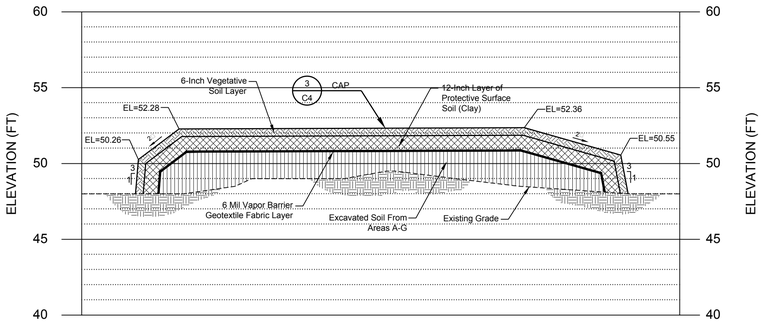
UNION PACIFIC RAILROAD CO.

HOUSTON WOOD PRESERVING WORKS

ACCESS ROAD PROFILE AND DETAILS

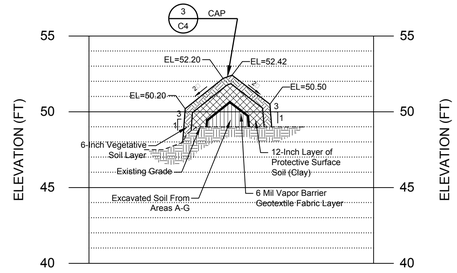
DATE: OCTOBER 2015 | SHEET NO. C3 | SEQ NO. 1



1 C4 SECTION

VERTICAL SCALE: 1"=5□
HORI□ONTAL SCALE: 1"=200□

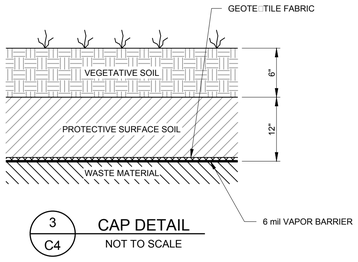
0 5
0 200



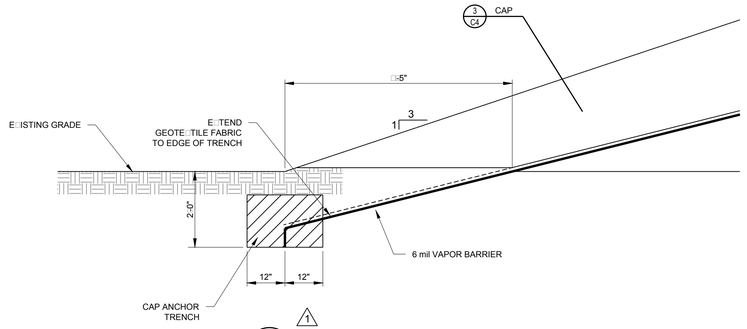
2 C4 SECTION

VERTICAL SCALE: 1"=5□
HORI□ONTAL SCALE: 1"=200□

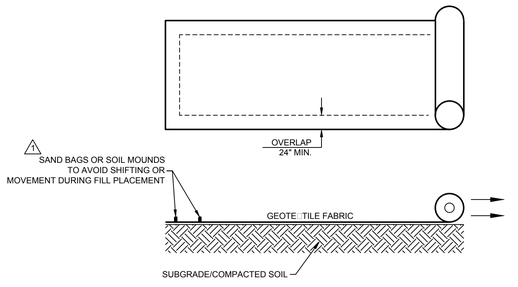
0 5
0 200



3 C4 CAP DETAIL
NOT TO SCALE



4 C4 ANCHOR TRENCH DETAIL
NOT TO SCALE



NOTES:
1. E□CAVATE AND REPLACE POCKETS OF VERY WEAK OR PUMPING SOILS WITH GRANULAR FILL.
2. PLACE GEOFABRIC DIRECTLY ON THE PREPARED SUBGRADE. INSTALL ROLLS IN THE DIRECTION OPPOSITE THE CROSS-SLOPE. ROLL THE FABRIC OUT AS FLAT AND TIGHT AS POSSIBLE WITH NO FOLDS.
3. OVERLAP ADJACENT ROLLS A MINIMUM OF 24".
4. SECURE THE GEOFABRIC IN PLACE WITH PINS, STAPLES, PILES OF SOIL, GRANULAR COVER MATERIAL OR OTHER SUITABLE MEANS TO AVOID SHIFTING OR MOVEMENT DURING FILL PLACEMENT.
5. OVERLAP DAMAGED GEOFABRIC BY A MINIMUM OF 24" IN ALL DIRECTIONS.
6. GEOTE□TILE SHALL BE NON-WOVEN, CONTINOUS OR STAPLE FILAMENT, NEEDLE-PUNCHED POLYPROPYLENE OR POLYESTER SUITABLE FOR AASHTO M-288 CLASS 2 APPLICATIONS. YARN SHALL BE ORIENTED INTO A STABLE NETWORK THAT MAINTAINS ITS STRUCTURE DURING HANDLING, INSTALLATION, AND LONG-TERM SERVICE.

5 C4 GEOCOMPOSITE/GEOTE□TILE FABRIC DETAIL
NOT TO SCALE

AS-BUILT

REFERENCE	NO.	REVISIONS	BY	DATE
	1	AS-BUILT REVISIONS	SEG	JULY, 2016

THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY PATRICK J. BEHLING, P.E. NO. 79872 ON JULY 8, 2016.

PASTOR, BEHLING & WHEELER, LLC
CONSULTING ENGINEERS AND SCIENTISTS
TEXAS ENGINEERING FIRM NO. 4760

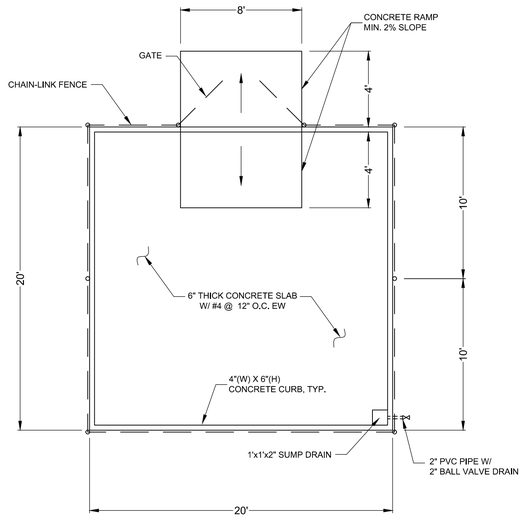
DESIGNED BY:	PJB
DRAWN BY:	AJD
CHECKED BY:	PJB
APPROVED BY:	PJB
FILE NAME:	1358_C4.DWG

UNION PACIFIC RAILROAD CO.

HOUSTON WOOD PRESERVING WORKS

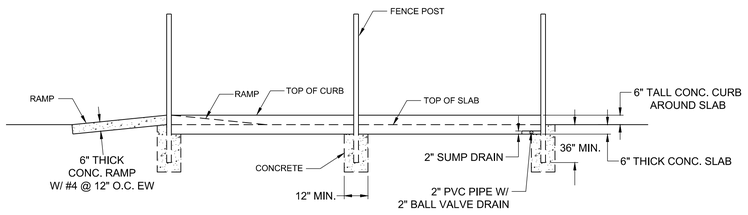
MISCELLANEOUS DETAILS

DATE: OCTOBER 2015 | SHEET NO. C4 | SEQ NO. 1



1 / C5 CONCRETE CONTAINER STORAGE AREA-PLAN

NOT TO SCALE



2 / C5 CONCRETE CONTAINER STORAGE AREA -ELEVATION

NOT TO SCALE

NOTES:

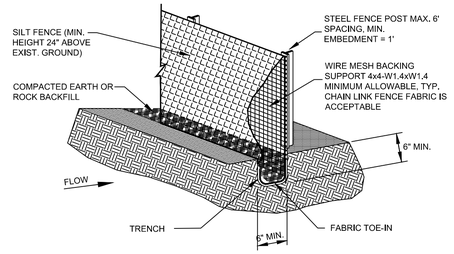
1. EROSION CONTROL DEVICES AS SHOWN ON THE EROSION CONTROL PLAN FOR THE PROJECT SHALL BE INSTALLED PRIOR TO START OF LAND DISTURBING ACTIVITIES.

2. ALL EROSION CONTROL DEVICES ARE TO BE INSTALLED IN ACCORDANCE WITH THE APPROVED PLANS AND SPECIFICATIONS FOR THE PROJECT. CHANGES ARE TO BE APPROVED BEFORE CONSTRUCTION BY THE ENGINEER.

3.EROSION CONTROL MEASURES MAY ONLY BE PLACED IN FRONT OF INLETS, OR IN CHANNELS, DRAINAGEWAYS OR BORROW DITCHES AT RISK OF CONTRACTOR. CONTRACTOR SHALL REMAIN LIABLE FOR ANY DAMAGE CAUSED BY THE MEASURES, INCLUDING FLOODING DAMAGE, WHICH MAY OCCUR DUE TO BLOCKED DRAINAGE. AT THE CONCLUSION OF ANY PROJECT, ALL CHANNELS, DRAINAGEWAYS AND BORROW DITCHES IN THE WORK ZONE SHALL BE DREDGED OF ANY SEDIMENT GENERATED BY THE PROJECT OR DEPOSITED AS A RESULT OF EROSION CONTROL MEASURES.

4. IF THE EROSION CONTROL PLAN AS APPROVED CANNOT CONTROL EROSION AND OFF-SITE SEDIMENTATION FROM THE PROJECT THE EROSION CONTROL PLAN WILL BE REQUIRED TO BE REVISED AND/OR ADDITIONAL EROSION CONTROL DEVICES WILL BE REQUIRED ON SITE AT THE CONTRACTOR'S EXPENSE.

5. ALL DISTURBED AREAS SHALL BE SEEDED/HYDROMULCHED & MAINTAINED UNTIL 70% VEGETATION COVER IS OBTAINED.



ISOMETRIC PLAN VIEW

N.T.S.

SILT FENCE DETAIL

N.T.S.

SILT FENCE GENERAL NOTES:

1. STEEL POSTS WHICH SUPPORT THE SILT FENCE SHALL BE INSTALLED ON A SLIGHT ANGLE TOWARD THE ANTICIPATED RUNOFF SOURCE. POST MUST BE EMBEDDED A MINIMUM OF ONE FOOT.

2. THE TOE OF THE SILT FENCE SHALL BE TRENCHED IN WITH A SPADE OR MECHANICAL TRENCHER, SO THAT THE DOWNSLOPE FACE OF THE TRENCH IS FLAT AND PERPENDICULAR TO THE LINE OF FLOW, WHERE FENCE CANNOT BE TRENCHED IN (e.g. PAVEMENT), WEIGHT FABRIC FLAP WITH ROCK ON UPHILL SIDE TO PREVENT FLOW FROM SEEPING UNDER FENCE

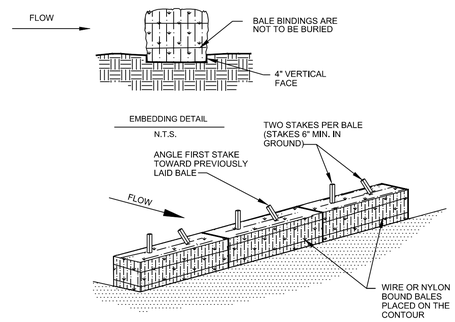
3. THE TRENCH MUST BE A MINIMUM OF 6 INCHES DEEP AND 6 INCHES WIDE TO LLOW FOR THE SILT FENCE FABRIC TO BE LAID IN THE GROUND AND BACKFILLED WITHCOMPACTEDMATERIAL.

4. SILT FENCE SHOULD BE SECURELY FASTENED TO EACH STEEL SUPPORT POST OR TO WOVEN WIRE, WHICH IN TURN IS ATTACHED TO THE STEEL FENCE POST, THERE SHALL BE A 3 FOOT OVERLAP, SECURELY FASTENED WHERE ENDS OF FABRIC MEET.

5. INSPECTION SHALL BE MADE EVERY TWO WEEKS AND AFTEREACH 1/2" RAINFALL. REPAIR OR REPLACEMENT SHALL BE MADE PROMPTLY AS NEEDED.

6. SILT FENCE SHALL BE REMOVED WHEN THE SITE ISCOMPLETELY STABILIZED SO AS NOT TO BLOCK OR IMPEDE STORM FLOW OR DRAINAGE.

7. ACCUMULATED SILT SHALL BE REMOVED WHEN IT REACHES A DEPTH OF HALF THE HEIGHT OF THE FENCE. THE SILTSHALL BE DISPOSED OF AT AN APPROVED SITE AND IN SUCH A MANNER AS TO NOT CONTRIBUTE TO ADDITIONAL SILTATION.



STRAW BALE DIKE

N.T.S.

STRAW BALE DIKE GENERAL NOTES:

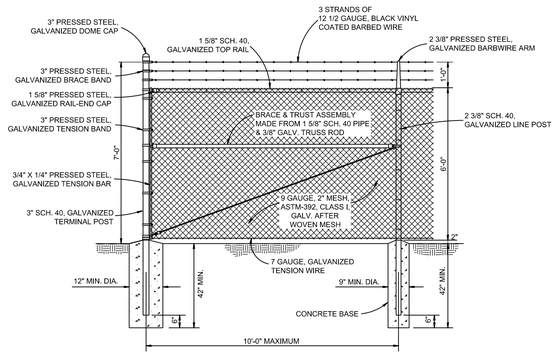
1. EACH BALE SHALL BE EMBEDDED IN THE SOIL A MINIMUM OF FOUR INCHES.

2. BALES SHALL BE SECURELY ANCHORED IN PLACE BY 2" X 2" WOOD STAKES DRIVEN THROUGH THE BALES. THE FIRST STAKE IN EACH BALE SHALL BE ANGLED TOWARD THE PREVIOUSLY LAID BALE TO FORCE THE BALES TOGETHER.

3. INSPECTION SHALL BE MADE EVERY TWO WEEKS AND AFTER EACH 1/2" RAINFALL EVENT. REPAIR OR REPLACEMENT SHALL BE MADE PROMPTLY AS NEEDED BY THE CONTRACTOR.

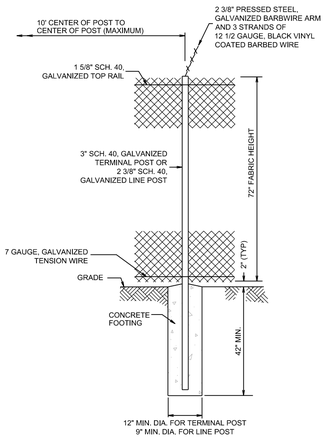
4. WHEN SILT REACHES A DEPTH OF 6 INCHES, IT SHALL BE REMOVED AND DISPOSED OF IN AN APPROVED MANNER.

5. AFTER THE DISTURBED AREAS OF THE SITE ARE COMPLETELY STABILIZED, THE BALES SHALL BE REMOVED AND DISPOSED OF AT AN APPROVED SPOIL DISPOSAL SITE.



3 / C5 CHAIN LINK FENCE DETAIL

NOT TO SCALE



SIDE VIEW

NOTES:

FABRIC:
□2" 11 GA. GAW (2" MESH) T&T CHAIN-LINK FABRIC.
TOP RAIL:
1 5/8" O.D. SCH. 40 PIPE, 2.2□LBS. PER FOOT. TOP RAIL 21□IN LENGTH, JOINED WITH 1 5/8" SLEEVE.
LINE POST:
2" O.D. SCH. 40 PIPE, 2.□2 LBS. PER FOOT. LINE POST SET 10□ON CENTER MA□IMUM SPACING.
CONCRETE FOOTING: 9" DIA., 24" DEPTH.
TERMINAL POST:
2 1/2" O.D. SCH. 40 PIPE, 3.65 LBS. PER FOOT.
CONCRETE FOOTING: 9" DIA., 36" DEPTH.
GATES:
FRAMEWORK OF 2 1/2" SCH. 40 PIPE, 3.65 LBS. PER FOOT.
GATES BRACES AND TRUSSED AS NECESSARY. SAME FABRIC AS FENCE. BARBED WIRE INCLUDED ON ALL GATES.
GATE POST:
4" O.D. SCH. 40 PIPE, 9.10 LBS. PER FOOT.
CONCRETE FOOTING: 9" DIA., 36" DEPTH.
TENSION WIRE:
9 GA. SMOOTH GALVANI□ED TENSION WIRE ATTACHED TO BOTTOM OF FENCE FABRIC WITH 9 GA. ALUMINUM HOG RING SPACED 24" ON CENTER.
BARBED WIRE:
3 STRANDS OF 4 PT. GALV. CLASS III BARB WIRE ON 3 WIRE PRESSED STEEL BARB WIRE ARM.
FITTINGS:
HEAVY BRACED BAND AND CARRIAGE BOLT, PRESSED STEEL RAIL-END, 3 WIRE PRESSED STEEL BARB WIRE ARM, PRESSED STEEL CAP, 3/16" □ 3/4" TENSION BAR, HEAVY TENSION BAND AND CARRIAGE BOLT.
TIE WIRE:
2" 9 GA. STEEL EASY TWIST TIE WIRE AND 1 5/8" 9 GA. STEEL EASY TWIST TIE WIRE SPACED 15" ON CENTER FOR LINE POSTS AND 24" ON CENTER FOR RAILS
POST FOOTINGS:
TRUCK POURED CONCRETE

AS-BUILT

REFERENCE	NO.	REVISIONS	BY	DATE
	1	AS-BUILT REVISIONS	SEG	JULY, 2016

THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY PATRICK J. BEHLING, P.E. NO. 79872 ON JULY 8, 2016.

PATRICK J. BEHLING 79872 LICENSED PROFESSIONAL ENGINEER

PASTOR, BEHLING & WHEELER, LLC
CONSULTING ENGINEERS AND SCIENTISTS
TEXAS ENGINEERING FIRM NO. 4760

DESIGNED BY:	PJB
DRAWN BY:	AJD
CHECKED BY:	PJB
APPROVED BY:	PJB
FILE NAME:	1358_C5.DWG

UNION PACIFIC RAILROAD CO.

HOUSTON WOOD PRESERVING WORKS

MISCELLANEOUS DETAILS

DATE: OCTOBER 2015 | SHEET NO. C5 | SEQ NO. 1

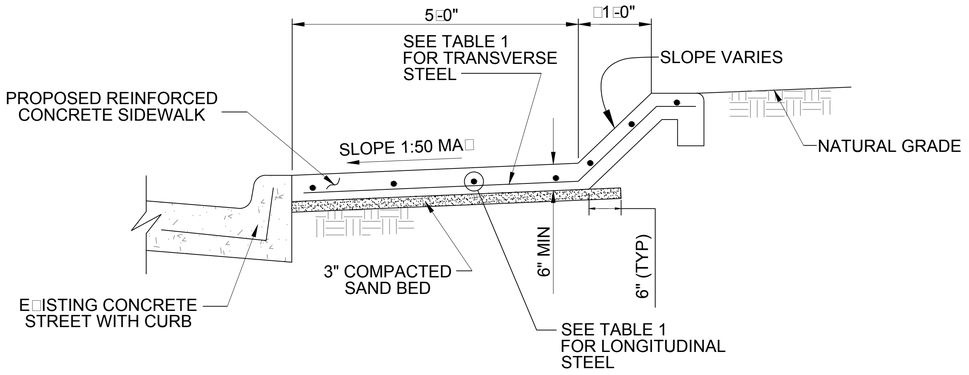


TABLE 1

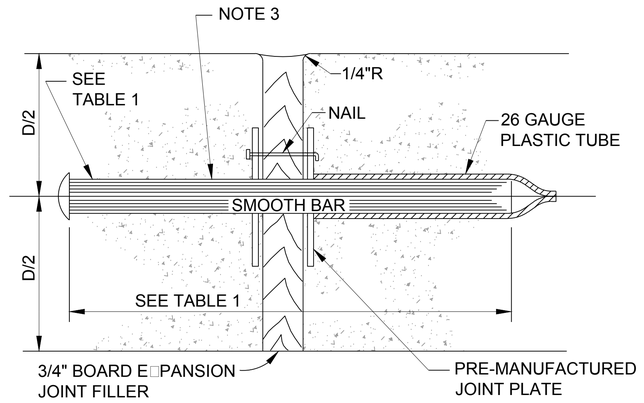
REINFORCING STEEL INFORMATION
FOR 4 1/2" THICK SIDEWALKS
EXPANSION JOINT SPACING = 40 FT
fc = 3,000 PSI AND fy = 60,000 PSI

SIDEWALK THICKNESS (IN)	SIDEWALK WIDTH (FT)	LONGITUDINAL STEEL			TRANSVERSE STEEL
		#3 BARS			#3 BARS
		NUMBER OF BARS	SPACING (IN)	END BAR SPACING (IN)	SPACING (IN)
4.5	5	3	2X	3	48
4.5	6	4	22	3	48

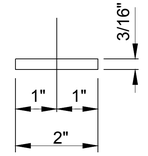
NOTES:

1. CONTRACTOR SHALL COORDINATE WITH CITY OF HOUSTON ON ALL WORK WITHIN PUBLIC RIGHT-OF-WAY AND ACQUIRE ANY NECESSARY PERMITS. ALL WORK SHALL BE IN ACCORDANCE WITH CITY OF HOUSTON'S DEPARTMENT OF PUBLIC WORKS AND ENGINEERING STANDARDS AND SPECIFICATIONS.
2. 6X6 - W2.9XW2.9 WELDED WIRE FABRIC MAY BE USED IN LIEU OF THE REINFORCING STEEL GIVEN IN TABLE 1.
3. REINFORCING CONCRETE SIDEWALK THRU DRIVEWAYS OPENING SHALL BE EITHER 6" THICK OR X" THICK AS SPECIFIED ON 6" STABILIZED SUBGRADE. FOR THE REINFORCING STEEL REQUIREMENTS, SEE CITY OF HOUSTON DRAWING "REINFORCED CONCRETE DRIVEWAY DETAILS ON CURB TYPE STREETS".
4. MAXIMUM SPACING FOR EXPANSION JOINTS SHALL BE 40 FEET.
5. CONTRACTOR SHALL CONSTRUCT SIDEWALK IN A MANNER NOT TO BLOCK THE NATURAL DRAINAGE FROM ADJACENT PROPERTY.

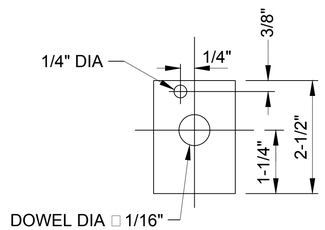
1 / C6 CONCRETE SIDEWALK DETAIL
NOT TO SCALE



SECTION
DOWEL TYPE EXPANSION JOINT
N.T.S.



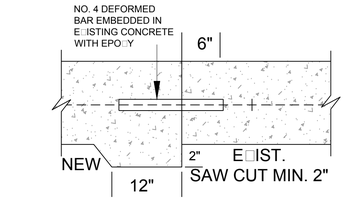
PLAN - JOINT PLATE



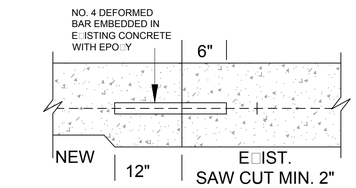
ELEVATION - JOINT PLATE
N.T.S.

TABLE 1

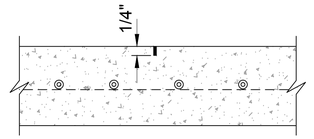
PAVEMENT THICKNESS (IN)	DOWEL SIZES AND SPACING		
	DIAMETER (IN)	LENGTH (IN)	SPACING (IN)
4 1/2	1/2	18	12
5	1/2	18	12
6	3/4	18	12
X	1	18	12



SECTION
SIDEWALK TO EXISTING SIDEWALK



SECTION
SIDEWALK TO EXISTING DRIVEWAY



SECTION
CONTROL JOINT
N.T.S.

NOTES:

1. STEEL TO MEET ASTM STANDARD SPECIFICATIONS FOR CONCRETE REINFORCING BARS.
2. EXPANSION JOINTS TO BE PLACED AT THE END OF EACH CURB RADIUS AND SPACED AT A MAXIMUM DISTANCE OF 36X FEET. MAXIMUM SPACING FOR CONTROL JOINTS SHALL BE 5X FEET.
3. CENTER DOWEL HORIZONTALLY ON JOINT.
4. CENTER DOWEL VERTICALLY IN CONCRETE AS NEEDED TO MAINTAIN 2" MIN. COVER.

2 / C6 SIDEWALK EXPANSION AND CONSTRUCTION JOINT DETAILS
NOT TO SCALE

AS-BUILT

REFERENCE	NO.	REVISIONS	BY	DATE
	1	AS-BUILT REVISIONS	SEG	JULY, 2016

THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY PATRICK J. BEHLING, P.E. NO. 79872 ON JULY 8, 2016.

PASTOR, BEHLING & WHEELER, LLC
CONSULTING ENGINEERS AND SCIENTISTS
TEXAS ENGINEERING FIRM NO. 4760

DESIGNED BY:	PJB
DRAWN BY:	AJD
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APPROVED BY:	PJB
FILE NAME:	1358_C6.DWG

UNION PACIFIC RAILROAD CO.
HOUSTON WOOD PRESERVING WORKS
MISCELLANEOUS DETAILS

DATE: OCTOBER 2015	SHEET NO. C6	SEQ NO. 1

Attachment 1C-2
UPRR Houston Wood Preserving Works (HWPW)
Response Action Completion Report (RACR)
Response Action Photographic Log

Photograph 1: Prior to construction view of NE corner of Soil Cap Area, after mowing and staking (12-28-2015).

Photograph 2: Prior to construction view of oil/water (SWMU 11) separator prior to clean out (1-13-2016).

Attachment 1C-2
UPRR Houston Wood Preserving Works (HWPW)
Response Action Completion Report (RACR)
Response Action Photographic Log

Photograph 3: Prior to construction view of concrete retaining wall (SWMU 8) (1-13-2016).

Photograph 4: Prior to construction view of existing access roadway near west end, NE (1-13-2016).

Photograph 5: Concrete sidewalk cap area, excavation of soils from within City of Houston Liberty Road right-of-way (1-18-2016).

Photograph 6: Concrete sidewalk cap area, sand bedding and reinforcing steel for concrete sidewalk (1-19-2016).

Photograph 7: Concrete sidewalk cap area, concrete sidewalk poured and finished (1-20-2016).

Photograph 8: Concrete sidewalk cap area, concrete side slope poured and finished after installation of reinforcing steel and sand bedding (1-21-2016).

Attachment 1C-2
UPRR Houston Wood Preserving Works (HWPW)
Response Action Completion Report (RACR)
Response Action Photographic Log

Photograph 9: Excavation of soil from around oil/water (railcar) separator (SWMU 11) (1-22-2016).

Photograph 10: Covered stockpile of excavated soil from sidewalk area and near oil/water separator (1-22-2016).

Photograph 11: Demolition of concrete retaining wall (SWMU 8) (1-22-2016).

Photograph 12: Wooden mats being laid out for access to Areas D, E and F (1-23-2016).

Photograph 13: Finished concrete sidewalk and side slope area, viewing west (1-29-2016).

Photograph 14: Concrete rubble from (SWMU 8) and shredded vegetation placed within bottom of cap (1-29-2016).

Attachment 1C-2
UPRR Houston Wood Preserving Works (HWPW)
Response Action Completion Report (RACR)
Response Action Photographic Log

Photograph 15: Area F excavation, viewing SW (1-29-2016).

Photograph 16: Area E excavation, viewing NW (1-30-2016).

Attachment 1C-2
UPRR Houston Wood Preserving Works (HWPW)
Response Action Completion Report (RACR)
Response Action Photographic Log

Photograph 17: Area D excavation, viewing SE (1-30-2016).

Photograph 18: Area C excavation complete, viewing SE (2-1-2016).

Photograph 19: Backfill operations within Area D (2-1-2016).

Photograph 20: Backfill completed within Area D, viewing SW (2-2-2016).

Photograph 21: Backfill operations complete within Area E, viewing NE (2-2-2016).

Photograph 22: Backfill operations underway within Area F, viewing W (2-3-2016).

Attachment 1C-2
UPRR Houston Wood Preserving Works (HWPW)
Response Action Completion Report (RACR)
Response Action Photographic Log

Photograph 23: Excavation of Area B, viewing NW (2-3-2016).

Photograph 24: Water spray to control dust along haul route (2-3-2016).

Photograph 25: Watered haul route to control dust, viewing N (2-3-2016).

Photograph 26: Backfill operations within Area C, viewing E (2-3-2016).

Photograph 27: Excavation starting within Area A on west side, viewing S (2-4-2016).

Photograph 28: Two pipes encountered within Area A excavation. Large pipe (24” CMP) is part of the storm drain system while other pipe (3” PVC) is an abandoned water line (2-4-2016).

Photograph 29: Removing soil from wooden cross ties within Soil Cap Area (2-3-2016).

Photograph 30: Consolidated soil materials being placed within Soil Cap Area (2-3-2016).

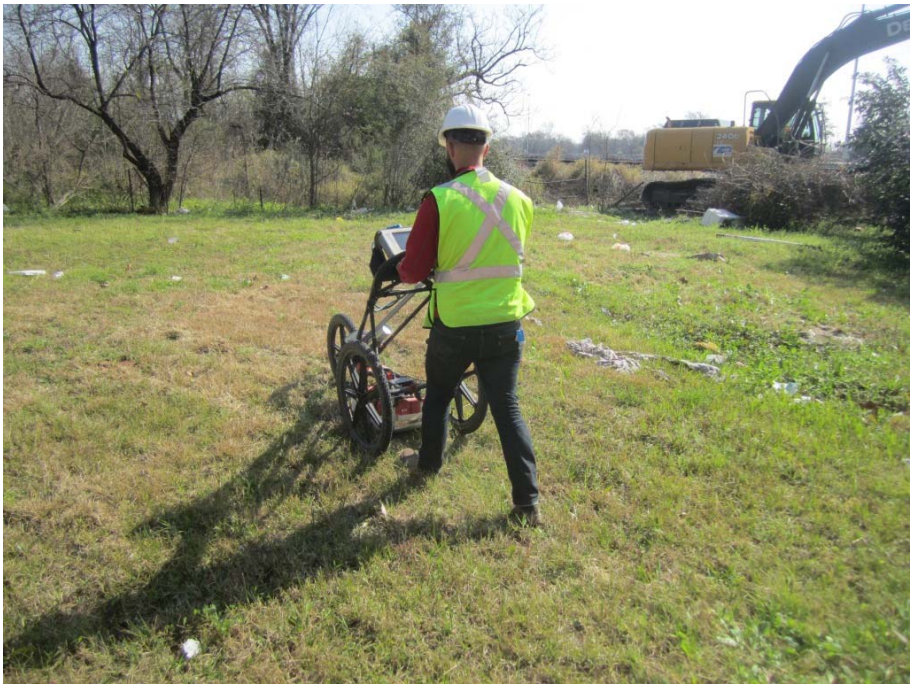
Photograph 31: Installation of vapor barrier and geotextile fabric on consolidated soils within Cap area (2-4-2016).

Photograph 32: Backfill operations within Area B, viewing NE (2-10-2016).

Photograph 33: Use of clean soil for holding vapor barrier and geotextile fabric in place (2-11-2016).

Photograph 34: Backfill operations complete for Areas D, E and F (2-11-2016).

Photograph 35: Backfill operations within Area A, viewing E (2-12-2016).



Photograph 36: Utility locate using ground penetrating radar prior to excavation of Area G (2-13-2016).

Photograph 37: Excavation of Area G, viewing NW (2-15-2016).

Photograph 38: Cover stockpiled soils with plastic and clean backfill during overnight hours (2-15-2016).

Photograph 39: Completed excavation of Area G and drainage ditch clearing, viewing E (2-16-2016).

Photograph 40: Unloading of clean backfill material for Area G (2-17-2016).

Photograph 41: NW corner of Soil Cap Area with vapor barrier, geotextile fabric and 12-inches of clay cover, viewing NE (2-18-2016).

Photograph 42: West side of Soil Cap Area, viewing S (2-18-2016).

Photograph 43: Use of clean soil material to hold down vapor barrier and geotextile fabric on soil cap, viewing E (2-19-2016).

Photograph 44: Compaction of anchor trench for vapor barrier and geotextile fabric, viewing E (2-19-2016).

Photograph 45: Excavation of Area A near oil/water railcar separator (2-24-2016).

Photograph 46: Exposed water lines encountered in Area A excavation, just east of railcar (2-25-2016).

Photograph 47: Western portion of Area A excavation complete, viewing W (2-25-2016).

Photograph 48: Clean backfill material being placed within Area A, viewing W (2-24-2016).

Photograph 49: Oil/Water separator wrapped in plastic to keep out rainwater and soils during excavation (2-24-2016).

Photograph 50: Sealing off a storm drain inlet within Soil Cap Area with concrete plug and covered with plastic sheeting (2-24-2016).

Photograph 51: Placement of vapor barrier and geotextile fabric on Soil Cap Area, viewing W (2-29-2016).

Photograph 52: Anchor trench for northern boundary of soil cap (2-29-2016).

Photograph 53: Dust monitoring equipment set-up and collecting data.

Photograph 54: New 24" Corrugated Metal Pipe storm drain within Area A (3-1-2016).

Photograph 55: Southern boundary of soil cap, viewing E (3-4-2016).

Photograph 56: Existing monitoring well located within the Soil Cap Area to remain (3-4-2016).

Photograph 57: Installation of silt fencing on southern boundary of soil cap (3-11-2016).

Photograph 58: Placement of cement-stabilized sand within the cleaned out oil/water separator (3-11-2016).

Photograph 59: Cement-stabilized sand within oil/water separator (3-11-2016).

Photograph 60: Cleaned out oil/water separator being backfilled with cement-stabilized sand (3-11-2016).

Photograph 61: Resetting concrete barriers along southern boundary of Soil Cap Area (3-18-2016).

Photograph 62: Placement of topsoil on Soil Cap Area, viewing SE (3-18-2016).

Photograph 63: Concrete barrier wall making up the boundary between Soil Cap Area and Asphalt Cap (3-18-2016).

Photograph 64: Roll-off with weathered cross ties removed from project and ready for disposal at landfill (3-25-2016).

Photograph 65: Grading of Asphalt Cap Area prior to asphalt paving (3-25-2016).

Photograph 66: New container storage area under construction (3-25-2016).

Photograph 67: Newly constructed security fencing along west side of UPRR property, viewing N (3-25-2016).

Photograph 68: New security fence construction along west property boundary, viewing W (4-1-2016).

Photograph 69: Finished container storage area (NOR006) (4-8-2016).

Photograph 70: Asphalt Cap access roadway with prime coat applied and ready for paving (4-8-2016).

Photograph 71: No-till drill seeding of Soil Cap Area (4-8-2016).

Photograph 72: Hydromulch application of Area F (4-8-2016).

Photograph 73: Completion of hydromulch of Area F (4-8-2016).

Photograph 74: Hydromulch application on Soil Cap Area (4-11-2016).

Photograph 75: Progression of hydromulch coverage on Soil Cap, viewing W (4-11-2016).

Photograph 76: Progress of hydromulch on Soil Cap (4-12-2016).

Photograph 77: Hydromulch coverage on Soil Cap (4-13-2016).

Photograph 78: Asphalt paving of access roadway Asphalt Cap, viewing NE (4-9-2016).

Photograph 79: Completed concrete low-water crossing (4-22-2016).

Photograph 80: Placement of ballast between roadway and rail (4-22-2016).

Photograph 81: Vegetation on Soil Cap Area, viewing W (4-22-2016).

Photograph 82: Ballast along roadway and rail, viewing NE (4-28-2016).

Photograph 83: Ballast along roadway and rail, viewing SW (4-28-2016).

Photograph 84: Vegetation on Soil Cap Area, viewing W (5-20-2016).

Photograph 85: Vegetation on Areas D, E and F, viewing E (5-24-2016).

Photograph 86: Aerial view of Soil Cap Area, sidewalk, roadway and ballast, viewing W (5-24-2016).

Photograph 87: Vegetation and pollinating plants on Soil Cap Area (5-24-2016).

Photograph 88: Pollinator plants on soil cap (5-24-2016).

Plume Management Zone	RACR Worksheet 2.0 Page 1 of 1	
	ID No. SWR No. 31547	Report Date: 07/11/16

Complete this worksheet when a PMZ was used as part of the response action. Include in Attachment 2A a map of the PMZ with alternate POE(s) and attenuation monitoring points identified and the current groundwater PCLE zone (if applicable). If a PMZ was not used, do not submit this worksheet.

Groundwater-bearing unit _____

Repeat this worksheet for each groundwater-bearing unit for which a PMZ was used.

Groundwater classification ____ 2 ____ 3

Is/was NAPL present? ____ Yes ____ No

If so, describe how the response action achieved the performance criteria in §350.33(f)(4)(E).

If this is a Class 2 groundwater, explain how the response action ensured that leachate from the surface soil and subsurface soil PCLE zones did not increase concentration of COCs greater than the measured concentrations at time of RAP submittal. (§350.33(a)(2))

Provide documentation that the COCs did not migrate beyond the downgradient boundary of the PMZ at concentrations above the critical PCL. Include supporting documentation in Attachments 1A, 1B, and 2A.

List the attenuation action level determined for each attenuation monitoring point. Illustrate the attenuation monitoring points, initial, maximum, and final groundwater PCLE zones (or groundwater concentrations if less than the critical PCL) on the map in Attachment 2A.

COC	Attenuation Monitoring Point (well number)	Attenuation Action Level (mg/L)	Maximum concentration measured at the attenuation monitoring point (mg/L)

Technical Impracticability	RACR Worksheet 3.0 Page 1 of 1	
	ID No. SWR No. 31547	Report Date: 07/11/16

Use this worksheet to document the use of technical impracticability to modify the groundwater response objectives. Also complete Worksheet 2.0 to document the plume management zone for the area of technical impracticability. Include a map of the groundwater PCLE zone and area of technical impracticability in Attachment 3A. If technical impracticability was not used as part of the response action, do not submit this worksheet.

If additional information beyond that provided in the RAP is available, describe how it was determined that it was technically impractical to reduce the COC concentrations in groundwater to the critical PCLs. Describe the response actions taken that did not prove effective. Provide graphs in Attachment 1B to illustrate COC concentrations over time and with distance from the source for each response action that did not prove effective. Describe in Worksheet 1.0 the removal/decontamination actions that were conducted for any PCLE zone outside the area of technical impracticability.

Did COCs above the critical PCL migrate beyond the area of technical impracticability and/or beyond the initial boundary of the PCLE zone?

___ yes ___ no

If yes, explain the actions taken to mitigate the migration of COCs.

Institutional Controls	RACR Worksheet 4.0 Page 1 of 2	
	ID No. SWR No. 31547	Report Date: 07/11/16

Complete this worksheet if an institutional control will be or has been used as part of the response action. Include in Appendix 3 copies of filed institutional controls and drafts of the proposed institutional controls, copies of landowner concurrences, and a list of landowners from whom landowner concurrence will be requested.

Specify the property for which this applies. UPRR Houston Wood Preserving Works, 4910 Liberty Road

Repeat this worksheet for each different property for which an institutional control will be used.

Institutional Control	Type of Institutional Control[3]				Property Ownership		Anticipated or actual filing date[4]
	Deed notice	Restrictive covenant	VCP Certificate of Completion	Equivalent zoning or governmental ordinance	Check if pertinent tract of land is owned by the person	Check if the pertinent tract of land is owned by an innocent owner or operator	
Document use of commercial/industrial land use (§350.31(g))	X						
Document use of physical or institutional control under Remedy Standard B §350.31(g))	X						
Document notice of on-going long term response action (§350.31(h))							
Document use of occupational inhalation criteria as RBELs (§350.74(b)(1))							
Document variance from the default exposure factors (§350.74(j)(2)(L))							
Document the use of a non-default soil exposure area (§350.51(l)(3)&(4))							
Document WCU exclusion area (§350.33(f)(2))							
Document establishing a PMZ (§350.33(f)(4)(C)(l))							
Document the demonstration of technical impracticability (§350.33(f)(3)(F))							
Relocation of soils containing COCs for reuse (§350.36(b)(4) and (c)(4))							
Other (specify)							

[3] Check the appropriate box(es) to indicate the type of institutional control required for the response action.
[4] Specify date or amount of time after RAP approval.

Institutional Controls	RACR Worksheet 4.0 Page 2 of 2	
	ID No. SWR No. 31547	Report Date: 07/11/16

Complete this worksheet if an institutional control will be or has been used as part of the response action. Include in Appendix 3 copies of filed institutional controls and drafts of the proposed institutional controls, copies of landowner concurrences, and a list of landowners from whom landowner concurrence will be requested.

Specify the property for which this applies. City of Houston ROW (Concrete Sidewalk Cap area)

Repeat this worksheet for each different property for which an institutional control will be used.

Institutional Control	Type of Institutional Control[5]				Property Ownership		Anticipated or actual filing date[6]
	Deed notice	Restrictive covenant	VCP Certificate of Completion	Equivalent zoning or governmental ordinance	Check if pertinent tract of land is owned by the person	Check if the pertinent tract of land is owned by an innocent owner or operator	
Document use of commercial/industrial land use (§350.31(g))							
Document use of physical or institutional control under Remedy Standard B §350.31(g))		X					
Document notice of on-going long term response action (§350.31(h))							
Document use of occupational inhalation criteria as RBELs (§350.74(b)(1))							
Document variance from the default exposure factors (§350.74(j)(2)(L))							
Document the use of a non-default soil exposure area (§350.51(l)(3)&(4))							
Document WCU exclusion area (§350.33(f)(2))							
Document establishing a PMZ (§350.33(f)(4)(C)(l))							
Document the demonstration of technical impracticability (§350.33(f)(3)(F))							
Relocation of soils containing COCs for reuse (§350.36(b)(4) and (c)(4))							
Other (specify)							

[5] Check the appropriate box(es) to indicate the type of institutional control required for the response action.
[6] Specify date or amount of time after RAP approval.

Performance Measures

List and describe the performance measures for each environmental medium containing a PCLE zone that were used to determine if reasonable progress is being made by the response action in a timely manner. Provide documentation that these performance measures were met. Attach additional information if necessary.

Not applicable, physical barriers were constructed to meet the performance measures in a timely manner (construction completed within five months).

Problems

Complete the table for the response action. When the response action consisted of several components or multiple actions, complete one table for each major component or action.

Response Action Name/Designation: Soil Excavation/Cap Construction

List the problems that were encountered during the response action, describe the impact of each problem, and the response to the problem.

Description of the Problem	Impact	Did this cause a response action failure?		Corrective Response
		Yes	No	
Significant rain events	Ongoing maintenance of silt fencing, storm water management and disposal, resulted in approx. one week of cumulative delays.		X	Constructed and maintained containment berms and storm water control BMPs. Containerized accumulated rain water in Area A excavation in on-site frac tank.
Encountering storm water drain line in Area A	Removal of approximately 350 feet of corrugated drain pipe to remove soils in top 5 feet, additional time necessary to re-install the drain pipe		X	Installed new, 24-in corrugated drain pipe following excavation activities within Area A. Joined new drain pipe with existing drain pipe that was >5 feet bgs.
Encountering unmarked, private water lines in Area A	Restricted depth of soil excavation to approximately 3.5 feet bgs on east portion of Area A.		X	Excavation floor confirmation samples in the area where the water lines were encountered indicated COCs less than cPCLs; therefore, no impacts to the response action.

SWMU 11 – Railcar Oil/Water Separator – unable to safely remove the buried rail car due to proximity of large diameter (6 and 8-in) natural gas lines operated by Centerpoint Energy	Original plan was to remove the buried tank car oil/water separator; modified closure to close in place.		X	Sampling of bottom of tank car indicated COCs in residual soils in the tank were less than cPCLs (C/I). Bottom 2/3^{rds} of tank car was backfilled with flowable fill, with the balance of the tank car filled with sand and clean backfill. Surface soils were excavated around the tank car (except north side closest to gas lines) and backfilled with clean fill.

Operation and Maintenance	RACR Worksheet 6.0 Page 1 of 1	
	ID No.: SWR No. 31547	Report Date:07/11/16

Use this worksheet to describe the operation and maintenance (O&M) activities conducted for each response action.

Response Action Name/Designation: **Remedy Std. B – Soil/Concrete Cap, Asphalt Roadway**

List all portions of the response action to which this information applies. Repeat this worksheet for each major component or operation.

Describe the O&M and inspection activities that were conducted to operate and maintain response action components.

The inspection and maintenance program for the capped areas is described within the RAP Worksheet 5.0 (PBW, 2015).

Post-Response Action Care	RACR Worksheet 7.0 Page 1 of 1	
	ID No. SWR No. 31547	Report Date:07/11/16

Complete this worksheet only if the information has changed from that submitted in the RAP. If the information does not apply or if the RAP contains the most current information, do not submit this worksheet.

Not applicable, details provided in the RAP (PBW, 2015).

What is the proposed initial post-response action care period? (default 30 yr.) _____ years

If the proposed initial post-response action care period is less than 30 years, provide a technical justification in accordance with §350.33(h).

What is the foreseeable land use during the post-response action care period? _____

Describe how the future use of the property will not compromise the integrity of the physical controls, will not interfere with the function of the monitoring systems, will not pose a threat to human health or the environment, and will be in accordance with any institutional controls.

Describe the proposed post-response action care activities. Describe the type of monitoring and/or inspections to be performed. Discuss the rationale for not including any COC(s) analyzed during the response action, monitoring or sampling point location, frequency of monitoring and/or inspections, and the duration of the monitoring program.

Will PRAC sampling procedures be the same as those as previously documented for monitoring and/ or confirmation sampling? ____ Yes ____ No
If no, provide in Appendix 6 a description of the monitoring or sampling collection procedures to be conducted during the post-response action care period.

Cost Estimate
Complete this portion of the form only if this information has changed from that submitted in the RAP.

Specify the physical control to which this information applies: _____
Complete this worksheet for each physical control that will be used as part of the response action.

What is the total estimated annual cost of O&M for the PRAC period? $ _____

What is the total estimated cost for a third party to perform PRAC activities? $ _____

Identify the type of financial assurance mechanism to be used, and the contact person managing fiduciary responsibility, if known.

Does the person meet the criteria and definition of a small business? (see §350.33(n)) ____ Yes ____ No
If yes and the person desires to pursue the reduced amount of financial assurance, attach a legally binding affidavit. Include in the affidavit the information requested in 30 TAC §350.33(l), (m), and (n).

LIST OF APPENDICES

APPENDIX 1

REFERENCES

APPENDIX 2

ESA AND COMPENSATORY RESTORATION – NOT APPLICABLE

APPENDIX 3

INSTITUTIONAL CONTROLS AND LANDOWNER CONCURRENCE

UPRR HWPW Deed Recordation
City of Houston Right-of-Way Sidewalk Restrictive Covenant

DEED NOTICE

STATE OF TEXAS §
COUNTY OF § KNOW ALL MEN BY THESE PRESENTS THAT:
HARRIS §

This Notice is filed to provide information concerning certain environmental conditions and/or use restrictions pursuant to the Texas Commission on Environmental Quality (TCEQ) Texas Risk Reduction Program (TRRP) found at 30 Texas Administrative Code (TAC), Chapter 350, and affects the real property (Property) identified as the Former Houston Wood Preserving Works (HWPW) Site (124.8360 Acres) is described by metes and bounds on Exhibit A, attached hereto and incorporated herein by reference, and depicted on the map portion of Exhibit A.. Portions of the soil and groundwater underlying the Property contain identified chemicals of concern causing those portions of the Property to be considered an Affected Property as that term is defined in the TRRP. The Affected Property is shown on Exhibit B.

As detailed in the Response Action Plan (RAP) (PBW, 2015), target chemicals of concern in soil and groundwater media were detected within the Affected Property and Protective Concentration Level (PCL) Exceedance (PCLE) Zone in surface and subsurface soils.

PCLE Zones

Soils

Comparing the surface and subsurface soil analytical data to the appropriate critical PCLs, concentrations of 15 chemicals of concern exceeded their respective critical PCLs (cPCLs):

Surface Soils	cPCL (mg/kg)	Subsurface Soils	cPCL (mg/kg)
• 1,2-Diphenylhydrazine	0.23	• 2-Methylnaphthalene	378
• 2,4-Dinitrotoluene	0.049	• Benzene	0.105
• 2-Methylnaphthalene	378	• Naphthalene	192
• Benzene	0.10	• Pentachlorophenol	0.12
• Benzo(a)anthracene	23		
• Benzo(a)pyrene	2.36		
• Dibenzofuran	743		
• Naphthalene	189		
• Pentachlorophenol	0.12		
• Arsenic	200		
• Lead	275		

Groundwater
Based on the maximum groundwater analytical data detailed in the RAP, concentrations of the following 23 target chemicals of concern exceeded their cPCLs:

VOCs	cPCL (mg/L)	SVOCs	cPCL (mg/L)
• Benzene	0.005	• 2,4-Dimethylphenol	1.5
• Ethylbenzene	0.70	• 2,6-Dinitrotoluene	0.0013
• Methylene Chloride	0.005	• 2-Methylnaphthalene	0.29
• Toluene	1	• Acenaphthene*	4.4
• Vinyl Chloride	0.002	• Anthracene *	7.3
		• Benzo(a)anthracene	0.0028
		• Benzo(a)pyrene	0.0002
		• Bis(2-chloroethoxy)methane*	0.006
		• Chlorobenzene	
		• Chrysene *	0.28
		• Dibenzofuran	0.29
		• Fluoranthene *	2.9
		• Fluorene *	2.9
		• Naphthalene	1.5
		• Pentachlorophenol	0.001
		• Phenanthrene *	2.2
		• Phenol	7.3
		• Pyrene *	2.2

* - COC only detected in wells with DNAPL present

Creosote dense non-aqueous phase liquid (DNAPL) has been detected in the groundwater bearing units A-TZ, B-CZ, B-TZ, and C-TZ as noted in soil borings and monitoring wells.

This Notice is required for the following reasons:

Commercial/Industrial Land Use
The Property (124.8360 Acres), including the Affected Property, shown on Exhibit A currently meets TRRP standards for commercial/industrial land use, as the property may not be protective for residential use. If any person desires in the future to use the Property for residential purposes, the TCEQ must be notified at least 60 days in advance of such use and additional response actions may be necessary before the Property may be used for residential purposes. Persons contemplating a change in land use for the Property are encouraged to review the definitions for commercial/industrial and residential land use contained in TRRP as the definition of residential land use is broad.

Use of Physical Control on Soil
The Affected Property is subject to the TRRP requirements for properties containing

concentrations of chemicals of concern in soil and is subject to the requirements in 30 TAC §350.33(e)(2) to prevent exposure to soils that contain a chemical of concern in excess of the protective concentration level. The attached Exhibit C, which includes Exhibits C-1, C-2, C-3, and C-4, describes and provides the location and metes and bounds of the physical controls and extent of the soil that exceeds the TCEQ-approved critical protective concentration levels for certain chemicals of concern. Physical controls include the following:

- Former HWPW Operating Area:
    - Soil Cap Area (7.1168 Acres) (Exhibit C-1): An engineered soil cap consisting of a vapor barrier with geotextile fabric, and 12-inches of clayey soil with 6-inches of topsoil was constructed to protect on-site commercial/industrial receptors. The physical control covers the consolidated soil and surface soil PCLE Zone on the former HWPW operating area. The soil cap is vegetated and sloped to minimize infiltration over the surface/subsurface soil PCLE Zone. The soil cap will be maintained under the post-response action care period.

    - Asphalt Road Cap (1.0419 Acres) (Exhibit C-2): For the SDD (SWMU 2) along the southern boundary of the HWPW, UPRR constructed the Asphalt Cap to protect on-site commercial/industrial receptors from surface soils with chemicals of concern at concentrations above cPCLs. The Asphalt Cap construction consisted of grading the existing road material, compacting and stabilizing the existing road material, and applying a hot mix asphalt with at least 2-inches minimum cover approximately 16 feet wide over the length of the roadway. The Asphalt Cap, which will restrict infiltration, was constructed to drain storm water away from the Soil and Asphalt Cap areas. The Asphalt Cap will be maintained under the post-response action care to ensure no exposure to the soils within the soil PCLE Zone covered by the cap.

- Englewood Intermodal Yard Concrete Cap Area (41.1398 Acres) (Exhibit C-3): The surface and subsurface soil PCLE zone in the Englewood Intermodal Yard area is currently covered with a physical barrier (concrete pavement), preventing contact with impacted soils for on-site workers. As part of the post-response action care, the concrete pavement in the area of the surface soil PCLE Zone will be routinely inspected to ensure on-site worker protection.

- UPRR Railroad Ballast Cap Area (10.4702 Acres) (Exhibit C-4): The area between the former HWPW operating area and the Englewood Intermodal Yard is covered with railroad ballast, ties, and rail. The existing railroad ballast in this area will be used as an engineering control for preventing on-site worker exposure to impacted surface soils. The railroad ballast area will be maintained as part of normal railroad operations. The track is owned and controlled by UPRR.

For each of these areas described above, signs will be posted with language stating restrictions on construction activity within the capped areas. In the event construction activities are necessary within a capped area, a health and safety plan will be implemented to ensure worker

protection from chemicals of concern in the underlying surface soils and a soil management plan will be developed if soils are excavated as part of the construction activities.

The attached Exhibit D also describes the required maintenance and monitoring required for the physical control. This program must be implemented unless and until TCEQ approves any modification. This deed notice must not be removed or modified without prior approval from TCEQ.

Plume Management Zone

The Affected Property is subject to the TRRP requirements for properties with an area overlying a TCEQ-approved plume management zone (PMZ). A PMZ is defined as an area of groundwater containing concentrations of COCs exceeding the TCEQ-approved protective concentration levels for the site, plus any additional area allowed by the TCEQ in accordance with 30 TAC §350.33(f)(4). The undersigned has established a PMZ so that the chemicals of concern in the groundwater are managed such that human exposure is prevented and that other groundwater resources are protected. The attached Exhibit E provides the location and extent of the on-site PMZs (56.2981 Acres). The Response Action Plan (RAP) submitted for the Site describes the maintenance and monitoring required. The maintenance and monitoring is required until TCEQ approves some modification to those requirements. Exposure to groundwater within the PMZ for any purpose is not advised until such time that all of the chemicals of concern no longer exceed their respective PCLs. This deed notice must not be removed or modified without prior approval from TCEQ.

Non-Aqueous Phase Liquid

The Affected Property is subject to the TRRP requirements for the management of mobile NAPL. The attached Exhibit E provides the general location of the NAPL present at the Property. Drilling, excavation, and groundwater pumping within or into the NAPL zone is prohibited unless proper safeguards are taken to protect human health and safety from any hazards associated with the NAPL. Any NAPL removed during any future subsurface activity must be properly handled and managed in accordance with all applicable state and federal rules and regulations. This deed notice must not be removed or modified without prior approval from TCEQ.

As of the date of this notice, the record owner of fee title to the Property is

Union Pacific Railroad, 1400 Douglas Street, Omaha, Nebraska 68179.

For additional information, contact:

TCEQ
Central Records
12100 Park 35 Circle, Building E
Austin, TX 78753

Mail: TCEQ – MC 199
P.O. Box 13087
Austin, TX 78711-3087

TCEQ Program and Identifier No.: **SWR 31547/IHW 50343**

This Notice may be rendered of no further force or effect only by a superseding deed notice executed by the TCEQ or its successor agencies and filed in the same Real Property Records as those in which this Notice is filed.

EXECUTED this _____ day of _____, 20____.

Union Pacific Railroad [OWNER & RESPONDER]

By:_____

Name: Mr. Tony Love
Title: Assistant Vice President of Real Estate
Union Pacific Railroad Company, a Delaware Corporation

STATE OF NEBRASKA §
DOUGLAS COUNTY §

BEFORE ME, on this the _____ day of _____, Mr. Tony Love, Assistant Vice President of Real Estate, a representative of Union Pacific Railroad Company, a Delaware Corporation, known to me to be the person whose name is subscribed to the foregoing instrument, and he acknowledged to me that he executed the same for the purposes and consideration therein expressed.

GIVEN UNDER MY HAND AND SEAL OF OFFICE, this ___ day of _____, 20____.

_____

Notary Public in and for the State of Nebraska

County of _____

My Commission Expires: _____

EXHIBIT "A"
LEGAL DESCRIPTION OF PROPERTY

EXHIBIT A

OWNERSHIP TABLE

A	UNION PACIFIC RAILROAD COMPANY	C.F. 20130242556, H.C.O.R.
B	UNION PACIFIC RAILROAD COMPANY	C.F. 20130242556, H.C.O.R.
C	UNION PACIFIC RAILROAD COMPANY	C.F. 20130242544, H.C.O.R.
D	UNION PACIFIC RAILROAD COMPANY	C.F. 20100089086,H.C.O.R.
E	UNION PACIFIC RAILROAD COMPANY	C.F. 20130080818, H.C.O.R.
F	UNION PACIFIC RAILROAD COMPANY	C.F. U611884, H.C.O.R.
G	UNION PACIFIC RAILROAD COMPANY	C.F. U611885, H.C.O.R.
H	G. FRANK LIPPER	VOL.1299, PG.585, H.C.D.R.
I	TUNG THANH MAI	C.F. 20100021305, H.C.O.R.
J	BEHZAD NASIZADEH	C.F. 20080329418, H.C.O.R.
K	L. MICHAEL PROLER	C.F. 20110287890, H.C.O.R.
L	BENJAMIN JIMENEZ	C.F. 20150512861, H.C.O.R.
M	ISAAC LEON WILLIAMS ET UX	C.F. G082364, H.C.O.R.
N	RE-MART INVESTMENTS	C.F. 20140270103, H.C.O.R.
O	JAIME MAGALENO LOPEZ	C.F. 20150063915, H.C.O.R.
P	JUAN C. ALLENDE-MOLIAN ET AL	C.F. 20150142372, H.C.O.R.

SUBDIVISION TABLE

A	BRAZOS PARTITION VOL.265, PG.122, H.C.D.R.
B	KYLE & BUSCH SUBDIVISION VOL.183, PG.69, H.C.D.R.
C	E. A. FINN ADDITION VOL.73, PG.317, H.C.D.R.
D	AUGUSTA ADDITION VOL.56, PG.139, H.C.D.R.
E	Blocks 68, 70, 71, 72, 73, 74, 75, 76 AUGUSTA ADDITION VOL.725 PG.235, H.C.M.R.
F	WEISENBERGER'S LUCKY SEVEN ADDITION VOL.22, PG. 4, H.C.D.R.
G	GAGNE HOMESTEAD SOUTH PART VOL.89, PG.240, H.C.D.R.
H	ENGLEWOOD VOL.53, PG.346, H.C.D.R.
I	F.F. CHEW ADDITION VOL.1, PG.8, H.C.M.R.

CURVE TABLE

CURVE #	RADIUS	LENGTH	DELTA	CHORD BRG. - DIST.
C1	270.00'	114.02'	24°11'43"	S 80°03'44" E - 113.17'
C2	280.00'	11.68'	2°23'27"	S 69°09'35" E - 11.68'
C3	280.00'	86.56'	17°42'42"	S 85°41'48" E - 86.21'
C4	1179.28'	375.93'	18°15'53"	S 70°59'12" W - 374.34'
C5	1106.50'	372.48'	19°17'14"	S 78°13'11" W - 370.72'
C6	605.28'	196.03'	18°33'23"	S 77°51'15" W - 195.18'
C7	460.00'	54.90'	6°50'17"	N 5°52'20" W - 54.87'

Doyle & Wachtstetter, Inc
Surveying and Mapping • GPS/GIS

UNION PACIFIC RAILROAD COMPANY
124.8360 ACRE TRACT
HARRIS AND WILSON 2 LEAGUE GRANT, ABSTRACT 32
HARRIS COUNTY, TEXAS

BEING ALL THAT CERTAIN 124.8360 acre tract of land, lying and situated in the Wilson and Harris 2 League Grant, Abstract 32, Harris County Texas, being a portion of that certain 100 foot wide Texas and New Orleans Railroad right-of-way, All of lots 1 through 10, Block 54, all of Lots 1 through 10, Block 55, all of Lots 4 through 6 and a part of Lots 1 through 3, Block 56, all of Lots 1 through 10, Block 58, all of Lots 1 through 10, Block 59, all of Lots 1 through 6, Block 60, all of Lots 5 and 6 and part of Lots 4 and 7, Block 61, all of Lots 1 through 10, Block 62, all of Lots 1 through 10, Block 63, all of Lots 1 through 6, Block 64, all of Lots 1 through 10, Block 77, all of Lots 1 through 10, Block 78, all of Lots 1 through 10, Block 79, all of Lots 1 through 6, Block 80, all of Lots 1 through 10, Block 81, all of Lots 1 through 10, Block 82, all of Lots 1 through 10, Block 83, all of Lots 1 through 3, Block 84, all of Courtney Street (14th Street), all of Eddie Street (15th Street), all of 60 foot wide 16th Street, and all of 60 foot wide Tyre Street (19th Street), all of 60 foot wide Campbell Street (20th Street), a portion of 60 foot wide Amboy Street (Dan Street), a portion of 60 foot wide Kashmere Street (Yates Street), a portion of 60 foot wide Schweikhart Street, a portion of 60 foot wide Wipprecht Street, and a portion of Solo Street as shown on the map of Augusta Addition, according to the map or plat recorded in Volume 56, Page 139 of the Harris County Deed Records (H.C.D.R.); All of Lots 1 through 3, Block 68, all of Lots 1 through 3, Block 70, all of Lots 1 through 8, Block 71, all of Lots 1 through 6, Block 72, all of Lots 1 through 7, Block 73, all of Lots 1 through 10, Block 74, all of Lots 1 through 10, Block 75, all of Lots 1 through 6, Block 76, all of 60 foot wide Tunis Street (17th Street), all of 60 foot wide Sudan Street (18th Street), all of 60 foot wide Tyre Street (19th Street), a portion of Amboy Street (Dan Street), all of 60 foot wide Yates Street (Elmer Street), all of 60 foot wide Schweikhart Street, all of 60 foot wide Wipprecht Street, all of Solo Street (Gus Street) as shown on the map of the Subdivision of Blocks 68, 70, 71, 72, 73, 74, 75, 76 Augusta Addition, according to the map or plat recorded in Volume 725, Page 235 of the H.C.D.R.; All of Lots 5 through 7, as shown on the map of the E. A. Finn Subdivision, according to the map or plat recorded in Volume 73, Page 317 of the H.C.D.R.; All of Lots 2 through 8, Block 1, all of Lots 1 through 8, Block 2, a portion of 15 foot wide 1st Street, all of 30 foot wide 2nd Street as shown on the map of A. H. Kyle Subdivision (a.k.a. Busch and Kyle Subdivision), according to the map or plat recorded in Volume 183, Page 68 of the H.C.D.R.; All of Block 1, all of Lots 1 through 14, Block 2, all of Lots 1 through 21, Block 3, all of Tyre Street, all of Campbell Street and all of Amboy Street (Dan Street) as shown on the map of Weisenberger's Lucky Seven Addition, according to the map or plat recorded in Volume 22, Page 4 of the H.C.D.R.; All of Block 5, all of Lots 1 through 10, Block 7, all of Lots 1, 2, 9 and 10, Block 8, all of Lots 1 through 5 and 7 through 10, and a portion of Lot 6, Block 11, all of Lots 1 through 10, Block 12, all of Lots 1 through 10, Block 13, all of Lots 1 through 10, Block 14, all of Lots 1 through 10, Block 15, all of Lots 1 through 10, Block 16, all of Lots 1 through 10, Block 17, all of Lots 1 through 4 and 7 through 10 and a portion of Lots 5 and 6, Block 18, all of Lots 1 through 4 and 7 through 10 and a portion of Lots 5 and 6, Block 19, all of Lots 1 through 10, Block 20, all of Lots 1 through 10, Block 21, all of Lots 1 through 10, Block 22, all of Lots 1 through 10, Block 23, all of Lots 1 through 10, Block 24, all of Lots 1 through 10, Block 25, all of Lots 1 through 4 and 7 through 10 and a portion of Lots 5 and 6, Block 26, all of 60 foot wide 16th Street, all of 60 foot wide 17th Street, all of 60 foot wide 18th Street, all of 60 foot wide 19th Street, all of 60 foot wide 20th Street, a portion of 40 foot wide Solo Street (Joseph Street), a portion of 40 foot wide Gagne Street, a portion of 40 foot wide Clementine Street, a portion of 40 foot wide Fontinot Street, as shown on the map of the South Part of the Gagne Homestead, according to the map or plat recorded in Volume 89, Page 240 of the H.C.D.R.; All of Lots 1 through 10, Block 1, all of Lots 1 through 4, a portion of Lots 5 through 7 and a portion of Lots 15 and 16, Block 2, all of Lots 1 and 2 and a portion of Lot 3, Block 3, all of Lots 1 through 12, Block 4, all of Lots 1 through 12 Block 7, All of 60 foot wide New Orleans Avenue, a portion of 50 foot wide Grumbach Street, a portion of 50 foot wide Tunis Street (Jones Street), a portion of Erastus Street (Sunset Avenue), a portion of 50 foot wide Harlem Street (Baer Avenue), a portion of 50 foot wide Lockwood Drive (Cushing Avenue) as shown on the map of Englewood Subdivision, according to the map or plat recorded in Volume 53, Page 346 of the H.C.D.R.; All of Lots 1 through 6, Block 17, all of Lots 1 through 10, Block 18, all of Lots 1 through 3, Block 19, a portion of Lots 1 and 10, Block 22, a portion of 60 foot wide Wallisville Road, a portion of 50 foot wide Chew Avenue, as shown on the map of F. F. Chew Addition, according to the map or plat recorded in Volume 1, Page 8 of the Harris County Map Records (H.C.M.R.); All that certain 25 foot wide strip conveyed by deed recorded on January 2, 1895 from Clementine Gagne, et al to Texas and New Orleans Railroad Company, as recorded in Volume 80, Page 103 of the H.C.D.R.; All that certain called 4.274 acre tract conveyed by deed recorded on October 29, 1901 from Ida Japhet to Texas and New Orleans Railroad Company, as recorded in Volume 131, Page 453 of the H.C.D.R.; All that certain tract of land conveyed by deed recorded on March 12, 1902 from H. M. Curtin to Texas and New Orleans

Railroad Company, as recorded in Volume 133, Page 602 of the H.C.D.R.; All that certain called 1.28 acre tract and all that certain called 1.20 acre tract of land conveyed by deed recorded on February 8, 1921 from W. N. Reece to Texas & New Orleans Railroad Company as recorded in Volume 465, Page 501 of the H.C.D.R.,; All that certain called 55,922 square foot tract of land and all that certain called 55,922 square foot tract of land conveyed by deed recorded on February 7, 1921 from W. N. Reece to Texas & New Orleans Railroad Company as recorded in Volume 472, Page 7 of the H.C.D.R.; all that certain called 1.5 acre tract of land conveyed by deed recorded on August 15, 1894 from R. B. Baer to Texas & New Orleans Railroad Company as recorded in Volume 75, Page 286 of the H.C.D.R.; All that certain called 5.79 acre tract of land conveyed by deed recorded on July 24, 1890 from R. B. Baer to Texas & New Orleans Railroad Company as recorded in Volume 50, Page 535 of the H.C.D.R.; All of Tracts 1 through 7 and a portion of Tract 8 of the Partition of heirs of Samuel Brazos as recorded on March 10, 1911 and recorded on Volume 265, Page 122 of the H.C.D.R., and being same following described tracts: All that certain called 0.4054 acre tract of land being Tract 1 and 2 and a portion of Tract 8 of said Samuel Brazos partition, conveyed by deed recorded on May 20, 2013 from C. C. Cody, et al to Union Pacific Railroad Company as recorded in Clerk's File No. 20130242556 of the Harris County Official Records (H.C.O.R.); All that certain 60' x 100' tract of land being Tract 3 of said Samuel Brazos partition, conveyed by deed recorded on May 20, 2013 from C. C. Cody, et al to Union Pacific Railroad Company as recorded in Clerk's File No. 20130242544 of the H.C.O.R.; All that certain 60' x 100' tract of land, being Tract 4 of said Samuel Brazos partition, conveyed by deed recorded on February 21. 2013 from C. C. Cody to Union Pacific Railroad Company as recorded in Clerk's File No. 20130080818 of the H.C.O.R.; All that certain 60' x 100' tract of land, being Tract 5 of said partition, conveyed by deed recorded on March 8, 2010 from C. C. Cody, et al to Union Pacific Railroad Company as recorded in Clerk's File No. 20100089086 of the H.C.O.R.; All that certain 60' x 100' tract of land, being Tract 6 of said Samuel Brazos partition, conveyed by deed recorded on August 30, 2011 from C. C. Cody to Union Pacific Railroad Company as recorded in Clerk's File No. 20110322055 of the H.C.O.R.; all that certain tract, being the West 50 feet of a called 136 foot by 223 foot tract conveyed by deed recorded on September 12, 2000 from Cousins Investment Company to Union Pacific Railroad Company as recorded in Clerk's File No. U618884 of the H.C.O.R., and all that certain tract described in deed recorded on September 12, 2000 from Cousins Investment Company to Union Pacific Railroad Company, as recorded in Clerk's File No. U618885 of the H.C.O.R.; a portion of all that certain called 4835 acre tract conveyed by deed recorded on September 6, 1985 from Lawyers Title Company of Houston to Southern Pacific Transportation Company as recorded in Clerk's File No. K193131 of the H.C.O.R., the herein described 124.8360 acre tract land hereby conveyed being more particularly described by metes and bounds, using survey terminology which refers to the Texas State Plane Coordinate System, South Central Zone (NAD83), in which the directions are Lambert grid bearings and the distances are surface level horizontal lengths (S.F.= 0.99989548017) as follows:

BEGINNING at a 5/8" iron rod found marking the northwest corner of Block 54 of said Augusta Addition, located at the intersection of the southern right-of-way boundary line of Liberty Road with the eastern right-of-way boundary line of 60 foot wide Kashmere Street, for the northwest corner of the herein described 124.8360 acre tract, at position X=31334356.21 and Y=13852234.79;

THENCE North 87°50'25" East, coincident with the southern right-of-way boundary line of said Liberty Road, a distance of 646.91 feet to a 5/8" iron rod found marking the point of curvature of a curve to the right, having a radius of 270.00 feet, at position X=3135002.60 and Y=13852259.17;

THENCE in an easterly direction, coincident with the southern right-of-way boundary line of said Liberty Road, along said curve to the right, having a radius of 270.00 feet, a central angle of 24°11'43", an arc length of 114.02 feet and chord bearing and distance of South 80°03'44" E - 113.17 feet to the point of curvature of a reverse curve to the left, having a radius of 180.00 feet, at position X=3135114.06 and Y=13852239.64;

THENCE in an easterly direction, coincident with the southern right-of-way boundary line of said Liberty Road, along said curve to the left, having a radius of 280.00 feet, a central angle of 2°23'27", an arc length of 11.68 feet and chord bearing and distance of South 69°09'35" E - 11.68 feet to a point for corner, located in the western boundary line of all that certain called 1800 square foot tract of land, conveyed by deed recorded on August 18, 1934 from Bettie J. Pullen, et al to the County of Harris, as recorded in Volume 960, Page 357 of the H.C.D.R., at position X=3135124.98 and Y=13852235.49; **;**

THENCE South 2°19'40" East, coincident with the western boundary line of said County of Harris called 1800 square foot tract of land, a distance of 31.80 feet to an angle corner of the herein described 124.8360 acre tract, at position X=3135126.27 and Y=13852203.71;

THENCE North 87°40'20" East, coincident with the southern boundary line of said County of Harris called 1800 square foot tract of land, a distance of 30.00 feet to point located on the eastern boundary line of said County of Harris called 1800 square foot tract of land, same being the eastern boundary line of Lot 3, Block 56 of said Augusta Addition, for an angle corner of the herein described 124.8360 acre tract, at position X=3135156.24 and Y=13852204.93;

THENCE North 2°19'40" West, coincident with the eastern boundary line of said County of Harris called 1800 square foot tract of land, same being the eastern boundary line of Lot 3, Block 56 of said Augusta Addition,, a distance of 21.63 feet to a point located in the southern right-of-way boundary line of said Liberty Road, located on a curve to the left, having a radius of 280.00 feet, for an angle corner of the herein described 124.8360 acre tract, at position X=3135155.36 and Y=13852226.54;

THENCE in an easterly direction, coincident with the southern right-of-way boundary line of said Liberty Road, along said curve to the left, having a radius of 280.00 feet, a central angle of 17°42'42", an arc length of 86.56 feet and chord bearing and distance of South 85°41'48" E - 86.21 feet to a point for corner, at position X=3135241.32 and Y=13852220.07;

THENCE North 85°26'51" East, coincident with the southern boundary right-of-way boundary line of said Liberty Road, same being the northern boundary line of said Texas and New Orleans Railway Company called 1.28 acre tract, said Texas and New Orleans Railway Company called 1.20 acre tract, said Texas and New Orleans Railway Company called 55,922 square foot tract (Tract 1), said Texas and New Orleans Railway Company called 55,922 square foot tract (Tract 2), said Texas and New Orleans Railway Company called 5.79 acre tract, a distance of 1523.61 feet to a point located on the northeastern right-of-way boundary line of said Texas and New Orleans Railroad Company 100 foot wide right-of-way, for an angle corner of the herein described 124.8360 acre tract, at position X=3136759.96 and Y=13852340.99;

THENCE North 62°10'18" East, coincident with the southeastern right-of-way boundary line of said Liberty Road same being the northwestern boundary line of said Texas and New Orleans Railroad Company 100 foot wide right-of-way, a distance of 653.86 feet to the intersection of said southeastern right-of-way boundary line of said Liberty Road, the northwestern boundary line of said Texas and New Orleans 100 foot wide right-of-way and the northerly extension of the western right-of-way boundary line of Sam Mills Street (Berry Street) as shown on the said plat of F. F. Chew Addition, for the northeast corner of the herein described 124.8360 acre tract, at position X=3137338.15 and Y=13852646.20;

THENCE South 2°35'12" East, coincident with the northerly extension of the western right-of-way boundary line of said Sam Mills Street (Berry Street) as shown on the said plat of F. F. Chew Addition, a distance of 364.63 feet to a point located in the northern right-of-way boundary line of Wallisville Road (right-of-way varies), on a curve to the left, having a radius of 1179.28 feet, for an angle corner of the herein described 124.8360 acre tract, at position X=3137354.60 and Y=13852281.98;

THENCE in a southwesterly direction, coincident with the northwestern right-of-way boundary line of said Wallisville Road along said curve to the left, having a radius of 1179.28 feet, a central angle of 18°15'53", an arc length of 375.93 feet and chord bearing and distance of South 70°59'12" West - 374.34 feet to a point for corner, at position X=3137000.72 and Y=13852160.04;

THENCE South 61°51'16" West, coincident with the northwestern right-of-way boundary line of said Wallisville Road, a distance of 190.34 feet to an angle corner of the herein described 124.8360 acre tract, at position X=3136832.90 and Y=13852070.26;

THENCE South 53°51'57" West, coincident with the northern right-of-way boundary line of said Wallisville Road, a distance of 288.79 feet to a point located on the western right-of-way boundary line of 50 foot wide Harlem Street (Baer Avenue) as shown on the map of Englewood, same being the eastern boundary line of Block 1 of said Englewood subdivision, for an angle corner of the herein described 124.8360 acre tract, at position X=3136599.69 and Y=13851899.99;

THENCE South 2°49'16" East, coincident with the western right-of-way boundary line of said 50 foot wide Harlem Street (Baer Avenue), a distance of 827.94 feet to the intersection of the western right-of-way boundary line of said 50 foot wide Harlem Street and the northern right-of-way boundary line of 50 foot wide Sudan Street (Wilson St.), for the southeast corner of Block 7 of said Englewood subdivision and an angle corner of the herein described 124.8360 acre tract, at position X=3136640.44 and Y=13851073.13;

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THENCE South 87°28'24" West, coincident with the northern right-of-way boundary line of 50 foot wide Sudan Street (Wilson St.), at a distance of 210.00 feet pass the West right-of-way boundary line of said Erastus Street as shown on the plat of said Englewood subdivision, same being the eastern boundary line of Block 11 of the South Part of Gagne Homestead, continuing a total distance of 273.42 feet to a point located in the western right-of-way boundary line of Erastus Street, conveyed by deed recorded on December 31, 1970 from Southern Pacific Transportation Company to the City of Houston, as recorded in Clerk's File No. D240252 of the H.C.O.R., for an angle corner of the herein described 124.8360 acre tract, at position X=3136367.32 and Y=13851061.08;

THENCE South 2°44'14" East, coincident with the western right-of-way boundary line of Erastus Street, being a 30 foot wide strip conveyed by Southern Pacific Transportation Company to the City of Houston, as recorded in Clerk's File No. D240252 and a 30 foot wide strip conveyed by deed recorded on October 7, 1993 from Southern Pacific Transportation Company to the City of Houston in Clerk's File No. P491689 of the H.C.O.R, a distance of 807.64 feet to a point located in the northern right-of-way boundary line of 60 foot wide Lee Street, same being the southern boundary line of Block 26 of said South Part of Gagne Homestead, for an angle corner of the herein described 124.8360 acre tract, at position X=3136405.88 and Y=13850254.45;

THENCE South 87°15'46" West, coincident with the northern right-of-way boundary line of said 60 foot wide Lee Street, same being the southern boundary line of Blocks 24, 25 and 26 of said South Part of Gagne Homestead, a distance of 840.00 feet to the southeast corner of Block 23 of said South Part of Gagne Homestead, same being the East corner of all that certain called 0.1243 acre tract of land conveyed by deed recorded on October 7, 1993 from Southern Pacific Transportation Company to the City of Houston in Clerk's File No. P491689 of the H.C.O.R, for an angle corner of the herein described 124.8360 acre tract, at position X=3135566.93 and Y=13850214.33;

THENCE North 84°33'30" West, coincident with the northern boundary line of said City of Houston, called 0.1243 acre tract, a distance of 276.99 feet to a point located in the western boundary line of said South Pacific Transportation Company called 4835 square foot tract, same being the eastern right-of-way boundary line of Solo Street, for an angle corner of the herein described 124.8360 acre tract, at position X=3135291.22 and Y=13850240.60;

THENCE North 2°44'14" West, coincident with the western right-of-way boundary line of said Solo Street, same being the eastern boundary line of said Southern Pacific Transportation Company called 4835 square foot tract, a distance of 111.88 feet to an angle corner of the herein described 124.8360 acre tract, at position X=3135285.88 and Y=13850352.35;

THENCE South 87°36'14" West, at a distance of 60.00 feet pass the southeast corner of Lot 3, Block 84, at a distance of 236.90 feet pass the southwest corner of Lot 1, Block 84, continuing for a total distance of 296.90 feet to the southeast corner of Lot 5, same being the northeast corner of Lot 6, Block 83 of said Augusta Addition, located in the western right-of-way boundary line of 60 foot wide Wipprecht Street, for an angle corner of the herein described 124.8360 acre tract, at position X=3134989.26 and Y=13850339.94;

THENCE South 2°23'46" East, coincident with the eastern boundary line of said Lot 6, Block 83 of said Augusta Addition, same being the western right-of-way boundary line of said 60 foot wide Wipprecht Street, a distance of 100.00 feet to a point located on the northern right-of-way boundary line of said 60 foot wide Lee Street, for the southeast corner of said Lot 6, Block 83 of Augusta Addition, for angle corner of the herein described 124.8360 acre tract, at position X=3134993.71 and Y=13850239.77;

THENCE South 87°36'14" West, coincident with the northern right-of-way boundary line of said 60 foot wide Lee Street, same being the southern boundary line of Blocks 81, 82 and 83 of said Augusta Addition, a distance of 872.58 feet to southwest corner of Lot 10, Block 81 of Augusta Addition, located on the eastern right-of-way boundary line of 60 foot wide Amboy Street (Dan Street), for an angle corner of the herein described 124.8360 acre tract, at position X=3134121.72 and Y=13850203.56;

THENCE South 89°35'41" West, a distance of 56.43 feet to the southeast corner of Lot 11, Block 3 of said Weisenberger's Lucky Seven Addition, same being the northern right-of-way boundary line of said 60 foot wide Lee Street, on a curve to the left, having a radius of 1206.50 feet, for an angle corner of the herein described 124.8360 acre tract, at position X=3134065.30 and Y=13850203.16;

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THENCE in a westerly direction, coincident with the northern right-of-way boundary line of said 60 foot wide Lee Street, same being the southern boundary line of said Block 3 of Weisenberger's Lucky Seven Addition, along said curve to the left, having a radius of 1106.50 feet, a central angle of 19°17'14", an arc length of 372.48 feet and chord bearing and distance of South 78°13'11" West - 370.72 feet to a point of reverse curve to the right, having a radius of 605.28 feet, at position X=3133702.43 and Y=13850127.48;

THENCE in a westerly direction, coincident with the northern right-of-way boundary line of said 60 foot wide Lee Street, same being the southern boundary line of said Block 3 of Weisenberger's Lucky Seven Addition, along said curve to the right, having a radius of 605.28 feet, a central angle of 18°33'24", an arc length of 196.03 feet and chord bearing and distance of South 77°51'16" West - 195.18 feet to a the southwest corner of Lot 21, Block 3 of said Weisenberger's Lucky Seven Addition, located on the eastern right-of-way boundary line of Altoona Street (right-of-way varies) and a curve to the right, having a radius of 460.95 feet, at position X=3133511.64 and Y=13850086.42;

THENCE in a northerly direction, coincident with the eastern right-of-way boundary line of Altoona Street (a.k.a. Waco Street) (right-of-way varies), same being the western boundary line Block 3 of said Weisenberger's Lucky Seven Addition, and along said curve to the right, having a radius of 460.95 feet, a central angle of 6°50'17", an arc length of 54.90 feet and chord bearing and distance of North 5°52'20" W - 54.87 feet to an angle corner of the herein described 124.8360 acre tract, at position X=3133506.03 and Y=13850140.99;

THENCE North 2°27'12" West, coincident with the eastern right-of-way boundary line of Altoona Street (right-of-way varies), same being the western boundary line Block 2 and 3 of said Weisenberger's Lucky Seven Addition, a distance of 361.48 feet to a point located on the southern boundary line of the Texas and New Orleans Railroad 100 foot right-of-way, same being the northern right-of-way boundary line of 50 foot wide Tyre Street, for an angle corner of the herein described 124.8360 acre tract, at position X=3133490.55 and Y=13850502.10;

THENCE South 62°10'18" West, coincident with the southern boundary line of the Texas and New Orleans Railroad 100 foot right-of-way, a distance of 201.40 feet to an angle corner of the herein described 124.8360 acre tract, at position X=3133312.46 and Y=13850408.09;

THENCE North 2°27'12" West, a distance of 110.68 feet to a point located on the northern boundary line of said Texas and New Orleans Railroad 100 foot right-of-way, for an angle corner of the herein described 124.8360 acre tract, at position X=3133307.73 and Y=13850518.66;

THENCE North 62°10'18" East, coincident with the northern boundary line of said Texas and New Orleans Railroad 100 foot right-of-way, same being the southern boundary line of said Reserve "A" of Abernathy Court, the southern boundary line of all that certain Tract 2 conveyed by deed recorded on January 3, 1944 from Alfred Philo Howard, Jr. to G. Frank Lipper as recorded in Volume 1299, Page 585 of the H.C.D.R., the southern boundary line of all that certain called 0.1721 acre tract, conveyed by deed recorded on January 19, 2010 from the City of Houston, et al to Tung Thanh Mai as recorded in Clerk's File No. 2010-0021305 of the H.C.O.R., the southern boundary line of all that certain called 0.1148 acre tract conveyed by deed recorded on June 24, 2008 from the City of Houston, et al to Behzad Nasizadeh as recorded in Clerk's File No. 2008-0329418 of the H.C.O.R., the southern boundary line of all that certain called 1492 acre tract, conveyed by deed recorded on July 13, 2011 from the City of Houston, et al to L. Michael Proler as recorded in Clerk's File No. 2011-0287890 of the H.C.O.R., a distance of 529.31 feet to the southwest corner of Tract 5 of said Brazos Partition, located on the eastern right-of-way boundary line of a 20 foot wide roadway (a.k.a. Wayne Street) for an angle corner of the herein described 124.8360 acre tract, at position X=3133775.77 and Y=13850765.72;

THENCE North 2°27'39" West, coincident with the eastern boundary line of said 20 foot wide roadway (a.k.a. Wayne Street), same being the western boundary line of Tracts 5 through 8 of said Samuel Brazos partition , a distance of 185.73 feet to the southwest corner of that certain 50' x 100' tract out of Tract 8 of said Samuel Brazos partition, conveyed by deed recorded on November 10, 2015 from Harris County, et al to Benjamin Jimenez, as recorded in Clerk's File No. 2015-0512861 of the H.C.O.R., for an angle corner of the herein described 124.8360 acre tract, at position X=3133767.80 and Y=13850951.26;

THENCE North 62°10'18" East, coincident with the southern boundary line of said Benjamin Jimenez tract, a distance of 100.00 feet to the southeast corner of said Benjamin Jimenez tract, located on the eastern boundary line of said Tract 8, same being the western boundary line of said Tract 1 of the Samuel Brazos partition, for an angle corner of the herein described 124.8360 acre tract, at position X=3133856.23 and Y=13850997.94;

THENCE North 2°27'39" West, coincident with the eastern boundary line of said Benjamin Jimenez tract, the eastern boundary line of said Tract 8, same being the western boundary line of said Tract 1 of the Samuel Brazos partition, a distance of 50.00 feet to a point located on the southern boundary line of all that certain tract of land conveyed by deed recorded on May 16, 1979 from George Fergerson, et al to Isaac Leon Williams, et ux, as recorded in Clerk's File No. G082364 of the H.C.O.R., for the northeast corner of said Benjamin Jimenez tract and said Tract 8, the northwest corner of said Tract 1 of said Samuel Brazos partition, for an angle corner of the herein described 124.8360 acre tract, at position X=3133854.08 and Y=13851047.89;

THENCE North 62°10'18" East, coincident with the southern boundary line of said Isaac Leo William, et ux tract, the southern boundary line of all that certain tract conveyed by deed recorded on June 23, 2014 from Harris County, et al to Re-Mart Investment as recorded in Clerk's File No. 2014-0270103 of the H.C.O.R., the southern boundary line of all that certain tract of land conveyed by deed recorded on February 17, 2015 from Melbourne Street, LLC to Jaime Magdaleno Lopez as recorded in Clerk's File No. 2015-0063915 of the H.C.O.R., the southern boundary line of all that certain tract of land conveyed by deed recorded on April 7, 2015 from UrboCorp, LLC TO Juan C. Allende-Molina, et al, as recorded in Clerk's File No. 2015-0142372 of the H.C.O.R., a distance of 236.00 feet to a point located on the western boundary line of Lot 8, Block 1 of said A. H. Kyle Subdivision, for the southeast corner of said Juan C. Allende-Molina, et al tract, for an angle corner of the herein described 124.8360 acre tract, at position X=3134062.77 and Y=13851158.05 ;

THENCE North 2°27'39" West, coincident with the eastern boundary line of said Juan C. Allende-Molian et al tract, same being the western boundary line of said Lot 8, Block 1 of said A. H. Kyle Subdivision, a distance of 34.41 feet to the northwest corner of said Lot 8, Block 1, same being the southwest corner of Lot 1, Block 1 of said A. H. Kyle Subdivision, for an angle corner of the herein described 124.8360 acre tract, at position X=3134061.29 and Y=13851192.43 ;

THENCE North 87°32'21" East, coincident with the southern boundary line of said Lot 1, Block 1, same being the northern boundary line of said Lot 8, Block 1 of said A. H. Kyle Subdivision, a distance of 52.50 feet to the common corner of Lots 1, 2, 7 and 8, Block 1 of said A. H. Kyle Subdivision, for an angle corner of the herein described 124.8360 acre tract, at position X=3134113.73 and Y=13851194.68;

THENCE North 2°27'39" West, coincident with the eastern boundary line of said Lot 1, the western boundary line of said Lot 2, Block 1 of said A. H. Kyle Subdivision, at a distance of 100.00 feet pass the northeast corner of said Lot 1, the northwest corner of said Lot 2 of Block 1, same being the southern right-of-way boundary line of 15 foot wide 1st Street, continuing for a total distance of 115.00 feet to a point located on the northern right-of-way boundary line of 15 foot wide 1st Street, same being the southern boundary line of Lot 7 of said E. A. Finn Subdivision, for an angle corner of the herein described 124.8360 acre tract, at position X=3134108.80 and Y=13851309.56;

THENCE South 87°32'21" West, coincident with the northern right-of-way boundary line of 15 foot wide 1st Street, same being the southern boundary line of Lot 7 of said E. A. Finn Subdivision, a distance of 52.50 feet to the southwest corner of said Lot 7, and an angle corner of the herein described 124.8360 acre tract, at position X=3134056.35 and Y=13851307.31;

THENCE North 2°27'39" West, coincident with the western boundary line of said Lot 7 of the E. A. Finn Subdivision, a distance of 174.86 feet to a point located on the southern boundary line of a 22 foot wide right-of-way, for the northwest corner of said Lot 7 and an angle corner of the herein described 124.8360 acre tract, at position X=3134048.85 and Y=13851481.99;

THENCE North 87°32'21" East, coincident with the southern boundary line of a 22 foot wide right-of-way, same being the northern boundary line of Lots 5, 6 and 7 of said E. A. Finn Subdivision, a distance of 210.00 feet to the northeast corner of said Lot 5 of the E. A. Finn Subdivision, for an angle corner of the herein described 124.8360 acre tract, at position X=3134258.63 and Y=13851491.00;

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THENCE North 2°27'39" West, at a distance of 22.00 feet, pass the southeast corner of Lot 3 of said E. A. Finn Subdivision, continuing coincident with the eastern boundary line of said Lot 3 and Lot 2, a total distance of 218.32 feet to a point located on the southern right-of-way boundary line of 60 foot wide Eddie Street (15th Street), same being the northern boundary line of Block 61 of said Augusta Addition, for an angle corner of the herein described 124.8360 acre tract, at position X=3134249.26 and Y=13851709.10;

THENCE North 87°40'20" East, a distance of 129.20 feet to the northwest corner of Block 62, located on the eastern right-of-way boundary line of 60 foot wide Kashmere Street, for an angle corner of the herein described 124.8360 acre tract, at position X=3134378.34 and Y=13851714.35 ;

THENCE North 2°26'03" West, coincident with the eastern right-of-way boundary line of said 60 foot wide Kashmere Street, same being the western boundary line of Blocks 54 and 58 boundary line, a distance of 520.97 feet to the **POINT OF BEGINNING**, containing 124.8360 acres of land, more or less.

Wm. Patrick Doyle
Registered Professional Land Surveyor
Texas Registration Number 4467
April 6, 2016

This description is based on a survey, dated December 23, 2015 is on file in the office of Doyle & Wachtstetter, Inc.
V:\Pat\Pastor Behling & Wheeler\UPPR Englewood Yard 124.8360 acre tract.doc

EXHIBIT "B"
AFFECTED PROPERTY MAP

EXPLANATION

- UPRR Property Boundary
- Road, Parking Lot, Sidewalk
- Fence
- Railroad
- Soil Affected Property
- Groundwater Affected Property
- Railroad Ballast Cap Area
- Asphalt Cap Area
- Soil Cap
- Concrete Sidewalk Cap
- Concrete Cap Area

Approx. Scale in Feet

0 150 300

N

Source:
Base map from ERM-Southwest, Inc APAR Addendum, Fig 3-1, dated June 2004.

UNION PACIFIC RAILROAD CO.

HOUSTON WOOD PRESERVING WORKS

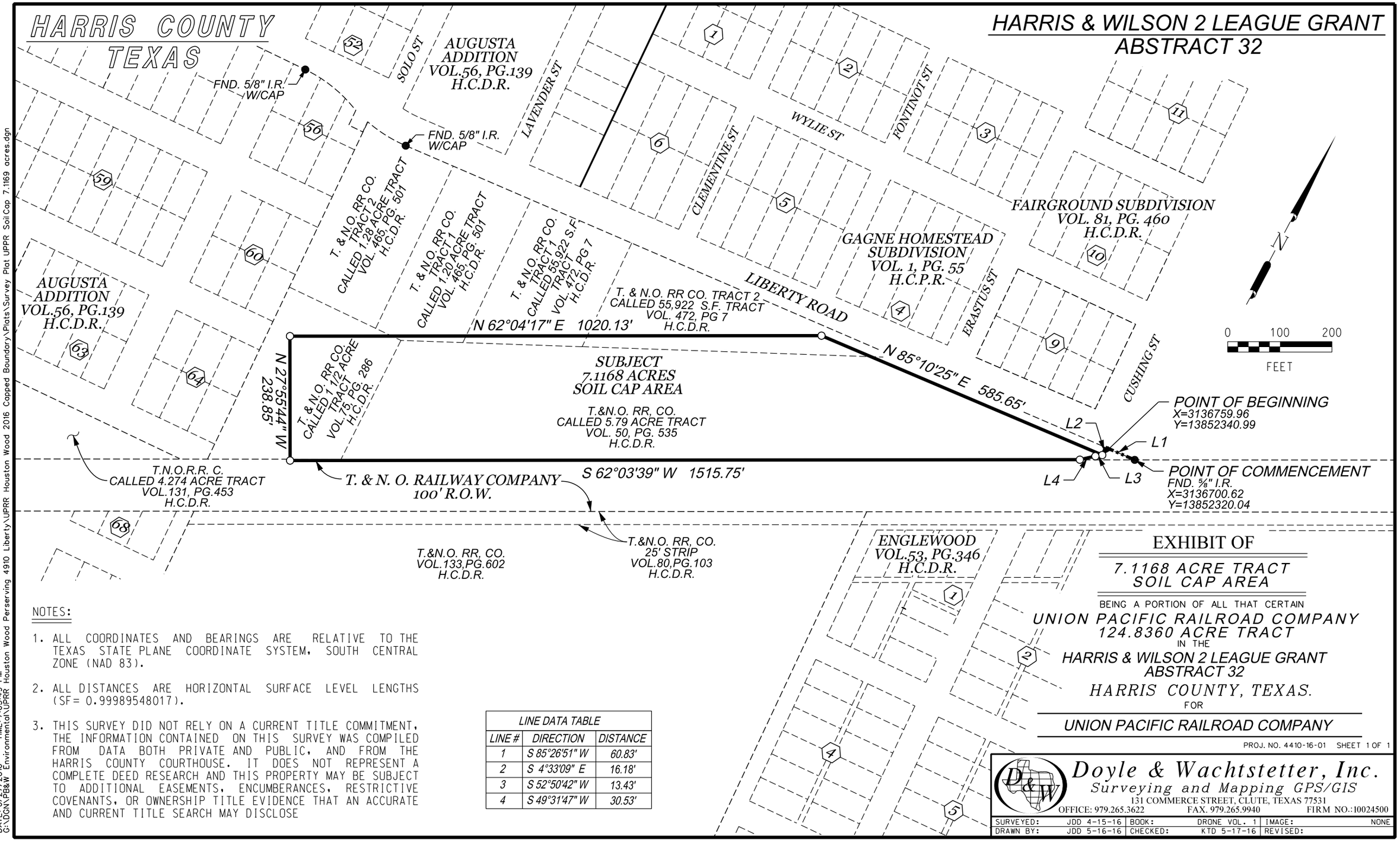
Exhibit B

AFFECTED PROPERTY MAP

PROJECT: 1358	BY: ADJ	REVISIONS
DATE: JULY, 2016	CHECKED: ECM	

PASTOR, BEHLING & WHEELER, LLC
CONSULTING ENGINEERS AND SCIENTISTS

EXHIBITS "C-1, C-2, C-3, AND C-4"
LEGAL DESCRIPTIONS OF USE OF PHYSICAL CONTROLS FOR SOIL



NOTES:

1. ALL COORDINATES AND BEARINGS ARE RELATIVE TO THE TEXAS STATE PLANE COORDINATE SYSTEM, SOUTH CENTRAL ZONE (NAD 83).

2. ALL DISTANCES ARE HORIZONTAL SURFACE LEVEL LENGTHS (SF= 0.99989548017).

3. THIS SURVEY DID NOT RELY ON A CURRENT TITLE COMMITMENT, THE INFORMATION CONTAINED ON THIS SURVEY WAS COMPILED FROM DATA BOTH PRIVATE AND PUBLIC, AND FROM THE HARRIS COUNTY COURTHOUSE. IT DOES NOT REPRESENT A COMPLETE DEED RESEARCH AND THIS PROPERTY MAY BE SUBJECT TO ADDITIONAL EASEMENTS, ENCUMBERANCES, RESTRICTIVE COVENANTS, OR OWNERSHIP TITLE EVIDENCE THAT AN ACCURATE AND CURRENT TITLE SEARCH MAY DISCLOSE

LINE DATA TABLE		
LINE #	DIRECTION	DISTANCE
1	S 85°26'51" W	60.83'
2	S 4°33'09" E	16.18'
3	S 52°50'42" W	13.43'
4	S 49°31'47" W	30.53'

EXHIBIT OF

7.1168 ACRE TRACT SOIL CAP AREA

BEING A PORTION OF ALL THAT CERTAIN

UNION PACIFIC RAILROAD COMPANY 124.8360 ACRE TRACT

IN THE

HARRIS & WILSON 2 LEAGUE GRANT ABSTRACT 32

HARRIS COUNTY, TEXAS.

FOR

UNION PACIFIC RAILROAD COMPANY

PROJ. NO. 4410-16-01 SHEET 1 OF 1

Doyle & Wachtstetter, Inc.
Surveying and Mapping GPS/GIS
131 COMMERCE STREET, CLUTE, TEXAS 77531
OFFICE: 979.265.3622 FAX. 979.265.9940 FIRM NO.:10024500

SURVEYED:	JDD 4-15-16	BOOK:	DRONE VOL. 1	IMAGE:	NONE
DRAWN BY:	JDD 5-16-16	CHECKED:	KTD 5-17-16	REVISED:	

Doyle & Wachtstetter, Inc
Surveying and Mapping • GPS/GIS

UNION PACIFIC RAILROAD COMPANY
SOIL CAP AREA – 7.1168 ACRE TRACT
HARRIS AND WILSON 2 LEAGUE GRANT, ABSTRACT 32
HARRIS COUNTY, TEXAS
PAGE 1 OF 1

BEING ALL THAT CERTAIN 7.1168 acre tract of land, lying and situated in the Harris and Wilson 2 League Grant, Abstract 32, Harris County Texas, being located within the right-of-way of 60 foot wide Liberty Road, being a portion of all that certain called 1.28 acre tract and all that certain called 1.20 acre tract of land conveyed by deed recorded on February 8, 1921 from W. N. Reece to Texas & New Orleans Railroad Company as recorded in Volume 465, Page 501 of the H.C.D.R.,; all that certain called 55,922 square foot tract of land and all that certain called 55,922 square foot tract of land conveyed by deed recorded on February 7, 1921 from W. N. Reece to Texas & New Orleans Railroad Company as recorded in Volume 472, Page 7 of the H.C.D.R.; all that certain called 1.5 acre tract of land conveyed by deed recorded on August 15, 1894 from R. B. Baer to Texas & New Orleans Railroad Company as recorded in Volume 75, Page 286 of the H.C.D.R.; all that certain called 5.79 acre tract of land conveyed by deed recorded on July 24, 1890 from R. B. Baer to Texas & New Orleans Railroad Company as recorded in Volume 50, Page 535 of the H.C.D.R.; the herein described 7.1168 acre tract land hereby conveyed being more particularly described by metes and bounds, using survey terminology which refers to the Texas State Plane Coordinate System, South Central Zone (NAD83), in which the directions are Lambert grid bearings and the distances are surface level horizontal lengths (S.F.= 0.99989548017) as follows:

COMMENCING at 5/8" iron rod found marking the intersection of the southern right-of-way boundary line of said 60 foot wide Liberty Road with the northwestern right-of-way boundary line of the 100 foot wide Texas and New Orleans Rail Road Company right-of-way, same being the southeastern boundary line of said Texas and New Orleans Rail Road Company called 5.79 acre tract, said Point of Commencement being located at Texas State Plane coordinate X=3136759.96 and Y=13852340.99;

THENCE South 85°26'51" West, coincident with the southern right-of-way boundary line of said 60 foot wide Liberty Road, a distance of 60.83 feet to an angle point, at position X=3136699.34 and Y=13852336.16**;**

THENCE South 4°33'09" East, a distance of 16.18 feet to East corner and the **POINT OF BEGINNING** of the herein described 7.1168 acre tract, at position X=3136700.62 and Y=13852320.04;

THENCE South 52°50'42" West, a distance of 13.43 feet to an angle corner of the herein described 7.1168 acre tract, at position X=3136689.92 and Y=13852311.93;

THENCE South 49°31'47" West, a distance of 30.53 feet to an angle corner of the herein described 7.1168 acre tract, at position X=3136666.69 and Y=13852292.11;

THENCE South 62°03'39" West, a distance of 1515.75 feet to the South corner of the herein described 7.1168 acre tract, at position X=3135327.75 and Y=13851582.01;

THENCE North 27°55'44" West, a distance of 238.85 feet to West corner of the herein described 7.1168 acre tract, at position X=3135215.89 and Y=13851793.02;

THENCE North 62°04'17" East, a distance of 1020.13 feet to an angle corner of the herein described 7.1168 acre tract, at position X=3136117.11 and Y=13852270.77;

THENCE North 85°10'25" East, a distance of 585.65 feet to the **POINT OF BEGINNING**, containing 7.1168 acres of land, more or less.

STATE OF TEXAS
REGISTERED
WM. PATRICK DOYLE
4467
PROFESSIONAL
LAND SURVEYOR

Wm. Patrick Doyle
Registered Professional Land Surveyor
Texas Registration Number 4467
June 23, 2016

This description is based on a exhibit, dated June 23, 2016 is on file in the office of Doyle & Wachtstetter, Inc.
V:\Pat\Pastor Behling & Wheeler\UPPR Liberty Road Sidewalk tract 0.1318 acre.doc

HARRIS COUNTY TEXAS

HARRIS & WILSON 2 LEAGUE GRANT ABSTRACT 32

LINE TABLE		
LINE #	DIRECTION	LENGTH
L1	S 85°26'51" W	4.25'
L2	S 14°40'24" W	8.50
L3	S 29°23'15" W	6.33
L4	S 54°11'53" W	46.80
L5	N 32°51'31" W	8.76
L6	S 60°39'24" W	10.96
L7	S 51°04'35" W	58.69
L8	S 61°56'31" W	613.96
L9	S 62°54'22" W	142.13
L10	S 61°55'12" W	479.21
L11	S 67°03'52" W	24.28
L12	S 58°32'12" W	17.21
L13	S 61°37'54" W	105.67
L14	S 62°29'25" W	287.83
L15	S 65°35'29" W	35.19
L16	S 61°31'56" W	590.15
L17	S 61°59'05" W	181.71
L18	S 61°22'47" W	29.30
L19	S 65°38'37" W	16.53
L20	S 72°24'44" W	27.78

LINE TABLE		
LINE #	DIRECTION	LENGTH
L21	S 68°04'30" W	30.51
L22	S 59°48'14" W	92.27
L23	N 29°33'31" W	15.17
L24	N 59°48'53" E	95.54
L25	N 70°15'38" E	60.14
L26	N 62°07'21" E	210.22
L27	N 61°12'15" E	209.88
L28	N 62°09'00" E	149.93
L29	N 61°23'02" E	240.32
L30	N 62°36'22" E	150.43
L31	N 64°52'14" E	30.22
L32	N 62°05'30" E	1064.63
L33	N 62°08'24" E	457.12
L34	N 58°08'18" E	30.97
L35	N 50°42'05" E	76.01
L36	N 35°17'11" E	9.87
L37	N 13°31'05" E	3.91
L38	N 76°25'52" E	23.65
L39	S 6°43'41" E	13.45
L40	S 14°40'24" W	3.77

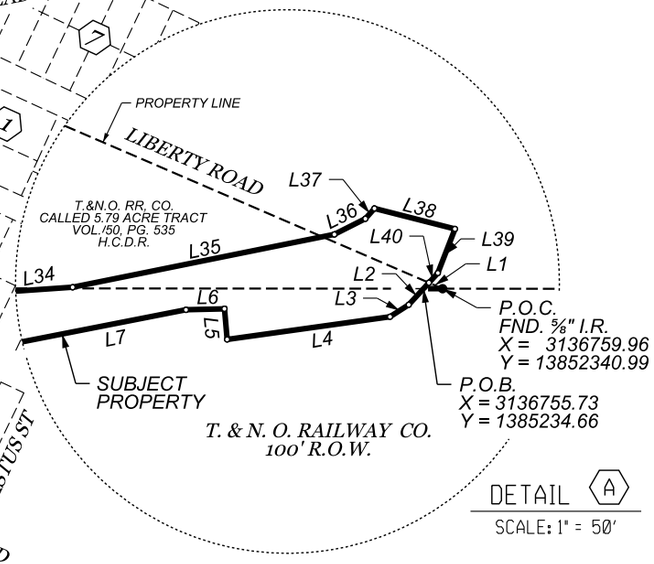
LIBERTY ROAD
WIPPRECHT ST
SOLO ST
GAGNE HOMESTEAD VOL.1, PG.55 H.C.P.R.
LELIA ST
LAVENDER ST
WYLIE ST
FONTINOT ST
CLEMENTINE ST
ERASTUS ST
AUGUSTA ADDITION VOL.56, PG.139 H.C.D.R.
T. & N.O. RR CO. TRACT 1 CALLED 1.25 ACRE TRACT VOL. 465, PG. 501 H.C.D.R.
T. & N.O. RR CO. TRACT 1 CALLED 1.20 ACRE TRACT VOL. 465, PG. 501 H.C.D.R.
T. & N.O. RR CO. TRACT 1 CALLED 55,922 S.F. TRACT VOL. 472, PG 7 H.C.D.R.
T. & N.O. RR CO. TRACT 2 CALLED 55,922 S.F. TRACT VOL. 472, PG 7 H.C.D.R.
T. & N.O. RR CO. CALLED 1 1/2 ACRE TRACT VOL. 75, PG. 286 H.C.D.R.
T.N.O.R.R.C. CALLED 4.274 ACRE TRACT VOL. 131, PG. 453 H.C.D.R.
T.&N.O. RR CO. CALLED 5.79 ACRE TRACT VOL. 50, PG. 535 H.C.D.R.

SUBJECT
1.0419 ACRE TRACT
ASPHALT ROAD CAP AREA

T. & N. O. RAILWAY CO.
100' R.O.W.

T.&N.O. RR CO. VOL.133,PG.602 H.C.D.R.

AUGUSTA ADDITION VOL.725 PG.235, H.C.M.R.
TYRE STREET
SUDAN STREET
GAGNE HOMESTEAD SOUTH PART VOL.89, PG.240, H.C.D.R.
HARLEM ST
LOCKWOOD



DETAIL (A)
SCALE: 1" = 50'

NOTES:

1. ALL COORDINATES AND BEARINGS ARE RELATIVE TO THE TEXAS STATE PLANE COORDINATE SYSTEM, SOUTH CENTRAL ZONE (NAD 83).
2. ALL DISTANCES ARE HORIZONTAL SURFACE LEVEL LENGTHS (SF= 0.99989548017).
3. THIS SURVEY DID NOT RELY ON A CURRENT TITLE COMMITMENT, THE INFORMATION CONTAINED ON THIS SURVEY WAS COMPILED FROM DATA BOTH PRIVATE AND PUBLIC, AND FROM THE HARRIS COUNTY COURTHOUSE. IT DOES NOT REPRESENT A COMPLETE DEED RESEARCH AND THIS PROPERTY MAY BE SUBJECT TO ADDITIONAL EASEMENTS, ENCUMBERANCES, RESTRICTIVE COVENANTS, OR OWNERSHIP TITLE EVIDENCE THAT AN ACCURATE AND CURRENT TITLE SEARCH MAY DISCLOSE

N

0 150 300
FEET

EXHIBIT OF

1.0419 ACRE TRACT ASPHALT ROAD CAP AREA

BEING A PORTION OF ALL THAT CERTAIN

UNION PACIFIC RAILROAD COMPANY 124.8360 ACRE TRACT & LIBERTY ROAD

IN THE

HARRIS & WILSON 2 LEAGUE GRANT ABSTRACT 32
HARRIS COUNTY, TEXAS.

FOR

UNION PACIFIC RAILROAD COMPANY

PROJ. NO. 4410-16-01 SHEET 1 OF 1

Doyle & Wachtstetter, Inc.
Surveying and Mapping GPS/GIS
131 COMMERCE STREET, CLUTE, TEXAS 77531
OFFICE: 979.265.3622 FAX. 979.265.9940 FIRM NO.:10024500

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DRAWN BY:	JDD 5-16-16	CHECKED:	KTD 5-17-16	REVISED:	

USER: Untitled Workspace
DATE: 6/27/2016 TIME: 5:44:11 PM
G:\DGN\P&W Environmental\UPRR Houston Wood Perserving 4910 Liberty\UPRR Houston Wood 2016 Capped Boundary\Plats\Survey Plat UPRR Asphalt Road 1.0419 acres Rev1.dgn

Doyle & Wachtstetter, Inc
Surveying and Mapping • GPS/GIS

UNION PACIFIC RAILROAD COMPANY
ASPHALT ROAD CAP AREA – 1.0419 ACRE TRACT
HARRIS AND WILSON 2 LEAGUE GRANT, ABSTRACT 32
HARRIS COUNTY, TEXAS
PAGE 1 OF 3

BEING ALL THAT CERTAIN 1.0419 acre tract of land, lying and situated in the Harris and Wilson 2 League Grant, Abstract 32, Harris County Texas, being located within the right-of-way of 60 foot wide Liberty Road, within the Texas and New Orleans 100 foot wide railroad right-of-way, being a portion of all that certain called 5.79 acre tract of land conveyed by deed recorded on July 24, 1890 from R. B. Baer to Texas & New Orleans Railroad Company as recorded in Volume 50, Page 535 of the H.C.D.R. and a portion of all that certain called 4.274 acre tract conveyed by deed recorded on October 29, 1901 from Ida Japhet to Texas and New Orleans Railroad Company, as recorded in Volume 131, Page 453 of the H.C.D.R., the herein described 1.0419 acre tract land hereby conveyed being more particularly described by metes and bounds, using survey terminology which refers to the Texas State Plane Coordinate System, South Central Zone (NAD83), in which the directions are Lambert grid bearings and the distances are surface level horizontal lengths (S.F.= 0.99989548017) as follows:

COMMENCING at 5/8” iron rod found marking the intersection of the southern right-of-way boundary line of said 60 foot wide Liberty Road with the northwestern right-of-way boundary line of the 100 foot wide Texas and New Orleans Rail Road Company right-of-way, same being the southeastern boundary line of said Texas and New Orleans Rail Road Company called 5.79 acre tract, said Point of Commencement being located at Texas State Plane coordinate X=3136759.96 and Y=13852340.99;

THENCE South 85°26’51” West, coincident with the southern right-of-way boundary line of said 60 foot wide Liberty Road, a distance of 4.25 feet to the **POINT OF BEGINNING** of the herein described 1.0419 acre tract, at position X=3136755.73 and Y=13852340.66;

THENCE South 14°40'24" West, a distance of 8.50 feet to an angle corner of the herein described 1.0419 acre tract, at position X=3136753.58 and Y=13852332.43;

THENCE South 29°23'15" West, a distance of 6.33 feet to an angle corner of the herein described 1.0419 acre tract, at position X=3136750.47 and Y=13852326.92;

THENCE South 54°11'53" West, a distance of 46.80 feet to an angle corner of the herein described 1.0419 acre tract, at position X=3136712.51 and Y=13852299.54;

THENCE North 32°51'31" West, a distance of 8.76 feet to an angle corner of the herein described 1.0419 acre tract, at position X=3136707.76 and Y=13852306.90;

THENCE South 60°39'24" West, a distance of 10.96 feet to an angle corner of the herein described 1.0419 acre tract, at position X=3136698.21 and Y=13852301.53;

THENCE South 51°04'35" West, a distance of 58.69 feet to an angle corner of the herein described 1.0419 acre tract, at position X=3136652.56 and Y=13852264.66;

THENCE South 61°56'31" West, a distance of 613.96 feet to an angle corner of the herein described 1.0419 acre tract, at position X=3136110.82 and Y=13851975.91;

THENCE South 62°54'22" West, a distance of 142.13 feet to an angle corner of the herein described 1.0419 acre tract, at position X=3135984.30 and Y=13851911.18;

THENCE South 61°55'12" West, a distance of 479.21 feet to an angle corner of the herein described 1.0419 acre tract, at position X=3135561.54 and Y=13851685.64;

THENCE South 67°03'52" West, a distance of 24.28 feet to an angle corner of the herein described 1.0419 acre tract, at position X=3135539.18 and Y=13851676.18;

THENCE South 58°32'12" West, a distance of 17.21 feet to an angle corner of the herein described 1.0419 acre tract, at position X=3135524.50 and Y=13851667.19;

UNION PACIFIC RAILROAD COMPANY
ASPHALT ROAD CAP AREA – 1.0419 ACRE TRACT
HARRIS AND WILSON 2 LEAGUE GRANT, ABSTRACT 32
HARRIS COUNTY, TEXAS

THENCE South 61°37'54" West, a distance of 105.67 feet to an angle corner of the herein described 1.0419 acre tract, at position X=3135431.52 and Y=13851616.99;

THENCE South 62°29'25" West, a distance of 287.83 feet to an angle corner of the herein described 1.0419 acre tract, at position X=3135176.27 and Y=13851484.05;

THENCE South 65°35'29" West, a distance of 35.19 feet to an angle corner of the herein described 1.0419 acre tract, at position X=3135144.23 and Y=13851469.52;

THENCE South 61°31'56" West, a distance of 590.15 feet to an angle corner of the herein described 1.0419 acre tract, at position X=3134625.49 and Y=13851188.24;

THENCE South 61°59'05" West, a distance of 181.71 feet to an angle corner of the herein described 1.0419 acre tract, at position X=3134465.09 and Y=13851102.89;

THENCE South 61°22'47" West, a distance of 29.30 feet to an angle corner of the herein described 1.0419 acre tract, at position X=3134439.37 and Y=13851088.86;

THENCE South 65°38'37" West, a distance of 16.53 feet to an angle corner of the herein described 1.0419 acre tract, at position X=3134424.32 and Y=13851082.05;

THENCE South 72°24'44" West, a distance of 27.78 feet to an angle corner of the herein described 1.0419 acre tract, at position X=3134397.83 and Y=13851073.65;

THENCE South 68°04'30" West, a distance of 30.51 feet to an angle corner of the herein described 1.0419 acre tract, at position X=3134369.53 and Y=13851062.26;

THENCE South 59°48'14" West, a distance of 92.27 feet to an angle corner of the herein described 1.0419 acre tract, at position X=3134289.80 and Y=13851015.86;

THENCE North 29°33'31" West, a distance of 15.17 feet to an angle corner of the herein described 1.0419 acre tract, at position X=3134282.31 and Y=13851029.05;

THENCE North 59°48'53" East, a distance of 95.54 feet to an angle corner of the herein described 1.0419 acre tract, at position X=3134364.89 and Y=13851077.09;

THENCE North 70°15'38" East, a distance of 60.14 feet to an angle corner of the herein described 1.0419 acre tract, at position X=3134421.50 and Y=13851097.40;

THENCE North 62°07'21" East, a distance of 210.22 feet to an angle corner of the herein described 1.0419 acre tract, at position X=3134607.30 and Y=13851195.68;

THENCE North 61°12'15" East, a distance of 209.88 feet to an angle corner of the herein described 1.0419 acre tract, at position X=3134791.20 and Y=13851296.77;

THENCE North 62°09'00" East, a distance of 149.93 feet to an angle corner of the herein described 1.0419 acre tract, at position X=3134923.75 and Y=13851366.80;

THENCE North 61°23'02" East, a distance of 240.32 feet to an angle corner of the herein described 1.0419 acre tract, at position X=3135134.70 and Y=13851481.89;

THENCE North 62°36'22" East, a distance of 150.43 feet to an angle corner of the herein described 1.0419 acre tract, at position X=3135268.25 and Y=13851551.09;

THENCE North 64°52'14" East, a distance of 30.22 feet to an angle corner of the herein described 1.0419 acre tract, at position X=3135295.60 and Y=13851563.93;

UNION PACIFIC RAILROAD COMPANY
ASPHALT ROAD CAP AREA – 1.0419 ACRE TRACT
HARRIS AND WILSON 2 LEAGUE GRANT, ABSTRACT 32
HARRIS COUNTY, TEXAS

THENCE North 62°05'30" East, a distance of 1064.63 feet to an angle corner of the herein described 1.0419 acre tract, at position X=3136236.31 and Y=13852062.18;

THENCE North 62°08'24" East, a distance of 457.12 feet to an angle corner of the herein described 1.0419 acre tract, at position X=3136640.40 and Y=13852275.77;

THENCE North 58°08'18" East, a distance of 30.97 feet to an angle corner of the herein described 1.0419 acre tract, at position X=3136666.69 and Y=13852292.11;

THENCE North 50°42'05" East, a distance of 76.01 feet to an angle corner of the herein described 1.0419 acre tract, at position X=3136725.51 and Y=13852340.25;

THENCE North 35°17'11" East, a distance of 9.87 feet to an angle corner of the herein described 1.0419 acre tract, at position X=3136731.21 and Y=13852348.31;

THENCE North 13°31'05" East, a distance of 3.91 feet to an angle corner of the herein described 1.0419 acre tract, at position X=3136732.13 and Y=13852352.11;

THENCE North 76°25'52" East, a distance of 23.65 feet to an angle corner of the herein described 1.0419 acre tract, at position X=3136755.11 and Y=13852357.66;

THENCE South 6°43'41" East, a distance of 13.45 feet to an angle corner of the herein described 1.0419 acre tract, at position X=3136756.69 and Y=13852344.30;

THENCE South 14°40'24" West, a distance of 3.77 feet to the **POINT OF BEGINNING**, containing 1.0419 acre of land, more or less.

Wm. Patrick Doyle
Registered Professional Land Surveyor
Texas Registration Number 4467
June 23, 2016

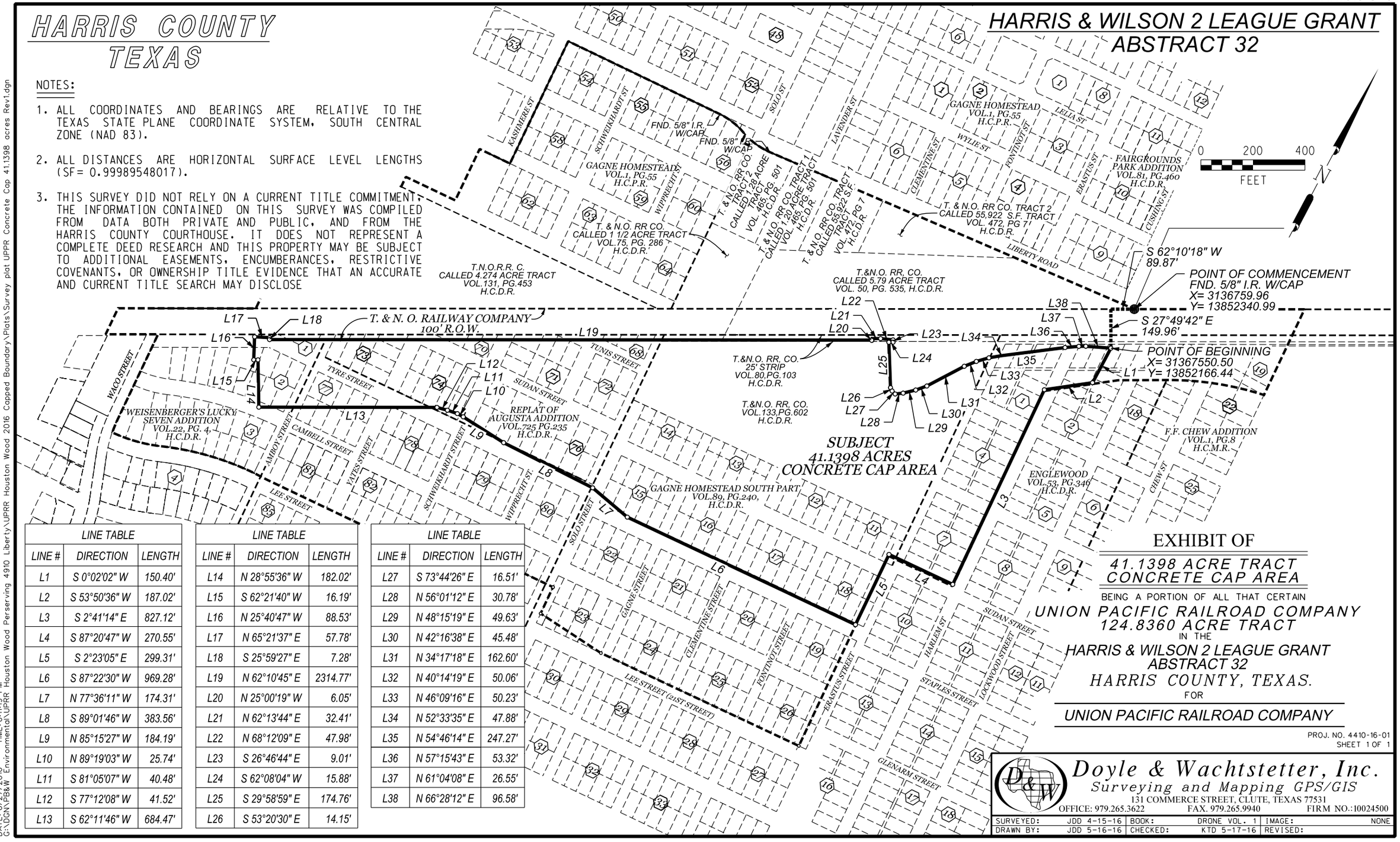
This description is based on a plat, dated June 23, 2016 is on file in the office of Doyle & Wachtstetter, Inc.
V:\Pat\Pastor Behling & Wheeler\UPPR Liberty Road Asphalt Road tract 1.0419 acres Rev1.doc

HARRIS COUNTY TEXAS

HARRIS & WILSON 2 LEAGUE GRANT ABSTRACT 32

NOTES:

1. ALL COORDINATES AND BEARINGS ARE RELATIVE TO THE TEXAS STATE PLANE COORDINATE SYSTEM, SOUTH CENTRAL ZONE (NAD 83).
2. ALL DISTANCES ARE HORIZONTAL SURFACE LEVEL LENGTHS (SF= 0.99989548017).
3. THIS SURVEY DID NOT RELY ON A CURRENT TITLE COMMITMENT. THE INFORMATION CONTAINED ON THIS SURVEY WAS COMPILED FROM DATA BOTH PRIVATE AND PUBLIC, AND FROM THE HARRIS COUNTY COURTHOUSE. IT DOES NOT REPRESENT A COMPLETE DEED RESEARCH AND THIS PROPERTY MAY BE SUBJECT TO ADDITIONAL EASEMENTS, ENCUMBERANCES, RESTRICTIVE COVENANTS, OR OWNERSHIP TITLE EVIDENCE THAT AN ACCURATE AND CURRENT TITLE SEARCH MAY DISCLOSE



LINE TABLE		
LINE #	DIRECTION	LENGTH
L1	S 0°02'02" W	150.40'
L2	S 53°50'36" W	187.02'
L3	S 2°41'14" E	827.12'
L4	S 87°20'47" W	270.55'
L5	S 2°23'05" E	299.31'
L6	S 87°22'30" W	969.28'
L7	N 77°36'11" W	174.31'
L8	S 89°01'46" W	383.56'
L9	N 85°15'27" W	184.19'
L10	N 89°19'03" W	25.74'
L11	S 81°05'07" W	40.48'
L12	S 77°12'08" W	41.52'
L13	S 62°11'46" W	684.47'

LINE TABLE		
LINE #	DIRECTION	LENGTH
L14	N 28°55'36" W	182.02'
L15	S 62°21'40" W	16.19'
L16	N 25°40'47" W	88.53'
L17	N 65°21'37" E	57.78'
L18	S 25°59'27" E	7.28'
L19	N 62°10'45" E	2314.77'
L20	N 25°00'19" W	6.05'
L21	N 62°13'44" E	32.41'
L22	N 68°12'09" E	47.98'
L23	S 26°46'44" E	9.01'
L24	S 62°08'04" W	15.88'
L25	S 29°58'59" E	174.76'
L26	S 53°20'30" E	14.15'

LINE TABLE		
LINE #	DIRECTION	LENGTH
L27	S 73°44'26" E	16.51'
L28	N 56°01'12" E	30.78'
L29	N 48°15'19" E	49.63'
L30	N 42°16'38" E	45.48'
L31	N 34°17'18" E	162.60'
L32	N 40°14'19" E	50.06'
L33	N 46°09'16" E	50.23'
L34	N 52°33'35" E	47.88'
L35	N 54°46'14" E	247.27'
L36	N 57°15'43" E	53.32'
L37	N 61°04'08" E	26.55'
L38	N 66°28'12" E	96.58'

EXHIBIT OF

41.1398 ACRE TRACT CONCRETE CAP AREA

BEING A PORTION OF ALL THAT CERTAIN

UNION PACIFIC RAILROAD COMPANY 124.8360 ACRE TRACT

IN THE

HARRIS & WILSON 2 LEAGUE GRANT ABSTRACT 32

HARRIS COUNTY, TEXAS.

FOR

UNION PACIFIC RAILROAD COMPANY

PROJ. NO. 4410-16-01
SHEET 1 OF 1

Doyle & Wachtstetter, Inc.
Surveying and Mapping GPS/GIS
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Doyle & Wachtstetter, Inc
Surveying and Mapping • GPS/GIS

UNION PACIFIC RAILROAD COMPANY
CONCRETE CAP AREA – 41.1398 ACRE TRACT
HARRIS AND WILSON 2 LEAGUE GRANT, ABSTRACT 32
HARRIS COUNTY, TEXAS
PAGE 1 OF 3

BEING ALL THAT CERTAIN 41.1398 acre tract of land, lying and situated in the Harris and Wilson 2 League Grant, Abstract 32, Harris County Texas, being a portion of that certain 25 foot wide strip conveyed by deed recorded on January 2, 1895 from Clementine Gagne, et al to Texas and New Orleans Railroad Company, as recorded in Volume 80, Page 103 of the Harris County Deed Records (H.C.D.R.), a portion of all that certain tract of land conveyed by deed recorded on March 12, 1902 from H. M. Curtin to Texas and New Orleans Railroad Company, as recorded in Volume 133, Page 602 of the H.C.D.R., a portion of Lots 1 through 4 and all of Lots 5 through 10, Block 1, a portion of Lots 1, 2 and 3 and a portion of Lot 15 and 16 through 4, Block 2, all of Lots 1 through 6 and a portion of Lots 7 through 12, Block 4, all of Lots 1 through 6 and a portion of Lots 7 through 12, Block 7, a portion of Eratus Street and a portion of 50 foot wide Harlem Street (Baer Avenue) as shown on the map of Englewood Subdivision, according to the map or plat recorded in Volume 53, Page 346 of the H.C.D.R., all of Lots 1 through 4 and Lots 7 through 10, and a portion of Lots 5 and 6, Block 11, all of Lots 1 through 10, Block 12, all of Lots 1 through 10, Block 13, all of Lots 1 through 10, Block 14, all of Lots 1 through 8 and a portion of Lot 9 and 10, Block 15, all of Lots 1 through 10, Block 16, all of Lots 1 through 10, Block 17, all of Lots 1 through 4 and 7 through 10 and a portion of Lots 5 and 6, Block 18, all of 60 foot wide 16th Street, all of 60 foot wide 17th Street, all of 60 foot wide 18th Street, a portion of 60 foot wide 19th Street, a portion of 40 foot wide Solo Street (Joseph Street), a portion of 40 foot wide Gagne Street, a portion of 40 foot wide Clementine Street, a portion of 40 foot wide Fontinot Street, as shown on the map of the South Part of the Gagne Homestead, according to the map or plat recorded in Volume 89, Page 240 of the H.C.D.R., a portion of Lots 1 through 3, Block 68, a portion of Lots 1 through 3, Block 70, a portion of Lots 1, 4, and 5, all of Lots 2 and 3, all of Lots 6, 7 and 8, Block 71, all of Lots 1 through 6 Lot 72, a portion of Lots 1 through 5 and all of Lot 6 and 7, Block 73, a portion of Lots 6, 7 and 8, all of Lots 1 through 5 and all of Lots 9 and 10, Block 74, all of Lots 1 through 7 and a portion of Lots 8, 9 and 10, Block 75, all of Lots 1 through 6, Block 76, a portion of 60 foot wide Tunis Street (17th Street), a portion of 60 foot wide Sudan Street (18th Street), all of 60 foot wide Tyre Street (19th Street), a portion of Amboy Street (Dan Street), a portion of 60 foot wide Yates Street (Elmer Street), a portion of 60 foot wide Schweikhart Street, a portion of 60 foot wide Wipprecht Street, and a portion of Solo Street (Gus Street) as shown on the map of the Subdivision of Blocks 68, 70, 71, 72, 73, 74, 75, 76 Augusta Addition, according to the map or plat recorded in Volume 725, Page 235 of the H.C.D.R., a portion of Lots 3, 4 and 5, a portion of Lots 8, 9 and 10, all of Lots 1 and 2, Block 77, a portion of Lot 1, Block 78, a portion of 60 foot wide Tyre Street, a portion of Amboy Street (Dan Street), a portion of 60 foot wide Yates Street (Elmer Street), f as shown on the map of Augusta Division, as recorded in Volume 56, Page 139 of the H.C.D.R., a portion of Block 1, a portion of Lots 8, 9, 10, 13 and 14, all of Lots 11 and 12, Block 2, a portion of 50 foot – 60 foot wide Tyre Street and a portion of 60 foot wide Campbell Street, as shown on the map of Weisenberger's Lucky Seven Addition, according to the map or plat recorded in Volume 22, Page 4 of the H.C.D.R., the herein described 41.1398 acre tract land hereby conveyed being more particularly described by metes and bounds, using survey terminology which refers to the Texas State Plane Coordinate System, South Central Zone (NAD83), in which the directions are Lambert grid bearings and the distances are surface level horizontal lengths (S.F.= 0.99989548017) as follows:

COMMENCING at 5/8" iron rod found marking the intersection of the southern right-of-way boundary line of said 60 foot wide Liberty Road with the northwestern right-of-way boundary line of the 100 foot wide Texas and New Orleans Rail Road Company right-of-way, same being on the southeastern boundary line of all that certain called 5.79 acre tract of land conveyed by deed recorded on July 24, 1890 from R. B. Baer to Texas & New Orleans Railroad Company as recorded in Volume 50, Page 535 of the H.C.D.R.; said Point of Commencement being located at Texas State Plane coordinate X=3136759.96 and Y=13852340.99;

THENCE South 62°10'18" West, coincident northern boundary line of said 100 foot wide Texas and New Orleans Rail Road Company right-of-way, same being the southern boundary line of said Texas and New Orleans Rail Road Company called 5.79 acre, a distance of 89.87 to an angle point at position X=3136680.50 and Y=13852299.04;

THENCE South 27°49'42" East, a distance of 149.96 feet to the North corner and the **POINT OF BEGINNING,** of the herein described 41.1398 acre tract, at position X=3136750.50 and Y=13852166.44

THENCE South 0°02'02" West, a distance of 150.40 feet to an angle corner of the herein described 41.1398 acre tract, at position X=3136750.41 and Y=13852016.05;

UNION PACIFIC RAILROAD COMPANY
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THENCE South 53°50'36" West, a distance of 187.02 feet to an angle corner of the herein described 41.1398 acre tract, at position X=3136599.42 and Y=13851905.72;

THENCE South 2°41'14" East, a distance of 827.12 feet to an angle corner of the herein described 41.1398 acre tract, at position X=3136638.20 and Y=13851079.60;

THENCE South 87°20'47" West, a distance of 270.55 feet to an angle corner of the herein described 41.1398 acre tract, at position X=3136367.96 and Y=13851067.08;

THENCE South 2°23'05" East, a distance of 299.31 feet to an angle corner of the herein described 41.1398 acre tract, at position X=3136380.41 and Y=13850768.06;

THENCE South 87°22'30" West, a distance of 969.28 feet to an angle corner of the herein described 41.1398 acre tract, at position X=3135412.26 and Y=13850723.67;

THENCE North 77°36'11" West, a distance of 174.31 feet to an angle corner of the herein described 41.1398 acre tract, at position X=3135242.03 and Y=13850761.09;

THENCE South 89°01'46" West, a distance of 383.56 feet to an angle corner of the herein described 41.1398 acre tract, at position X=3134858.57 and Y=13850754.59;

THENCE North 85°15'27" West, a distance of 184.19 feet to an angle corner of the herein described 41.1398 acre tract, at position X=3134675.03 and Y=13850769.82;

THENCE North 89°19'03" West, a distance of 25.74 feet to an angle corner of the herein described 41.1398 acre tract, at position X=3134649.30 and Y=13850770.13;

THENCE South 81°05'07" West, a distance of 40.48 feet to an angle corner of the herein described 41.1398 acre tract, at position X=3134609.31 and Y=13850763.85;

THENCE South 77°12'08" West, a distance of 41.52 feet to an angle corner of the herein described 41.1398 acre tract, at position X=3134568.82 and Y=13850754.66;

THENCE South 62°11'46" West, a distance of 684.47 feet to an angle corner of the herein described 41.1398 acre tract, at position X=3133963.44 and Y=13850435.42;

THENCE North 28°55'36" West, a distance of 182.02 feet to an angle corner of the herein described 41.1398 acre tract, at position X=3133875.41 and Y=13850594.72;

THENCE South 62°21'40" West, a distance of 16.19 feet to an angle corner of the herein described 41.1398 acre tract, at position X=3133861.07 and Y=13850587.21;

THENCE North 25°40'47" West, a distance of 88.53 feet to an angle corner of the herein described 41.1398 acre tract, at position X=3133822.71 and Y=13850666.99;

THENCE North 65°21'37" East, a distance of 57.78 feet to an angle corner of the herein described 41.1398 acre tract, at position X=3133875.22 and Y=13850691.08;

THENCE South 25°59'27" East, a distance of 7.28 feet to an angle corner of the herein described 41.1398 acre tract, at position X=3133878.41 and Y=13850684.53;

THENCE North 62°10'45" East, a distance of 2314.77 feet to an angle corner of the herein described 41.1398 acre tract, at position X=3135925.40 and Y=13851764.75;

THENCE North 25°00'19" West, a distance of 6.05 feet to an angle corner of the herein described 41.1398 acre tract, at position X=3135922.84 and Y=13851770.23;

THENCE North 62°13'44" East, a distance of 32.41 feet to an angle corner of the herein described 41.1398 acre tract, at position X=3135951.51 and Y=13851785.32;

THENCE North 68°12'09" East, a distance of 47.98 feet to an angle corner of the herein described 41.1398 acre tract, at position X=3135996.06 and Y=13851803.14;

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THENCE South 26°46'44" East, a distance of 9.01 feet to an angle corner of the herein described 41.1398 acre tract, at position X=3136000.12 and Y=13851795.10;

THENCE South 62°08'04" West, a distance of 15.88 feet to an angle corner of the herein described 41.1398 acre tract, at position X=3135986.08 and Y=13851787.68;

THENCE South 29°58'59" East, a distance of 174.76 feet to an angle corner of the herein described 41.1398 acre tract, at position X=3136073.41 and Y=13851636.32;

THENCE South 53°20'30" East, a distance of 14.15 feet to an angle corner of the herein described 41.1398 acre tract, at position X=3136084.76 and Y=13851627.87;

THENCE South 73°44'26" East, a distance of 16.51 feet to an angle corner of the herein described 41.1398 acre tract, at position X=3136100.60 and Y=13851623.25;

THENCE North 56°01'12" East, a distance of 30.78 feet to an angle corner of the herein described 41.1398 acre tract, at position X=3136126.12 and Y=13851640.45;

THENCE North 48°15'19" East, a distance of 49.63 feet to an angle corner of the herein described 41.1398 acre tract, at position X=3136163.15 and Y=13851673.50;

THENCE North 42°16'38" East, a distance of 45.48 feet to an angle corner of the herein described 41.1398 acre tract, at position X=3136193.74 and Y=13851707.15;

THENCE North 34°17'18" East, a distance of 162.60 feet to an angle corner of the herein described 41.1398 acre tract, at position X=3136285.34 and Y=13851841.47;

THENCE North 40°14'19" East, a distance of 50.06 feet to an angle corner of the herein described 41.1398 acre tract, at position X=3136317.67 and Y=13851879.68;

THENCE North 46°09'16" East, a distance of 50.23 feet to an angle corner of the herein described 41.1398 acre tract, at position X=3136353.89 and Y=13851914.48;

THENCE North 52°33'35" East, a distance of 47.88 feet to an angle corner of the herein described 41.1398 acre tract, at position X=3136391.91 and Y=13851943.58;

THENCE North 54°46'14" East, a distance of 247.27 feet to an angle corner of the herein described 41.1398 acre tract, at position X=3136593.87 and Y=13852086.21;

THENCE North 57°15'43" East, a distance of 53.32 feet to an angle corner of the herein described 41.1398 acre tract, at position X=3136638.72 and Y=13852115.04;

THENCE North 61°04'08" East, a distance of 26.55 feet to an angle corner of the herein described 41.1398 acre tract, at position X=3136661.95 and Y=13852127.88;

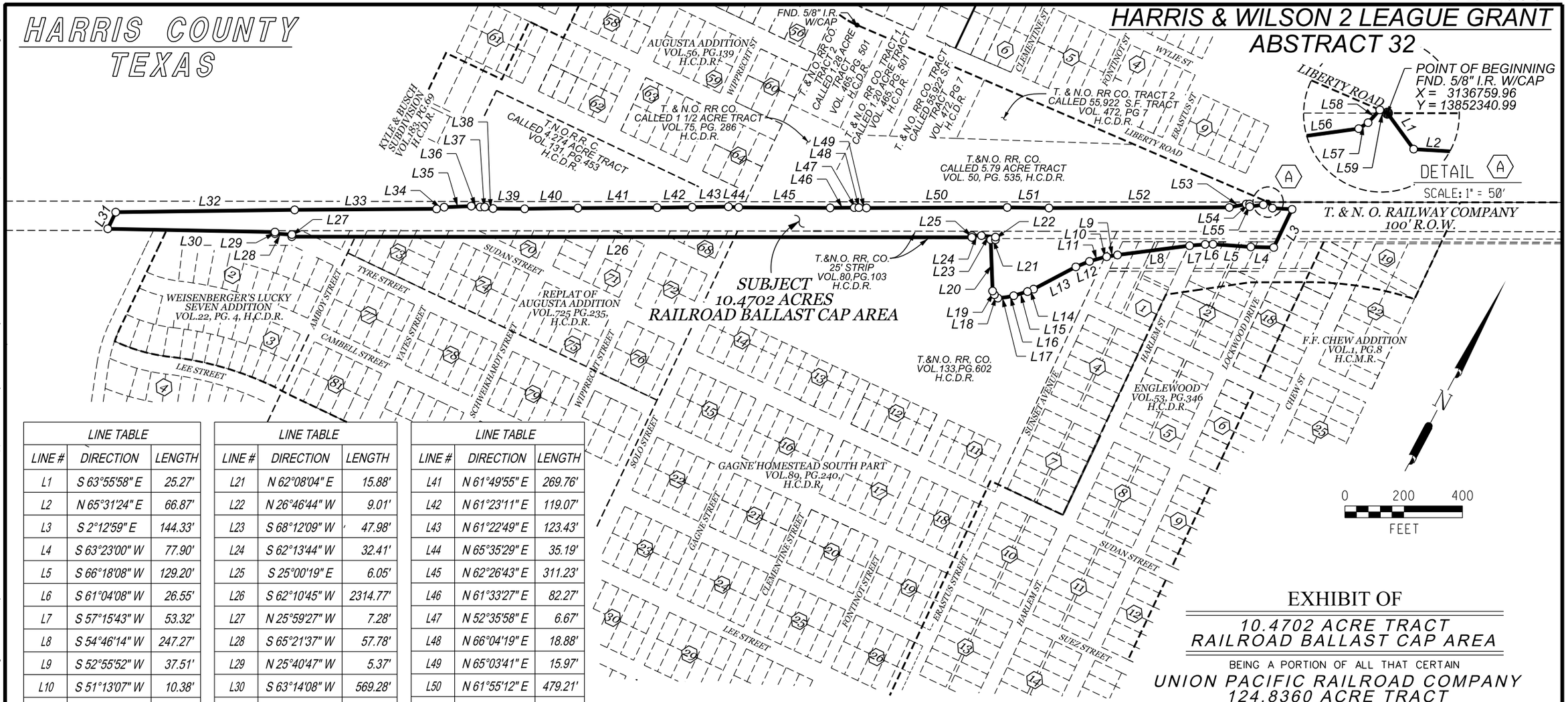
THENCE North 66°28'12" East, a distance of 96.58 feet to the **POINT OF BEGINNING,** containing 41.1398 acres of land, more or less.

Wm. Patrick Doyle
Registered Professional Land Surveyor
Texas Registration Number 4467
June 23, 2016

This description is based on a plat, dated June 23, 2016 is on file in the office of Doyle & Wachtstetter, Inc.
V:\Pat\Pastor Behling & Wheeler\UPPR Liberty Road Concrete Cap 41.1398 acres Rev1.doc

HARRIS COUNTY TEXAS

HARRIS & WILSON 2 LEAGUE GRANT ABSTRACT 32



LINE TABLE		
LINE #	DIRECTION	LENGTH
L1	S 63°55'58" E	25.27'
L2	N 65°31'24" E	66.87'
L3	S 2°12'59" E	144.33'
L4	S 63°23'00" W	77.90'
L5	S 66°18'08" W	129.20'
L6	S 61°04'08" W	26.55'
L7	S 57°15'43" W	53.32'
L8	S 54°46'14" W	247.27'
L9	S 52°55'52" W	37.51'
L10	S 51°13'07" W	10.38'
L11	S 46°09'16" W	50.23'
L12	S 40°14'19" W	50.06'
L13	S 34°17'18" W	162.60'
L14	S 40°06'28" W	22.40'
L15	S 45°29'36" W	48.88'
L16	S 50°09'24" W	23.89'
L17	S 56°01'12" W	30.78'
L18	N 73°44'26" W	16.51'
L19	N 53°20'30" W	14.15'
L20	N 29°58'59" W	174.76'

LINE TABLE		
LINE #	DIRECTION	LENGTH
L21	N 62°08'04" E	15.88'
L22	N 26°46'44" W	9.01'
L23	S 68°12'09" W	47.98'
L24	S 62°13'44" W	32.41'
L25	S 25°00'19" E	6.05'
L26	S 62°10'45" W	2314.77'
L27	N 25°59'27" W	7.28'
L28	S 65°21'37" W	57.78'
L29	N 25°40'47" W	5.37'
L30	S 63°14'08" W	569.28'
L31	N 02°27'12" W	62.75'
L32	N 61°23'11" E	609.08'
L33	N 61°44'19" E	483.24'
L34	N 49°23'57" E	26.50'
L35	N 59°48'14" E	92.27'
L36	N 68°04'30" E	30.51'
L37	N 72°24'44" E	27.78'
L38	N 62°42'50" E	16.52'
L39	N 62°36'31" E	107.46'
L40	N 61°20'35" E	181.43'

LINE TABLE		
LINE #	DIRECTION	LENGTH
L41	N 61°49'55" E	269.76'
L42	N 61°23'11" E	119.07'
L43	N 61°22'49" E	123.43'
L44	N 65°35'29" E	35.19'
L45	N 62°26'43" E	311.23'
L46	N 61°33'27" E	82.27'
L47	N 52°35'58" E	6.67'
L48	N 66°04'19" E	18.88'
L49	N 65°03'41" E	15.97'
L50	N 61°55'12" E	479.21'
L51	N 62°54'22" E	142.13'
L52	N 61°56'31" E	613.96'
L53	N 51°04'35" E	58.69'
L54	N 60°39'24" E	10.96'
L55	S 32°51'31" E	8.76'
L56	N 54°11'53" E	46.80'
L57	N 29°23'15" E	6.33'
L58	N 14°40'24" E	9.82'
L59	N 85°26'51" E	4.71'

NOTES:

1. ALL COORDINATES AND BEARINGS ARE RELATIVE TO THE TEXAS STATE PLANE COORDINATE SYSTEM, SOUTH CENTRAL ZONE (NAD 83).
2. ALL DISTANCES ARE HORIZONTAL SURFACE LEVEL LENGTHS (SF= 0.99989548017).
3. THIS SURVEY DID NOT RELY ON A CURRENT TITLE COMMITMENT THE INFORMATION CONTAINED ON THIS SURVEY WAS COMPILED FROM DATA BOTH PRIVATE AND PUBLIC, AND FROM THE HARRIS COUNTY COURTHOUSE. IT DOES NOT REPRESENT A COMPLETE DEED RESEARCH AND THIS PROPERTY MAY BE SUBJECT TO ADDITIONAL EASEMENTS, ENCUMBERANCES, RESTRICTIVE COVENANTS, OR OWNERSHIP TITLE EVIDENCE THAT AN ACCURATE AND CURRENT TITLE SEARCH MAY DISCLOSE.

EXHIBIT OF

10.4702 ACRE TRACT
RAILROAD BALLAST CAP AREA

BEING A PORTION OF ALL THAT CERTAIN

UNION PACIFIC RAILROAD COMPANY
124.8360 ACRE TRACT

IN THE

HARRIS & WILSON 2 LEAGUE GRANT
ABSTRACT 32
HARRIS COUNTY, TEXAS.

FOR

UNION PACIFIC RAILROAD COMPANY

PROJ. NO. 4410-16-01
SHEET 1 OF 1

Doyle & Wachtstetter, Inc.
Surveying and Mapping GPS/GIS
131 COMMERCE STREET, CLUTE, TEXAS 77531
OFFICE: 979.265.3622 FAX. 979.265.9940 FIRM NO.:10024500

SURVEYED:	JDD 4-15-16	BOOK:	DRONE VOL. 1	IMAGE:	NONE
DRAWN BY:	JDD 5-16-16	CHECKED:	KTD 5-17-16	REVISED:	

Doyle & Wachtstetter, Inc
Surveying and Mapping • GPS/GIS

UNION PACIFIC RAILROAD COMPANY
RAILROAD BALLAST CAP AREA – 10.4702 ACRE TRACT
HARRIS AND WILSON 2 LEAGUE GRANT, ABSTRACT 32
HARRIS COUNTY, TEXAS
PAGE 1 OF 4

BEING ALL THAT CERTAIN 10.4702 acre tract of land, lying and situated in the Harris and Wilson 2 League Grant, Abstract 32, Harris County Texas, being located within the Texas and New Orleans 100 foot wide railroad right-of-way, being a portion of that certain 25 foot wide strip conveyed by deed recorded on January 2, 1895 from Clementine Gagne, et al to Texas and New Orleans Railroad Company, as recorded in Volume 80, Page 103 of the Harris County Deed Records (H.C.D.R.), a portion of all that certain tract of land conveyed by deed recorded on March 12, 1902 from H. M. Curtin to Texas and New Orleans Railroad Company, as recorded in Volume 133, Page 602 of the H.C.D.R., a portion of Lots 1 through 4, Block 1, a portion of Lots 1 through 4, Block 2, a portion of Sunset Avenue, a portion of 50 foot wide Harlem Street (Baer Avenue), and a portion of 50 foot wide Lockwood Drive, as shown on the map of Englewood Subdivision, according to the map or plat recorded in Volume 53, Page 346 of the H.C.D.R.; a portion of Lots 1 through 3, Block 68, a portion of Lots 1 through 3, Block 70, a portion of Lots 1 and 5, Block 71, a portion of Lots 1 through 5, Block 73, a portion of 60 foot wide Tunis Street (17th Street), a portion of 60 foot wide Sudan Street (18th Street), all of 60 foot wide Tyre Street (19th Street), a portion of Amboy Street (Dan Street), a portion of 60 foot wide Yates Street (Elmer Street), a portion of 60 foot wide Schweikhart Street, a portion of 60 foot wide Wipprecht Street, and a portion of Solo Street (Gus Street) as shown on the map of the Subdivision of Blocks 68, 70, 71, 72, 73, 74, 75, 76 Augusta Addition, according to the map or plat recorded in Volume 725, Page 235 of the H.C.D.R., all of Block 1 and a portion of Tyre Street, as shown on the map of Weisenberger's Lucky Seven Addition, according to the map or plat recorded in Volume 22, Page 4 of the H.C.D.R., the herein described 10.4702 acre tract land hereby conveyed being more particularly described by metes and bounds, using survey terminology which refers to the Texas State Plane Coordinate System, South Central Zone (NAD83), in which the directions are Lambert grid bearings and the distances are surface level horizontal lengths (S.F.= 0.99989548017) as follows:

BEGINNING at 5/8" iron rod found marking the intersection of the southern right-of-way boundary line of said 60 foot wide Liberty Road with the northwestern right-of-way boundary line of the 100 foot wide Texas and New Orleans Rail Road Company right-of-way, same being the southeastern boundary line of said Texas and New Orleans Rail Road Company called 5.79 acre tract, said Point of Beginning being located at Texas State Plane coordinate position X=3136759.96 and Y=13852340.99**;**

THENCE South 63°55'58" East, a distance of 25.27 feet to an angle corner of the herein described 10.4702 acre tract, at position X=3136782.66 and Y=13852329.89;

THENCE North 65°31'24" East, a distance of 66.87 feet to an angle corner of the herein described 10.4702 acre tract, at position X=3136843.51 and Y=13852357.59;

THENCE South 2°12'59" East, a distance of 144.33 feet to an angle corner of the herein described 10.4702 acre tract, at position X=3136849.09 and Y=13852213.39;

THENCE South 63°23'00" West, a distance of 77.90 feet to an angle corner of the herein described 10.4702 acre tract, at position X=3136779.46 and Y=13852178.49;

THENCE South 66°18'08" West, a distance of 129.20 feet to an angle corner of the herein described 10.4702 acre tract, at position X=3136661.16 and Y=13852126.57;

THENCE South 61°04'08" West, a distance of 26.55 feet to an angle corner of the herein described 10.4702 acre tract, at position X=3136637.92 and Y=13852113.72;

THENCE South 57°15'43" West, a distance of 53.32 feet to an angle corner of the herein described 10.4702 acre tract, at position X=3136593.08 and Y=13852084.89;

THENCE South 54°46'14" West, a distance of 247.27 feet to an angle corner of the herein described 10.4702 acre tract, at position X=3136391.12 and Y=13851942.27;

THENCE South 52°55'52" West, a distance of 37.51 feet to an angle corner of the herein described 10.4702 acre tract, at position X=3136361.19 and Y=13851919.66;

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RAILROAD BALLAST CAP AREA – 10.4702 ACRE TRACT
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THENCE South 51°13'07" West, a distance of 10.38 feet to an angle corner of the herein described 10.4702 acre tract, at position X=3136353.10 and Y=13851913.16;

THENCE South 46°09'16" West, a distance of 50.23 feet to an angle corner of the herein described 10.4702 acre tract, at position X=3136316.88 and Y=13851878.37;

THENCE South 40°14'19" West, a distance of 50.06 feet to an angle corner of the herein described 10.4702 acre tract, at position X=3136284.54 and Y=13851840.16;

THENCE South 34°17'18" West, a distance of 162.60 feet to an angle corner of the herein described 10.4702 acre tract, at position X=3136192.95 and Y=13851705.83;

THENCE South 40°06'28" West, a distance of 22.40 feet to an angle corner of the herein described 10.4702 acre tract, at position X=3136178.52 and Y=13851688.70;

THENCE South 45°29'36" West, a distance of 48.88 feet to an angle corner of the herein described 10.4702 acre tract, at position X=3136143.67 and Y=13851654.44;

THENCE South 50°09'24" West, a distance of 23.89 feet to an angle corner of the herein described 10.4702 acre tract, at position X=3136125.33 and Y=13851639.14;

THENCE South 56°01'12" West, a distance of 30.78 feet to an angle corner of the herein described 10.4702 acre tract, at position X=3136099.81 and Y=13851621.94;

THENCE North 73°44'26" West, a distance of 16.51 feet to an angle corner of the herein described 10.4702 acre tract, at position X=3136083.96 and Y=13851626.56;

THENCE North 53°20'30" West, a distance of 14.15 feet to an angle corner of the herein described 10.4702 acre tract, at position X=3136072.61 and Y=13851635.01;

THENCE North 29°58'59" West, a distance of 174.76 feet to an angle corner of the herein described 10.4702 acre tract, at position X=3135985.29 and Y=13851786.36;

THENCE North 62°08'04" East, a distance of 15.88 feet to an angle corner of the herein described 10.4702 acre tract, at position X=3135999.32 and Y=13851793.78;

THENCE North 26°46'44" West, a distance of 9.01 feet to an angle corner of the herein described 10.4702 acre tract, at position X=3135995.27 and Y=13851801.82;

THENCE South 68°12'09" West, a distance of 47.98 feet to an angle corner of the herein described 10.4702 acre tract, at position X=3135950.72 and Y=13851784.01;

THENCE South 62°13'44" West, a distance of 32.41 feet to an angle corner of the herein described 10.4702 acre tract, at position X=3135922.05 and Y=13851768.91;

THENCE South 25°00'19" East, a distance of 6.05 feet to an angle corner of the herein described 10.4702 acre tract, at position X=3135924.60 and Y=13851763.43;

THENCE South 62°10'45" West, a distance of 2314.77 feet to an angle corner of the herein described 10.4702 acre tract, at position X=3133877.61 and Y=13850683.22;

THENCE North 25°59'27" West, a distance of 7.28 feet to an angle corner of the herein described 10.4702 acre tract, at position X=3133874.42 and Y=13850689.76;

THENCE South 65°21'37" West, a distance of 57.78 feet to an angle corner of the herein described 10.4702 acre tract, at position X=3133821.91 and Y=13850665.67;

THENCE North 25°40'47" West, a distance of 5.37 feet to an angle corner of the herein described 10.4702 acre tract, at position X=3133819.59 and Y=13850670.51;

THENCE South 63°14'08" West, a distance of 569.28 feet to an angle corner of the herein described 10.4702 acre tract, at position X=3133311.35 and Y=13850414.18;

UNION PACIFIC RAILROAD COMPANY
RAILROAD BALLAST CAP AREA – 10.4702 ACRE TRACT
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THENCE North 2°27'12" West, a distance of 62.75 feet to an angle corner of the herein described 10.4702 acre tract, at position X=3133308.67 and Y=13850476.86;

THENCE North 61°23'11" East, a distance of 609.08 feet to an angle corner of the herein described 10.4702 acre tract, at position X=3133843.30 and Y=13850768.52;

THENCE North 61°44'19" East, a distance of 483.24 feet to an angle corner of the herein described 10.4702 acre tract, at position X=3134268.89 and Y=13850997.30;

THENCE North 49°23'57" East, a distance of 26.50 feet to an angle corner of the herein described 10.4702 acre tract, at position X=3134289.00 and Y=13851014.54;

THENCE North 59°48'14" East, a distance of 92.27 feet to an angle corner of the herein described 10.4702 acre tract, at position X=3134368.74 and Y=13851060.95;

THENCE North 68°04'30" East, a distance of 30.51 feet to an angle corner of the herein described 10.4702 acre tract, at position X=3134397.04 and Y=13851072.34;

THENCE North 72°24'44" East, a distance of 27.78 feet to an angle corner of the herein described 10.4702 acre tract, at position X=3134423.52 and Y=13851080.73;

THENCE North 62°42'50" East, a distance of 16.52 feet to an angle corner of the herein described 10.4702 acre tract, at position X=3134438.20 and Y=13851088.30;

THENCE North 62°36'31" East, a distance of 107.46 feet to an angle corner of the herein described 10.4702 acre tract, at position X=3134533.60 and Y=13851137.74;

THENCE North 61°20'35" East, a distance of 181.43 feet to an angle corner of the herein described 10.4702 acre tract, at position X=3134692.79 and Y=13851224.73;

THENCE North 61°49'55" East, a distance of 269.76 feet to an angle corner of the herein described 10.4702 acre tract, at position X=3134930.58 and Y=13851352.06;

THENCE North 61°23'11" East, a distance of 119.07 feet to an angle corner of the herein described 10.4702 acre tract, at position X=3135035.10 and Y=13851409.08;

THENCE North 61°22'49" East, a distance of 123.43 feet to an angle corner of the herein described 10.4702 acre tract, at position X=3135143.44 and Y=13851468.20;

THENCE North 65°35'29" East, a distance of 35.19 feet to an angle corner of the herein described 10.4702 acre tract, at position X=3135175.47 and Y=13851482.74;

THENCE North 62°26'43" East, a distance of 311.23 feet to an angle corner of the herein described 10.4702 acre tract, at position X=3135451.37 and Y=13851626.70;

THENCE North 61°33'27" East, a distance of 82.27 feet to an angle corner of the herein described 10.4702 acre tract, at position X=3135523.71 and Y=13851665.88;

THENCE North 52°35'58" East, a distance of 6.67 feet to an angle corner of the herein described 10.4702 acre tract, at position X=3135529.01 and Y=13851669.93;

THENCE North 66°04'19" East, a distance of 18.88 feet to an angle corner of the herein described 10.4702 acre tract, at position X=3135546.26 and Y=13851677.59;

THENCE North 65°03'41" East, a distance of 15.97 feet to an angle corner of the herein described 10.4702 acre tract, at position X=3135560.74 and Y=13851684.32;

THENCE North 61°55'12" East, a distance of 479.21 feet to an angle corner of the herein described 10.4702 acre tract, at position X=3135983.50 and Y=13851909.86;

THENCE North 62°54'22" East, a distance of 142.13 feet to an angle corner of the herein described 10.4702 acre tract, at position X=3136110.02 and Y=13851974.59;

UNION PACIFIC RAILROAD COMPANY
RAILROAD BALLAST CAP AREA – 10.4702 ACRE TRACT
HARRIS AND WILSON 2 LEAGUE GRANT, ABSTRACT 32
HARRIS COUNTY, TEXAS

THENCE North 61°56'31" East, a distance of 613.96 feet to an angle corner of the herein described 10.4702 acre tract, at position X=3136651.77 and Y=13852263.34;

THENCE North 51°04'35" East, a distance of 58.69 feet to an angle corner of the herein described 10.4702 acre tract, at position X=3136697.42 and Y=13852300.21;

THENCE North 60°39'24" East, a distance of 10.96 feet to an angle corner of the herein described 10.4702 acre tract, at position X=3136706.97 and Y=13852305.58;

THENCE South 32°51'31" East, a distance of 8.76 feet to an angle corner of the herein described 10.4702 acre tract, at position X=3136711.72 and Y=13852298.22;

THENCE North 54°11'53" East, a distance of 46.80 feet to an angle corner of the herein described 10.4702 acre tract, at position X=3136749.68 and Y=13852325.60;

THENCE North 29°23'15" East, a distance of 6.33 feet to an angle corner of the herein described 10.4702 acre tract, at position X=3136752.79 and Y=13852331.12;

THENCE North 14°40'24" East, a distance of 9.82 feet to an angle corner of the herein described 10.4702 acre tract, at position X=3136755.27 and Y=13852340.62;

THENCE North 85°26'51" East, a distance of 4.71 feet to the **POINT OF BEGINNING,** containing 10.4702 acres of land, more or less.

Wm. Patrick Doyle
Registered Professional Land Surveyor
Texas Registration Number 4467
June 23, 2016

This description is based on an exhibit, dated June 23, 2016 is on file in the office of Doyle & Wachtstetter, Inc.
V:\Pat\Pastor Behling & Wheeler\UPPR Liberty Railroad Ballast Cap 10.4702 acres Rev1.doc

EXHIBIT "D"

MAINTENANCE AND MONITORING OF THE PHYSICAL CONTROLS FOR SOIL

EXHIBIT "D"

MAINTENANCE AND MONITORING OF THE PHYSICAL CONTROLS FOR SURFACE/SUBSURFACE SOIL

The cap inspection and maintenance program will be developed to ensure the integrity of the cap and vegetative cover. The maintenance program will consist of the following:

I. Soil Cap Area - HWPW

VISUAL INSPECTIONS

Inspections will be performed on a quarterly basis and after all major storms. The inspections will focus on the following major issues:

1) Erosion of the cap (gullies, rills, or other erosional features on the cap surface or in drainages)
2) Sideslope sloughing (slippage)
3) Settling/subsidence
4) Vegetation deterioration
5) Damage from animals (i.e., rodents)
6) Groundwater monitoring equipment (wells) (semi-annual basis)

Locations where deficiencies are found shall be marked and repaired as soon as practicable.

MAINTAINING THE COVER AND VEGETATION

The cover and vegetation will be maintained by:

1) Preventing ponding
2) Maintaining design slopes and grades
3) Fertilizing, as necessary
4) Mowing, as necessary
5) Replanting, as necessary
6) Controlling animals (rodents, hogs) and insects

Routine repairs of the cover and maintenance of the slopes and grades will be performed to prevent ponding and drainage problems. Vegetation may require periodic application of fertilizer, mulch or seed. Vegetation will target pollinator seed mixes to attract pollinator species. Mowing will be performed as needed but less frequently than a grass covered cap and only periodically to promote the growth of desired vegetation and to block the growth of trees or shrubs which could penetrate the cover soil with their roots.

EROSION CONTROL

Maintenance of the drainage and diversion portions of the cap will be performed. Erosion of soil by water and/or wind will be repaired as soon as practicable.

II. Asphalt Road Cap – HWPW

VISUAL INSPECTIONS

Inspections will be performed on a quarterly basis. The inspections will focus on the following major issues:

1) Erosion of the asphalt roadway (potholes, exposed soils)
2) Settling/subsidence
3) Cracks in asphalt roadway

Locations where deficiencies are found shall be marked and repaired as soon as practicable.

MAINTAINING THE ASPHALT CAP

The asphalt cover will be maintained by:

1) Crack repair/sealing;
2) Pothole patching; and
3) Controlling vegetation.

III. Concrete Pavement – Englewood Intermodal Yard (On-Site)

VISUAL INSPECTIONS

Inspections will be performed on a quarterly basis. The inspections will focus on the following major issues:

1) Step separation in the concrete;
2) Settling/subsidence;
3) Cracks in the concrete; and
4) Openings in the pavement.

Locations where deficiencies are found shall be marked and repaired as soon as practicable.

MAINTAINING THE CONCRETE PAVEMENT

The concrete pavement will be maintained by:

1) Crack repair/sealing;
2) Replacing panels as needed; and
3) Controlling vegetation growing through cracks/along edges of sidewalk.

IV. Railroad Ballast Area – (HWPW/Englewood Intermodal Yard)

VISUAL INSPECTIONS

Inspections will be performed on a quarterly basis. The inspections will focus on the following major issues:

1) Ballast removed with exposed soil.

Locations where deficiencies are found shall be marked and repaired as soon as practicable.

MAINTAINING THE RAILROAD BALLAST

The railroad ballast will be maintained by:

1) Adding railroad ballast where areas of soil are exposed;
2) Controlling vegetation.

The ballast areas will be maintained in accordance with UPRR Engineering Standards for Roadbase Section for Wood Tie Track Construction (UPRR, 2006).

EXHIBIT "E"
LEGAL DESCRIPTION OF EXTENT OF PMZ AND NAPL AREAS

Exhibit E

HARRIS COUNTY TEXAS

HARRIS & WILSON 2 LEAGUE SURVEY ABSTRACT 32

N

0 150 300

1" = 300'

POINT OF COMMENCEMENT
FND. 5/8" I.R. W/CAP
X = 3134356.21
Y = 13852234.79

POINT OF BEGINNING
X = 3134376.46
Y = 13851758.56

POINT OF BEGINNING
FND. 5/8" I.R.W/CAP
X= 3136759.96
Y= 13852340.99

SUBJECT
3.8686 ACRE TRACT

SUBJECT
52.4295 ACRE TRACT

S 2°26'03" E 476.71'
N 30°35'22" E 257.68'
S 56°11'48" E 367.00'
N 30°35'22" E 149.86'
N 42°09'52" W 392.51'
S 29°37'41" W 503.41'
N 2°44'14" W 1500.71'
N 85°26'51" E 1523.61'
N 62°10'18" E 653.86'
S 2°35'12" E 364.63'
S 61°51'16" W 190.34'
S 53°51'57" W 288.79'
S 2°49'16" E 827.94'
S 87°28'24" W 273.42'
S 2°44'14" E 287.64'
S 87°18'14" W 1115.27'

R= 280.00'
L= 45.91'
Δ= 9°23'40"
CHORD =
S 89°51'19" E - 45.86'

R= 1179.28'
L= 375.93"
Δ= 18°15'53"
T= S 70°59'12" W - 374.34'

LIBERTY ROAD
LELIA STREET
WYLIE STREET
COURTNEY ST.
EDDIE ST.
16th STREET
QUITMAN ST.
SUDAN STREET
18th STREET
19th STREET
TYRE STREET
GRUMBACH STREET
DOWNING STREET
TUNIS STREET
STAPLES STREET
GLENARM STREET
LEE STREET (21ST STREET)

KASHMERE STREET
SCHWEIKHARDT STREET
WIPPRECHT STREET
SOLO STREET
LAVENDER STREET
CLEMENTINE STREET
FONTINOT STREET
ERASTUS STREET
HARLEM STREET
GAGNE ST.
YATES STREET
AMBOY STREET
CHEW STREET
SAM WILLIS STREET
LOCKWOOD DRIVE
CUSHING
LOCKWOOD
OLD LOCKWOOD

HARRIS COUNTY
CALLED 1800 S.F. TRACT
VOL.960, PG.357, H.C.D.R.

FND. 5/8"I.R. W/CAP
FND. 5/8" I.R. W/CAP
FND. 3/4" I.P.

LIBERTY ROAD ESTATES UNRECORDED

GAGNE HOMESTEAD SUBDIVISION
VOL. 1, PG. 55
H.C.P.R.

FAIRGROUND SUBDIVISION
VOL. 81, PG. 460
H.C.D.R.

AUGUSTA ADDITION
VOL.56, PG.139
H.C.D.R.

REPLAT OF AUGUSTA ADDITION
VOL.725 PG.235,
H.C.D.R.

SUBDIVISION OF THE SOUTH PART OF THE GAGNE HOMESTEAD
VOL.89, PG.240,
H.C.D.R.

T. & N.O. RR CO. TRACT 2 CALLED 1.48 ACRE TRACT VOL. 469, PG. 501 H.C.D.R.

T. & N.O. RR CO. TRACT 1 CALLED 1.20 ACRE TRACT VOL. 469, PG. 501 H.C.D.R.

T. & N.O. RR CO. CALLED 58.925 S.F. TRACT VOL. 472, PG. 7 H.C.D.R.

T. & N.O. RR CO. CALLED 55.929 S.F. TRACT VOL. 472, PG 7 H.C.D.R.

T.&N.O. RR. CO. CALLED 5.79 ACRE TRACT VOL. 50, PG. 535 H.C.D.R.

T. & N.O. RR CO. CALLED 1.5 ACRE TRACT VOL.75, PG. 286 H.C.D.R.

T. & N. O. RAILWAY COMPANY 100' R.O.W.

T.&N.O. RR, CO. 25' STRIP VOL.80,PG.103 H.C.D.R.

T.&N.O. RR, CO. VOL.133,PG.602 H.C.D.R.

T.N.O.R.R. C. CALLED 4.274 ACRE TRACT VOL.131, PG.453 H.C.D.R.

KYLE & BUSCH SUBDIVISION VOL.183, PG.69, H.C.D.R.

E.A. FINN VOL.73, PG.317 H.C.D.R.

ENGLEWOOD VOL.53, PG.346 H.C.D.R.

F.F. CHEW ADDITION VOL.1 PG.8 H.C.M.R.

CITY OF HOUSTON C.F. NO. D240252 H.C.O.R.

CITY OF HOUSTON CALLED 0.1377 ACRE TRACT C.F. NO. P491689, H.C.O.R.

I, Wm. PATRICK DOYLE, REGISTERED PROFESSIONAL LAND SURVEYOR, DO HEREBY CERTIFY THAT THE ABOVE AND FOREGOING PLAT IS A TRUE REPRESENTATION OF A SURVEY MADE UNDER MY SUPERVISION, ON THE GROUND, AND THAT THERE ARE NO EXCESSES NOR INTRUSIONS ON THIS PROPERTY, EXCEPT AS SHOWN HEREON.
DATE SURVEYED: JANUARY 12, 2016.

STATE OF TEXAS
REGISTERED
WM. PATRICK DOYLE
4467
PROFESSIONAL
LAND SURVEYOR

WM. PATRICK DOYLE
REGISTERED PROFESSIONAL LAND SURVEYOR
TEXAS REGISTRATION NUMBER 4467

NOTES:

1. ALL COORDINATES AND BEARINGS ARE RELATIVE TO THE TEXAS STATE PLANE COORDINATE SYSTEM, SOUTH CENTRAL ZONE (NAD 83).
2. ALL DISTANCES ARE HORIZONTAL SURFACE LEVEL LENGTHS (SF= 0.99989548017).
3. THIS SURVEY DID NOT RELY ON A CURRENT TITLE COMMITMENT, THE INFORMATION CONTAINED ON THIS SURVEY WAS COMPILED FROM DATA BOTH PRIVATE AND PUBLIC, AND FROM THE HARRIS COUNTY COURTHOUSE. IT DOES NOT REPRESENT A COMPLETE DEED RESEARCH AND THIS PROPERTY MAY BE SUBJECT TO ADDITIONAL EASEMENTS, ENCUMBERANCES, RESTRICTIVE COVENANTS, OR OWNERSHIP TITLE EVIDENCE THAT AN ACCURATE AND CURRENT TITLE SEARCH MAY DISCLOSE

EXHIBIT OF

ONSITE PMZ TRACTS
52.4295 ACRE TRACT &
3.8686 ACRE TRACT

IN THE

HARRIS & WILSON 2 LEAGUE SURVEY
ABSTRACT 32
HARRIS COUNTY, TEXAS
FOR

UNION PACIFIC RAILROAD COMPANY

PROJ. NO. 1975-15-05
SHEET 1 OF 1

Doyle & Wachtstetter, Inc.
Surveying and Mapping GPS/GIS
131 COMMERCE STREET, CLUTE, TEXAS 77531
OFFICE: 979.265.3622 FAX: 979.265.9940 FIRM NO.:10024500

SURVEYED:	1-12-16	BOOK:	BOOK	IMAGE:	NONE
DRAWN BY:	JAM	CHECKED:	JAM	REVISED:	

Doyle & Wachtstetter, Inc
Surveying and Mapping • GPS/GIS

UNION PACIFIC RAILROAD COMPANY
52.4295 ACRE ONSITE PMZ TRACT
HARRIS AND WILSON 2 LEAGUE GRANT, ABSTRACT 32
HARRIS COUNTY, TEXAS
PAGE 1 OF 3

BEING ALL THAT CERTAIN 52.4295 acre tract of land, lying and situated in the Wilson and Harris 2 League Grant, Abstract 32, Harris County Texas, being a portion of that certain 100 foot wide Texas and New Orleans Railroad right-of-way; a portion of Block 11 and Block 18, all of Block 12, 13, 14, 15, 16 and 17, a portion of Solo Street (Joseph Street), a portion of 40 foot wide Gagne Street, a portion of 40 foot wide Clementine Street, a portion of 40 foot wide Fontinot Street, as shown on the map of the South Part of the Gagne Homestead, according to the map or plat recorded in Volume 89, Page 240 of the Harris County Deed Records (H.C.D.R.), a portion of Block 2, all of Block 1, Block 4 and Block 7, all of 60 foot wide New Orleans Avenue, a portion of 50 foot wide Grumbach Street, a portion of 50 foot wide Tunis Street (Jones Street), a portion of Erastus Street (Sunset Avenue), a portion of 50 foot wide Harlem Street (Baer Avenue), a portion of 50 foot wide Lockwood Drive (Cushing Avenue) as shown on the map of Englewood Subdivision, according to the map or plat recorded in Volume 53, Page 346 of the H.C.D.R., a portion of Block 18 and Block 22 and all of Block 19, a portion of 60 foot wide Wallisville Road, a portion of 50 foot wide Chew Avenue, as shown on the map of F. F. Chew Addition, according to the map or plat recorded in Volume 1, Page 8 of the Harris County Map Records (H.C.M.R.), all that certain 25 foot wide strip conveyed by deed recorded on January 2, 1895 from Clementine Gagne, et al to Texas and New Orleans Railroad Company, as recorded in Volume 80, Page 103 of the H.C.D.R., all that certain tract of land conveyed by deed recorded on March 12, 1902 from H. M. Curtin to Texas and New Orleans Railroad Company, as recorded in Volume 133, Page 602 of the H.C.D.R., all that certain called 1.28 acre tract and all that certain called 1.20 acre tract of land conveyed by deed recorded on February 8, 1921 from W. N. Reece to Texas & New Orleans Railroad Company as recorded in Volume 465, Page 501 of the H.C.D.R., all that certain called 55,922 square foot tract of land and all that certain called 55,922 square foot tract of land conveyed by deed recorded on February 7, 1921 from W. N. Reece to Texas & New Orleans Railroad Company as recorded in Volume 472, Page 7 of the H.C.D.R., all that certain called 1.5 acre tract of land conveyed by deed recorded on August 15, 1894 from R. B. Baer to Texas & New Orleans Railroad Company as recorded in Volume 75, Page 286 of the H.C.D.R.; All that certain called 5.79 acre tract of land conveyed by deed recorded on July 24, 1890 from R. B. Baer to Texas & New Orleans Railroad Company as recorded in Volume 50, Page 535 of the H.C.D.R.; the herein described 52.4295 acre tract land hereby conveyed being more particularly described by metes and bounds, using survey terminology which refers to the Texas State Plane Coordinate System, South Central Zone (NAD83), in which the directions are Lambert grid bearings and the distances are surface level horizontal lengths (S.F.= 0.99989548017) as follows:

BEGINNING at 5/8" iron rod found marking the intersection of the southeastern right-of-way boundary line of said 60 foot wide Liberty Road with the northwestern right-of-way boundary line of the 100 foot wide Texas and New Orleans Rail Road Company right-of-way, same being the southeastern boundary line of said Texas and New Orleans Rail Road Company called 5.79 acre tract, for an interior corner of the herein described 52.4295 acre tract, said Point of Beginning being located at Texas State Plane coordinate X=3136759.96 and Y=13852340.99;

UNION PACIFIC RAILROAD COMPANY
52.4295 ACRE ONSITE PMZ TRACT
HARRIS AND WILSON 2 LEAGUE GRANT, ABSTRACT 32
HARRIS COUNTY, TEXAS

THENCE North 62°10'18" East, coincident with the southeastern right-of-way boundary line of said 60 foot wide Liberty Road, same being the northwestern boundary line of the 100 foot wide Texas and New Orleans Rail Road Company right-of-way, a distance of 653.86 feet to an angle point at the intersection of the southeastern right-of-way boundary line of said 60 foot wide Liberty Road with the northern extension of the western right-of-way boundary line of 50 foot wide Sam Willis Street, for the northeast corner of the herein described 52.4295 acre tract, at position X=3137338.15 and Y=13852646.20;

THENCE South 2°35'12" East, coincident with the northern extension of the western right-of-way boundary line of said 50 foot wide Sam Willis Street, a distance of 364.63 feet to a point located on the eastern boundary line of said Block 22 of the F. F. Chew Addition, to the point of curvature of a non-tangent curve to the left, having a radius of 1179.16 feet, at position X=3137354.60 and Y=13852281.98;

THENCE in an westerly direction, along said curve to the left, having a radius of 1179.28 feet, an arc length of 375.93 feet, a central angle of 18°15’53”, and a chord bearing and distance of South 70°59’12” West – 374.34 feet to an angle corner of the herein described 52.4295 acre tract, at position X=3137000.72 and Y=13852160.04;

THENCE South 61°51'16" West, a distance of 190.34 feet to an angle corner of the herein described 52.4295 acre tract, at position X=3136832.90 and Y=13852070.26;

THENCE South 53°51'57" West, a distance of 288.79 feet to a point located on the western right-of-way boundary line of 50 foot wide Harlem Street, same being the eastern boundary line of said Block 1 of Englewood Subdivision for an interior corner of the herein described 52.4295 acre tract, at position X=3136599.69 and Y=13851899.99;

THENCE South 2°49'16" East, coincident with the western right-of-way boundary line of said 50 foot wide Harlem Street, same being the eastern boundary line of Block 1, Block 4 and Block 7 of said Englewood Subdivision, a distance of 827.94 feet to a point at the intersection of said western right-of-way boundary line of said Harlem Street with the northern right-of-way boundary line of 50 foot wide Sudan Street, for the southeast corner of said Block 7, for an exterior corner of the herein described 52.4295 acre tract, at position X=3136640.44 and Y=13851073.13;

THENCE South 87°28'24" West, coincident with northern right-of-way boundary line of said 50 foot wide Sudan Street, same being the southern boundary line of said Block 7 of Englewood Subdivision, a distance of 273.42 feet to a point located on the western right-of-way boundary line of Erastus Street, right-of-way varies, located within Block 11 of said Subdivision of the South Part of the Gagne Homestead, for an interior corner of the herein described 52.4295 acre tract, at position X=3136367.32 and Y=13851061.08;

UNION PACIFIC RAILROAD COMPANY
52.4295 ACRE ONSITE PMZ TRACT
HARRIS AND WILSON 2 LEAGUE GRANT, ABSTRACT 32
HARRIS COUNTY, TEXAS

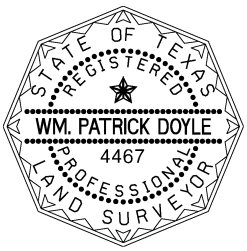
THENCE South 2°44'14" East, coincident with the western right-of-way boundary line of said Erastus Street, a distance of 287.64 feet to a point at the intersection of the western right-of-way boundary line of said Erastus Street and the northern right-of-way boundary line 19th Street, same being the southern boundary line of Block 18 of said Subdivision of the South Part of the Gagne Homestead, for the southeast corner of the herein described 52.4295 acre tract, at position X=3136381.05 and Y=13850773.80;

THENCE South 87°18'14" West, coincident with the northern right-of-way boundary line of said 19th Street, same being the southern boundary line of Block 18, Block 17, Block 16 and Block 15 of said Subdivision of the South Part of the Gagne Homestead, a distance of 1115.27 feet to a point located in Solo Street, right-of-way varies, for the southwest corner of the herein described 52.4295 acre tract, at position X=3135267.13 and Y=13850721.35;

THENCE North 2°44'14" West, coincident with the western boundary line of said Subdivision of the South Part of the Gagne Homestead, the western boundary line of said T. & N. O. Rail Road Company tract, recorded in Volume 133, Page 602, of the H.C.D.R., the western boundary line of said T. & N. O. Rail Road Company 25 foot wide strip, the western boundary line of said T. & N. O. Rail Road Company called 1.5 acre tract and the western boundary line of said T. & N. O. Rail Road Company called 1.28 acre tract, a distance of 1500.71 feet to a point located on the southern right-of-way boundary line of said 60 foot wide Liberty Road, on a curve to the left, having a radius of 280.00 feet, at position X=3135195.47 and Y=13852220.19;

THENCE in an easterly direction, coincident with the southern right-of-way boundary line of said 60 foot wide Liberty Road, along said curve to the left, having a radius of 280.00 feet, an arc length of 45.91 feet, a central angle of 9°23'40" and a chord bearing and distance of South 89°51'19" East – 45.86 feet to a found 5/8" iron rod, at position X=3135241.32 and Y=13852220.07;

THENCE North 85°26'51" East, coincident with the southern right-of-way boundary line of said 60 foot wide Liberty Road, a distance of 1523.61 feet to the **POINT OF BEGINNING**, containing 52.4295 acres of land, more or less



Wm. Patrick Doyle
Registered Professional Land Surveyor
Texas Registration Number 4467
June 29, 2016

This description is based on a plat, dated June 29, 2016, is on file in the office of Doyle & Wachtstetter, Inc.
V:\Pat\Pastor Behling & Wheeler\UPPR Englewood Yard 52.4295 acre tract.doc

Doyle & Wachtstetter, Inc
Surveying and Mapping • GPS/GIS

UNION PACIFIC RAILROAD COMPANY
3.8686 ACRE ONSITE PMZ TRACT
HARRIS AND WILSON 2 LEAGUE GRANT, ABSTRACT 32
HARRIS COUNTY, TEXAS
PAGE 1 OF 2

BEING ALL THAT CERTAIN 3.8686 acre tract of land, lying and situated in the Wilson and Harris 2 League Grant, Abstract 32, Harris County Texas, being a portion of all that certain called 4.274 acre tract conveyed by deed recorded on October 29, 1901 from Ida Japhet to Texas and New Orleans Railroad Company, as recorded in Volume 131, Page 453 of the Harris County Deed Records (H.C.D.R.), a portion of Block 58, Block 59, Block 6, Block 62 and Block 63, a portion of 60 foot wide 16th Street, a portion of 60 foot wide of Eddie Street (15th Street), a portion of 60 foot wide Kashmere Street (Yates Street), a portion of 60 foot wide Schweikhart Street, as shown on the map of Augusta Addition, according to the map or plat recorded in Volume 56, Page 139 of the Harris County Deed Records (H.C.D.R.), the herein described 3.8686 acre tract land hereby conveyed being more particularly described by metes and bounds, using survey terminology which refers to the Texas State Plane Coordinate System, South Central Zone (NAD83), in which the directions are Lambert grid bearings and the distances are surface level horizontal lengths (S.F.= 0.99989548017) as follows:

COMMENCING at a 5/8" iron rod found marking the northwest corner of Block 54 of said Augusta Addition, located at the intersection of the southern right-of-way boundary line of Liberty Road with the eastern right-of-way boundary line of 60 foot wide Kashmere Street, for the northwest corner of the herein described 124.8360 acre tract, said Point of Commencement being at Texas State Plane coordinate position X=31334356.21 and Y=13852234.79;

THENCE South 2°26'03" East, coincident with the eastern right-of-way boundary line of said 60 foot wide Kashmere Street, same being the western boundary line of Block 54 and Block 58 of said Augusta Addition, a distance of 476.71 feet to the **POINT OF BEGINNING** of the herein described 3.8686 acre tract, a position X=3134376.46 and Y=13851758.56;

THENCE North 30°35'22" East, a distance of 257.68 feet to the North corner of the herein described 3.8686 acre tract, at position X=3134507.57 and Y=13851980.36;

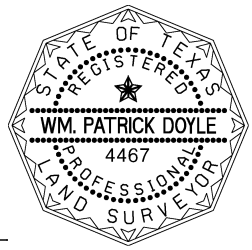
THENCE South 56°11'48" East, a distance of 367.00 feet to the East corner of the herein described 3.8686 acre tract, at position X=3134812.50 and Y=13851776.20;

THENCE South 29°37'41" West, a distance of 503.41 feet to the South corner of the herein described 3.8686 acre tract, at position X=3134563.66 and Y=13851338.66;

THENCE North 42°09'52" West, a distance of 392.51 feet to the West corner of the herein described 3.8686 acre tract, at position X=3134300.21 and Y=13851629.57;

UNION PACIFIC RAILROAD COMPANY
3.8686 ACRE ONSITE PMZ TRACT
HARRIS AND WILSON 2 LEAGUE GRANT, ABSTRACT 32
HARRIS COUNTY, TEXAS

THENCE North 30°35'22" East, a distance of 149.86 feet to the **POINT OF BEGINNING**, containing 3.8686 acres of land, more or less.



Wm. Patrick Doyle
Registered Professional Land Surveyor
Texas Registration Number 4467
June 29, 2016

This description is based on a plat, dated June 29, 2016, is on file in the office of Doyle & Wachtstetter, Inc.
V:\Pat\Pastor Behling & Wheeler\UPPR Englewood Yard Onsite PMZ 3.8686 acre tract.doc

RESTRICTIVE COVENANT

STATE OF TEXAS §
§ KNOW ALL MEN BY THESE PRESENTS THAT:
COUNTY OF HARRIS §

This Restrictive Covenant is filed to provide information concerning certain environmental conditions and use limitations pursuant to the Texas Commission on Environmental Quality (TCEQ) Texas Risk Reduction Program Rule (TRRP) found at 30 Texas Administrative Code (TAC), Chapter 350, and affects the **City Of Houston Right-Of-Way - 0.1318 Acre Tract located within the Harris and Wilson 2 League Grant, Abstract 32 in Harris County, Texas** (Property) described in Exhibit A attached hereto and incorporated herein by reference.

Surface soil underlying the Property contains certain identified chemicals of concern (COCs) causing the Property as described in Exhibit A to be considered Affected Property as that term is defined in the TRRP.

This Restrictive Covenant is required for the following reasons:

Commercial/Industrial Land Use

The Property shall not be used for any purposes other than commercial/industrial uses, as defined in 30 Texas Administrative Code (TAC), Chapter 350, Section 350.4(a)(13).

Use of Physical Control on Soil

The Affected Property is subject to the TRRP requirements for properties containing concentrations of chemicals of concern in soil and is subject to the requirements in 30 TAC §350.33(e)(2) to prevent exposure to soils that contain a chemical of concern in excess of the protective concentration level. The attached Exhibit A describes and provides the location of the physical control and extent of the soil that exceeds the TCEQ-approved protective concentration levels for certain chemicals of concern. The attached Exhibit B provides the reason the physical control must remain in place, and describes the required maintenance and monitoring required for the physical control. This program must be implemented unless and until TCEQ approves any modification.

As of the date of this Restrictive Covenant, the record owner of fee title to the Property is City of Houston (Owner) with an address of (City Hall) 901 Bagby Street, Houston, Texas 77002. In consideration of the Response Actions by Union Pacific Railroad (Responder) at the Former Houston Wood Preserving Works Site at 4910 Liberty Road, Houston, Texas (TCEQ SWR No. 31547), approval of the Response Action Completion Report, and other good and valuable consideration, the receipt and sufficiency of which is hereby

acknowledged, the Owner has agreed to place the following restrictions on the Property in favor of the TCEQ and the State of Texas, to-wit:

1. The Property shall not be used for any purposes other than commercial/industrial uses, as defined in 30 TAC §350.4(a)(13).

2. The removal or modification of the physical control on the Affected Property within the City of Houston ROW described in Exhibit A is prohibited without prior approval from TCEQ and the physical control must be maintained and monitored as described in Exhibit B. Removal or modification of this restrictive covenant is prohibited without prior approval of TCEQ.

3. These restrictions shall be a covenant running with the land.

For additional information, contact:

TCEQ
Central Records
12100 Park 35 Circle,
Building E
Austin, Texas 78753

Mail: TCEQ - MC 199
P O Box 13087
Austin, Texas 78711-3087

TCEQ Program and Identifier No.: TCEQ SWR No. 31547 [Union Pacific Railroad Houston Wood Preserving Works]

This Restrictive Covenant may be rendered of no further force or effect only by a release executed by the TCEQ or its successor agencies and filed in the same Real Property Records as those in which this Restrictive Covenant is filed.

Executed this _____day of _____, 20____.

City of Houston [OWNER]
By: _____
Name: _____
Title: _____

STATE OF TEXAS

HARRIS COUNTY

BEFORE ME, on this the _____ day of _____, 20___, personally appeared _____, _____, of City of Houston, known to me to be the person whose name is subscribed to the foregoing instrument, and they acknowledged to me that they executed the same for the purposes and consideration therein expressed.

GIVEN UNDER MY HAND AND SEAL OF OFFICE, this the _____ day of _____, 20____.

Notary Public in and for the State of Texas,
County of Harris

My Commission Expires: _____

Executed this _____day of _____, 20___.

Union Pacific Railroad Company [RESPONDER]

By:_____

Name: Mr. Tony Love
Title: Assistant Vice President of Real Estate
Union Pacific Railroad Company, a Delaware Corporation

STATE OF NEBRASKA §

DOUGLAS COUNTY §

BEFORE ME, on this the ___ day of _____, Mr. Tony Love, Assistant Vice President of Real Estate, a representative of Union Pacific Railroad Company, a Delaware Corporation [**responder**], known to me to be the person whose name is subscribed to the foregoing instrument, and he acknowledged to me that he executed the same for the purposes and consideration therein expressed.

GIVEN UNDER MY HAND AND SEAL OF OFFICE, this ___ day of _____, 20____.

_____

Notary Public in and for the State of Nebraska
County of _____
My Commission Expires: _____

Accepted as Third Party Beneficiary this _____day of _____, 20___.

Texas Commission on Environmental Quality

By: _____
Name: _____
Title: _____

STATE OF TEXAS §
(_____) COUNTY §

BEFORE ME, on this the ___ day of _____, _____ personally appeared _____ [name], _____ [title], of The Texas Commission of Environmental Quality, known to me to be the person whose name is subscribed to the foregoing instrument, and they acknowledged to me that they executed the same for the purposes and in the capacity herein expressed.

GIVEN UNDER MY HAND AND SEAL OF OFFICE, this _____ day of _____, 20____.

_____

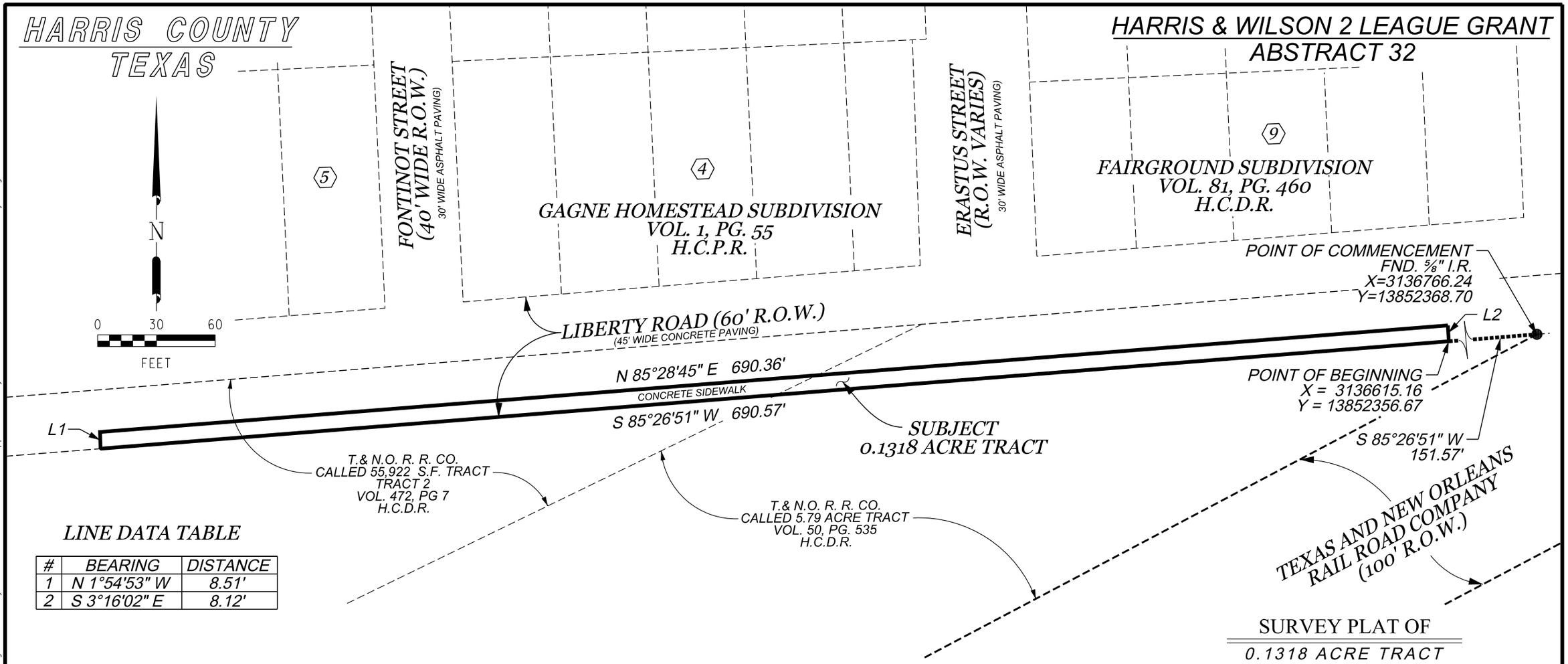
Notary Public in and for the State of Texas,
County of _____
My Commission Expires: _____

EXHIBIT A

CITY OF HOUSTON ROW PROPERTY SURVEY PLAT AND DESCRIPTION (0.1318 ACRE PLAT)

HARRIS COUNTY TEXAS

HARRIS & WILSON 2 LEAGUE GRANT ABSTRACT 32



LINE DATA TABLE

#	BEARING	DISTANCE
1	N 1°54'53" W	8.51'
2	S 3°16'02" E	8.12'

I, Wm. PATRICK DOYLE, REGISTERED PROFESSIONAL LAND SURVEYOR, DO HEREBY CERTIFY THAT THE ABOVE AND FOREGOING PLAT IS A TRUE REPRESENTATION OF A SURVEY MADE UNDER MY SUPERVISION, ON THE GROUND, AND THAT THERE ARE NO EXCESSES NOR INTRUSIONS ON THIS PROPERTY, EXCEPT AS SHOWN HEREON.
DATE SURVEYED: APRIL 15, 2016.

STATE OF TEXAS
REGISTERED
WM. PATRICK DOYLE
4467
PROFESSIONAL
LAND SURVEYOR

WM. PATRICK DOYLE
REGISTERED PROFESSIONAL LAND SURVEYOR
TEXAS REGISTRATION NUMBER 4467

NOTES:

1. ALL COORDINATES AND BEARINGS ARE RELATIVE TO THE TEXAS STATE PLANE COORDINATE SYSTEM, SOUTH CENTRAL ZONE (NAD 83).
2. ALL DISTANCES ARE HORIZONTAL SURFACE LEVEL LENGTHS (SF= 0.99989548017).
3. THIS SURVEY DID NOT RELY ON A CURRENT TITLE COMMITMENT, THE INFORMATION CONTAINED ON THIS SURVEY WAS COMPILED FROM DATA BOTH PRIVATE AND PUBLIC, AND FROM THE HARRIS COUNTY COURTHOUSE. IT DOES NOT REPRESENT A COMPLETE DEED RESEARCH AND THIS PROPERTY MAY BE SUBJECT TO ADDITIONAL EASEMENTS, ENCUMBERANCES, RESTRICTIVE COVENANTS, OR OWNERSHIP TITLE EVIDENCE THAT AN ACCURATE AND CURRENT TITLE SEARCH MAY DISCLOSE

SURVEY PLAT OF

0.1318 ACRE TRACT

BEING A PORTION OF ALL THAT CERTAIN
CITY OF HOUSTON
60' WIDE LIBERTY ROAD
IN THE
HARRIS & WILSON 2 LEAGUE GRANT
ABSTRACT 32
HARRIS COUNTY, TEXAS.
FOR
UNION PACIFIC RAILROAD COMPANY

PROJ. NO. 4410-16-01 SHEET 1 OF 1

Doyle & Wachtstetter, Inc.
Surveying and Mapping GPS/GIS
131 COMMERCE STREET, CLUTE, TEXAS 77531
OFFICE: 979.265.3622 FAX. 979.265.9940 FIRM NO.:10024500

SURVEYED:	JDD 4-15-16	BOOK:	DRONE VOL. 1	IMAGE:	NONE
DRAWN BY:	JDD 5-16-16	CHECKED:	JAM 6-20-16	REVISED:	

Doyle & Wachtstetter, Inc
Surveying and Mapping • GPS/GIS

UNION PACIFIC RAILROAD COMPANY/CITY OF HOUSTON RIGHT-OF-WAY
0.1318 ACRE TRACT
HARRIS AND WILSON 2 LEAGUE GRANT, ABSTRACT 32
HARRIS COUNTY, TEXAS
PAGE 1 OF 1

BEING ALL THAT CERTAIN 0.1318 acre tract of land, lying and situated in the Harris and Wilson 2 League Grant, Abstract 32, Harris County Texas, being located within the right-of-way of 60 foot wide Liberty Road, being a portion of all that certain called 55,922 square foot tract of land (Tract 2) conveyed by deed recorded on February 7, 1921 from W. N. Reece to Texas & New Orleans Railroad Company as recorded in Volume 472, Page 7 of the H.C.D.R. and a portion of all that certain called 5.79 acre tract of land conveyed by deed recorded on July 24, 1890 from R. B. Baer to Texas & New Orleans Railroad Company as recorded in Volume 50, Page 535 of the H.C.D.R.; the herein described 0.1318 acre tract land hereby conveyed being more particularly described by metes and bounds, using survey terminology which refers to the Texas State Plane Coordinate System, South Central Zone (NAD83), in which the directions are Lambert grid bearings and the distances are surface level horizontal lengths (S.F.= 0.99989548017) as follows:

COMMENCING at 5/8" iron rod found marking the intersection of the southern right-of-way boundary line of said 60 foot wide Liberty Road with the northwestern right-of-way boundary line of the 100 foot wide Texas and New Orleans Rail Road Company right-of-way, same being the southeastern boundary line of said Texas and New Orleans Rail Road Company called 5.79 acre tract, said Point of Commencement being located at Texas State Plane coordinate X=3136766.24 and Y=13852360.25;

THENCE South 85°26'51" West, coincident with the southern right-of-way boundary line of said 60 foot wide Liberty Road, a distance of 151.57 feet to the southeast corner and the **POINT OF BEGINNING** of the herein described 0.1318 acre parcel, at position X=3136615.16 and Y=13852356.67;

THENCE South 85°26'51" West, coincident with the southern right-of-way boundary line of said 60 foot wide Liberty Road, a distance of 690.57 feet to the southwest corner of the herein described 0.1318 acre tract, at position X=3135926.84 and Y=13852301.86;

THENCE North 1°54'53' West, a distance of 8.51 feet to a point for the northwest corner of the herein described 0.1318 acre tract, at position X=3135926.56 and Y=13852310.37;

THENCE North 85°28'45" East, a distance of 690.36 feet to a point for the northeast corner of the herein described 0.1318 acre tract, at position X=3136614.70 and Y=13852364.78;

THENCE South 3°16'02" East a distance of 8.12 feet to the **POINT OF BEGINNING**, containing 0.1318 acre of land, more or less.

.

Wm. Patrick Doyle
Registered Professional Land Surveyor
Texas Registration Number 4467
June 20, 2016

This description is based on a survey, dated June 20, 2016 is on file in the office of Doyle & Wachtstetter, Inc.
V:\Pat\Pastor Behling & Wheeler\UPPR Liberty Road Sidewalk tract 0.1318 acre.doc

EXHIBIT B

PHYSICAL CONTROL MAINTENANCE/MONITORING REQUIREMENTS

EXHIBIT "B"
MAINTENANCE AND MONITORING

Through the Texas Commission on Environmental Quality (TCEQ) Texas Risk Reduction Program (TRRP), a Remedy Standard B remediation of the Property as detailed in the Response Action Plan (RAP) for the Union Pacific Railroad (UPRR) Houston Wood Preserving Works site (TCEQ SWR No. 31547/IHW Permit No. 50343) was implemented that included construction of a physical control using a concrete sidewalk cap (location detailed in Exhibit A). The concrete sidewalk was constructed following City of Houston Department of Public Works and Engineering Concrete Sidewalk Details for Streets with Curbs (07-01-2010). The concrete sidewalk will serve as a permanently placed cap atop contaminated soil present on the Property as defined in Exhibit A. The contaminated soil contains concentrations of chemicals of concern (COCs) benzo(a)pyrene and pentachlorophenol that exceed the TCEQ's Protective Concentration Levels. The concrete sidewalk cap will provide protection to human health and the environment throughout the post-closure care period.

UPRR will implement an inspection and maintenance program for the concrete sidewalk within the Property as shown on Exhibit A. The inspection and maintenance shall be conducted according to the Response Action Plan (RAP) dated November 21, 2014 (revised December 7, 2015) for the site or subsequently approved reports or TCEQ permits or written correspondence. Inspections will be performed by UPRR on a quarterly basis. The inspections will focus on evaluating the sidewalk for cracks or damage. If cracks are identified that allow exposure to the underlying soils, the cracks will be repaired and sealed in a manner consistent with the original plans and specifications following City of Houston guidelines for sidewalk construction. UPRR will submit annually to the TCEQ (unless this frequency is modified by subsequent TCEQ correspondence) reports documenting the physical control condition, maintenance, repair, replacement and the continued effectiveness of the remedy.

APPENDIX 4

DATA TABLES, BORING LOGS, AND WELL COMPLETIONS

4A DATA TABLES

Table 1 – Summary of Pre-Excavation Soil Sampling Results
Table 2 – Summary of Confirmation Soil Sampling Results

4B BORING LOGS (2016 Soil Investigation)

APPENDIX 4A

DATA TABLES

Appendix 4 - Table 1
SUMMARY OF PRE-EXCAVATION SOIL BORING SAMPLING RESULTS
UPRR Houston Wood Preserving Works

ANALYTE	CAS NUMBER	UNITS	cPCL	ASBW1A(0-4)	ASBW1B(0-4)	BSBS1RA(0-4)	BSBS1RB(0-4)	DSB1(0-5)	DSB2(0-5)
Date				**2/6/2016**	**2/6/2016**	**2/6/2016**	**2/6/2016**	**1/27/2016**	**1/27/2016**
Method: SW6020 - ICP_S_Low									
Arsenic	7440-38-2	mg/Kg	2.00E+02	2.7	2.22	1.23	0.814	2.79	1.04
Lead	7439-92-1	mg/Kg	1.60E+03	27.9	33.9	8.07	13.4	15.4	5.18
Method: SW8270 - 8270_LOW_S									
1,2-Diphenylhydrazine	122-66-7	mg/Kg	5.09E-01	<0.013	<0.013	<0.013	<0.013	<0.0013	<0.0013
2,4-Dimethylphenol	105-67-9	mg/Kg	5.27E+01	<0.038	<0.04	<0.038	<0.039	<0.004	<0.0039
2,4-Dinitrotoluene	121-14-2	mg/Kg	4.89E-02	<0.01	<0.011	<0.01	<0.011	<0.0011	<0.0011
2,6-Dinitrotoluene	606-20-2	mg/Kg	4.02E-02	<0.038	<0.04	<0.038	<0.039	<0.004	<0.0039
2-Chloronaphthalene	91-58-7	mg/Kg	1.49E+04	<0.015	<0.016	<0.015	<0.015	<0.0016	<0.0015
2-Methylnaphthalene	91-57-6	mg/Kg	3.78E+02	0.2	1.7	0.47	2.5	0.0096	<0.00059
4,6-Dinitro-2-methylphenol	534-52-1	mg/Kg	7.00E-03	<0.024	<0.025	<0.024	<0.025	<0.0026	<0.0025
4-Nitrophenol	100-02-7	mg/Kg	2.65E-01	0.046J	<0.023	<0.022	<0.022	<0.0023	<0.0023
Acenaphthene	83-32-9	mg/Kg	5.23E+03	0.7	2.3	1.3	3	0.012	0.0031J
Acenaphthylene	208-96-8	mg/Kg	9.09E+03	0.1	0.19	0.047	0.099	0.16	0.077
Anthracene	120-12-7	mg/Kg	1.03E+04	1.2	6.9	1.1	5.7	0.22	0.011
Benz(a)anthracene	56-55-3	mg/Kg	2.36E+01	2.4	7	0.62	3	0.34	0.036
Benzo(a)pyrene	50-32-8	mg/Kg	2.37E+00	1.4	3.6	0.32	1.8	0.55	0.19
Bis(2-chloroethoxy)methane	111-91-1	mg/Kg	1.73E-01	<0.01	<0.011	<0.01	<0.011	<0.0011	<0.0011
Bis(2-ethylhexyl)phthalate	117-81-7	mg/Kg	5.63E+02	<0.02	<0.02	<0.019	<0.02	<0.0021	0.011
Chrysene	218-01-9	mg/Kg	2.36E+03	2.5	7.2	0.53	4.7	0.4	0.071
Di-n-butyl phthalate	84-74-2	mg/Kg	1.62E+04	<0.014	<0.014	<0.014	<0.014	<0.0015	0.0026J
Dibenzofuran	132-64-9	mg/Kg	7.44E+02	0.2	1.6	0.88	3.2	0.013	<0.00083
Fluoranthene	206-44-0	mg/Kg	2.48E+04	11	34	3.4	16	0.32	0.018
Fluorene	86-73-7	mg/Kg	6.65E+03	0.35	3.4	1.5	5.1	0.018	0.01
N-Nitrosodiphenylamine	86-30-6	mg/Kg	4.18E+01	<0.0081	<0.0084	<0.008	<0.0082	<0.00085	<0.00083
Naphthalene	91-20-3	mg/Kg	1.90E+02	0.35	1.2	0.5	8.6	0.031	0.0033J
Nitrobenzene	98-95-3	mg/Kg	1.48E+00	<0.01	<0.011	<0.01	<0.011	<0.0011	<0.0011
Pentachlorophenol	87-86-5	mg/Kg	1.24E-01	<0.038	6.4	<0.038	<0.039	<0.004	<0.0039
Phenanthrene	85-01-8	mg/Kg	9.28E+03	1.4	22	3.4	19	0.11	0.065
Phenol	108-95-2	mg/Kg	1.33E+02	<0.013	<0.013	<0.013	<0.013	0.012	<0.0013
Pyrene	129-00-0	mg/Kg	1.86E+04	6.9	18	2	11	0.43	0.039

Notes:

1. Critical PCL (cPCL) based on lowest of $^{TOT}Soil_{COMB}$ and $^{GW}Soil_{Ing}$ (Tier 1 or 2) PCL assuming 30-acre commercial/industrial land use.

2. Concentrations > cPCL are highlighted yellow.

Appendix 4 - Table 1
SUMMARY OF PRE-EXCAVATION SOIL BORING SAMPLING RESULTS
UPRR Houston Wood Preserving Works

ANALYTE	CAS NUMBER	UNITS	cPCL	DSB3(0-5)	DSB4(0-5)	DSB5(0-5)	DSB6(0-5)	DSB7(0-5)	DSB8(0-5)	ESB1(0-5)
Date				**1/27/2016**	**1/27/2016**	**1/27/2016**	**1/27/2016**	**1/27/2016**	**1/27/2016**	**1/27/2016**
Method: SW6020 - ICP_S_Low										
Arsenic	7440-38-2	mg/Kg	2.00E+02	1.87	3.49	3.37	1.91	1.28	339	1.37
Lead	7439-92-1	mg/Kg	1.60E+03	5.9	11.1	10.9	6.87	7.16	8.06	7.8
Method: SW8270 - 8270_LOW_S										
1,2-Diphenylhydrazine	122-66-7	mg/Kg	5.09E-01	<0.0013	<0.0014	<0.0014	<0.0013	<0.0013	<0.0069	<0.0014
2,4-Dimethylphenol	105-67-9	mg/Kg	5.27E+01	<0.0039	<0.0041	<0.0041	<0.004	<0.004	<0.021	<0.0043
2,4-Dinitrotoluene	121-14-2	mg/Kg	4.89E-02	<0.0011	<0.0011	<0.0011	<0.0011	<0.0011	<0.0056	<0.0012
2,6-Dinitrotoluene	606-20-2	mg/Kg	4.02E-02	<0.0039	<0.0041	<0.0041	<0.004	<0.004	<0.021	<0.0043
2-Chloronaphthalene	91-58-7	mg/Kg	1.49E+04	<0.0015	<0.0016	<0.0016	<0.0016	<0.0016	<0.0081	<0.0017
2-Methylnaphthalene	91-57-6	mg/Kg	3.78E+02	0.035	<0.00063	0.0078	<0.00061	0.085	0.047	<0.00065
4,6-Dinitro-2-methylphenol	534-52-1	mg/Kg	7.00E-03	<0.0025	<0.0026	<0.0026	<0.0026	<0.0026	<0.013	<0.0027
4-Nitrophenol	100-02-7	mg/Kg	2.65E-01	<0.0022	<0.0024	<0.0024	<0.0023	<0.0023	<0.012	<0.0025
Acenaphthene	83-32-9	mg/Kg	5.23E+03	0.29	0.0063	0.013	0.007	0.24	0.24	0.013
Acenaphthylene	208-96-8	mg/Kg	9.09E+03	0.079	0.12	0.21	0.16	0.29	0.51	0.49
Anthracene	120-12-7	mg/Kg	1.03E+04	0.39	0.059	0.13	0.068	0.39	0.62	0.31
Benz(a)anthracene	56-55-3	mg/Kg	2.36E+01	0.54	0.085	0.069	0.83	0.26	0.74	0.67
Benzo(a)pyrene	50-32-8	mg/Kg	2.37E+00	0.27	0.34	0.39	0.49	0.51	1.3	1.2
Bis(2-chloroethoxy)methane	111-91-1	mg/Kg	1.73E-01	<0.0011	<0.0011	<0.0011	<0.0011	<0.0011	<0.0056	<0.0012
Bis(2-ethylhexyl)phthalate	117-81-7	mg/Kg	5.63E+02	0.038	0.021	0.02	<0.0021	<0.0021	<0.011	<0.0022
Chrysene	218-01-9	mg/Kg	2.36E+03	0.65	0.15	0.15	0.86	0.33	0.88	0.77
Di-n-butyl phthalate	84-74-2	mg/Kg	1.62E+04	<0.0014	<0.0015	<0.0015	<0.0015	0.0038J	<0.0075	<0.0016
Dibenzofuran	132-64-9	mg/Kg	7.44E+02	0.25	<0.00088	0.0069	<0.00085	0.16	0.1	0.0073
Fluoranthene	206-44-0	mg/Kg	2.48E+04	2.6	0.1	0.056	2.3	0.5	1.3	0.8
Fluorene	86-73-7	mg/Kg	6.65E+03	0.26	0.012	0.037	0.02	0.28	0.3	0.058
N-Nitrosodiphenylamine	86-30-6	mg/Kg	4.18E+01	<0.00083	<0.00088	<0.00087	<0.00085	<0.00086	<0.0044	<0.00091
Naphthalene	91-20-3	mg/Kg	1.90E+02	0.028	0.0029J	0.0082	<0.00073	0.19	0.13	0.0042J
Nitrobenzene	98-95-3	mg/Kg	1.48E+00	<0.0011	<0.0011	<0.0011	<0.0011	<0.0011	<0.0056	<0.0012
Pentachlorophenol	87-86-5	mg/Kg	1.24E-01	<0.0039	<0.0041	<0.0041	<0.004	<0.004	<0.021	0.023
Phenanthrene	85-01-8	mg/Kg	9.28E+03	1.9	0.0088	0.051	0.096	0.71	1.1	0.052
Phenol	108-95-2	mg/Kg	1.33E+02	<0.0013	0.0069J	0.0096	0.007J	0.017	0.041J	0.0065J
Pyrene	129-00-0	mg/Kg	1.86E+04	2.5	0.098	0.068	1.9	0.5	1.4	1

Notes:

1. Critical PCL (cPCL) based on lowest of $^{TOT}Soil_{COMB}$ and $^{GW}Soil_{Ing}$ (Tier 1 or 2) PCL assum

2. Concentrations > cPCL are highlighted yellow.

Appendix 4 - Table 1
SUMMARY OF PRE-EXCAVATION SOIL BORING SAMPLING RESULTS
UPRR Houston Wood Preserving Works

ANALYTE	CAS NUMBER	UNITS	cPCL	ESB2(0-5)	ESB3(0-5)	ESB4(0-5)	FSB1(0-5)	FSB2(0-5)	FSB3(0-5)	GSB1(0-1.5)
Date				**1/27/2016**	**1/27/2016**	**1/27/2016**	**1/26/2016**	**1/26/2016**	**1/26/2016**	**1/28/2016**
Method: SW6020 - ICP_S_Low										
Arsenic	7440-38-2	mg/Kg	2.00E+02	1.44	1.39	2.53	2.7	1.18	1.27	8.31
Lead	7439-92-1	mg/Kg	1.60E+03	6.86	6.71	8.25	10.9	8.25	11.3	39.4
Method: SW8270 - 8270_LOW_S										
1,2-Diphenylhydrazine	122-66-7	mg/Kg	5.09E-01	<0.0014	<0.0013	<0.0013	<0.0013	<0.0013	0.0021J	<0.0014
2,4-Dimethylphenol	105-67-9	mg/Kg	5.27E+01	<0.0041	<0.004	<0.0039	<0.004	<0.0039	<0.0039	<0.0043
2,4-Dinitrotoluene	121-14-2	mg/Kg	4.89E-02	<0.0011	<0.0011	<0.0011	<0.0011	<0.0011	<0.0011	<0.0012
2,6-Dinitrotoluene	606-20-2	mg/Kg	4.02E-02	<0.0041	<0.004	<0.0039	<0.004	<0.0039	<0.0039	<0.0043
2-Chloronaphthalene	91-58-7	mg/Kg	1.49E+04	<0.0016	<0.0016	<0.0015	<0.0016	<0.0015	<0.0016	<0.0017
2-Methylnaphthalene	91-57-6	mg/Kg	3.78E+02	<0.00062	<0.0006	<0.00059	<0.00061	<0.00059	<0.0006	<0.00065
4,6-Dinitro-2-methylphenol	534-52-1	mg/Kg	7.00E-03	<0.0026	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	<0.0027
4-Nitrophenol	100-02-7	mg/Kg	2.65E-01	<0.0023	<0.0023	<0.0022	<0.0023	<0.0023	<0.0023	<0.0025
Acenaphthene	83-32-9	mg/Kg	5.23E+03	0.013	<0.0006	<0.00059	<0.00061	<0.00059	<0.0006	0.0023J
Acenaphthylene	208-96-8	mg/Kg	9.09E+03	0.1	0.0043	0.036	<0.0012	0.0061	0.0077	0.037
Anthracene	120-12-7	mg/Kg	1.03E+04	0.13	0.0054	0.031	<0.00061	0.0046	0.0078	0.076
Benz(a)anthracene	56-55-3	mg/Kg	2.36E+01	0.62	0.011	0.043	0.033	0.011	0.017	0.075
Benzo(a)pyrene	50-32-8	mg/Kg	2.37E+00	0.27	0.011	0.067	0.042	0.037	0.055	0.11
Bis(2-chloroethoxy)methane	111-91-1	mg/Kg	1.73E-01	<0.0011	<0.0011	<0.0011	<0.0011	<0.0011	<0.0011	<0.0012
Bis(2-ethylhexyl)phthalate	117-81-7	mg/Kg	5.63E+02	<0.0021	<0.0021	<0.002	0.0042J	0.0047J	0.0058J	0.024
Chrysene	218-01-9	mg/Kg	2.36E+03	0.56	0.024	0.057	0.049	0.02	0.027	0.13
Di-n-butyl phthalate	84-74-2	mg/Kg	1.62E+04	<0.0015	<0.0015	0.0023J	0.003J	0.0024J	<0.0014	0.0042J
Dibenzofuran	132-64-9	mg/Kg	7.44E+02	<0.00086	<0.00085	<0.00082	<0.00085	<0.00083	<0.00084	0.0024J
Fluoranthene	206-44-0	mg/Kg	2.48E+04	2.4	0.018	0.021	0.015	0.0085	0.013	0.12
Fluorene	86-73-7	mg/Kg	6.65E+03	0.021	<0.0013	0.0078	<0.0013	<0.0013	<0.0013	0.0059
N-Nitrosodiphenylamine	86-30-6	mg/Kg	4.18E+01	<0.00086	<0.00085	<0.00082	<0.00085	<0.00083	<0.00084	<0.00091
Naphthalene	91-20-3	mg/Kg	1.90E+02	<0.00074	<0.00073	<0.00071	<0.00073	0.0021J	0.0023J	0.0016J
Nitrobenzene	98-95-3	mg/Kg	1.48E+00	<0.0011	<0.0011	<0.0011	<0.0011	<0.0011	<0.0011	<0.0012
Pentachlorophenol	87-86-5	mg/Kg	1.24E-01	<0.0041	<0.004	<0.0039	<0.004	<0.0039	<0.0039	<0.0043
Phenanthrene	85-01-8	mg/Kg	9.28E+03	0.15	0.0047	0.0091	<0.0018	0.0027J	0.0043	0.017
Phenol	108-95-2	mg/Kg	1.33E+02	<0.0014	<0.0013	<0.0013	0.0021J	<0.0013	<0.0013	0.0089
Pyrene	129-00-0	mg/Kg	1.86E+04	2.7	0.019	0.037	0.045	0.022	0.026	0.17

Notes:

1. Critical PCL (cPCL) based on lowest of $^{TOT}Soil_{COMB}$ and $^{GW}Soil_{Ing}$ (Tier 1 or 2) PCL assum

2. Concentrations > cPCL are highlighted yellow.

Appendix 4 - Table 1
SUMMARY OF PRE-EXCAVATION SOIL BORING SAMPLING RESULTS
UPRR Houston Wood Preserving Works

ANALYTE	CAS NUMBER	UNITS	cPCL	GSB2(0-3)	GSB3(0-3)	GSB4(0-3)	GSB5(0-3)	GSB6(0-3)	GSB7(0-3)	GSB8(0-3)
Date				**1/28/2016**	**1/28/2016**	**1/28/2016**	**1/28/2016**	**1/28/2016**	**2/6/2016**	**2/6/2016**
Method: SW6020 - ICP_S_Low										
Arsenic	7440-38-2	mg/Kg	2.00E+02	3.27	4.45	5.21	1.6	2.38	5.54	3.49
Lead	7439-92-1	mg/Kg	1.60E+03	11.9	12.6	21.5	7.92	10.9	27.3	12.8
Method: SW8270 - 8270_LOW_S										
1,2-Diphenylhydrazine	122-66-7	mg/Kg	5.09E-01	<0.0014	<0.0014	<0.0014	<0.0014	<0.0014	<0.0018	<0.0014
2,4-Dimethylphenol	105-67-9	mg/Kg	5.27E+01	<0.0041	<0.0041	<0.0041	<0.0041	<0.0041	<0.0053	<0.0041
2,4-Dinitrotoluene	121-14-2	mg/Kg	4.89E-02	<0.0011	<0.0011	<0.0011	<0.0011	<0.0011	<0.0014	<0.0011
2,6-Dinitrotoluene	606-20-2	mg/Kg	4.02E-02	<0.0041	<0.0041	<0.0041	<0.0041	<0.0041	<0.0053	<0.0041
2-Chloronaphthalene	91-58-7	mg/Kg	1.49E+04	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0021	<0.0016
2-Methylnaphthalene	91-57-6	mg/Kg	3.78E+02	<0.00062	<0.00062	<0.00062	<0.00062	<0.00063	<0.0008	<0.00062
4,6-Dinitro-2-methylphenol	534-52-1	mg/Kg	7.00E-03	<0.0026	<0.0026	<0.0026	<0.0026	<0.0026	<0.0034	<0.0026
4-Nitrophenol	100-02-7	mg/Kg	2.65E-01	<0.0024	<0.0023	<0.0024	<0.0024	<0.0024	0.013J	<0.0024
Acenaphthene	83-32-9	mg/Kg	5.23E+03	<0.00062	<0.00062	0.0046	<0.00062	<0.00063	0.0048J	0.0028J
Acenaphthylene	208-96-8	mg/Kg	9.09E+03	0.0057	0.032	0.031	<0.0012	0.044	0.042	0.0066
Anthracene	120-12-7	mg/Kg	1.03E+04	0.022	0.08	0.11	<0.00062	0.083	0.056	0.013
Benz(a)anthracene	56-55-3	mg/Kg	2.36E+01	0.0063	0.11	0.056	0.0078	0.16	0.085	0.023
Benzo(a)pyrene	50-32-8	mg/Kg	2.37E+00	0.019	0.12	0.078	0.0073	0.23	0.1	0.032
Bis(2-chloroethoxy)methane	111-91-1	mg/Kg	1.73E-01	<0.0011	<0.0011	<0.0011	<0.0011	<0.0011	<0.0014	<0.0011
Bis(2-ethylhexyl)phthalate	117-81-7	mg/Kg	5.63E+02	<0.0021	0.017	0.013	0.0031J	0.17	0.51	0.013
Chrysene	218-01-9	mg/Kg	2.36E+03	0.011	0.14	0.084	0.0075	0.24	0.13	0.036
Di-n-butyl phthalate	84-74-2	mg/Kg	1.62E+04	<0.0015	<0.0015	0.0033J	0.0039J	<0.0015	<0.0019	0.0023J
Dibenzofuran	132-64-9	mg/Kg	7.44E+02	<0.00087	<0.00086	0.0079	<0.00087	<0.00088	0.0041J	<0.00087
Fluoranthene	206-44-0	mg/Kg	2.48E+04	0.012	0.091	0.12	0.011	0.19	0.098	0.046
Fluorene	86-73-7	mg/Kg	6.65E+03	<0.0014	<0.0014	0.0087	<0.0014	0.0091	0.0074	0.0022J
N-Nitrosodiphenylamine	86-30-6	mg/Kg	4.18E+01	<0.00087	<0.00086	<0.00087	<0.00087	<0.00088	<0.0011	<0.00087
Naphthalene	91-20-3	mg/Kg	1.90E+02	<0.00075	<0.00074	0.0099	<0.00074	<0.00075	0.0027J	<0.00075
Nitrobenzene	98-95-3	mg/Kg	1.48E+00	<0.0011	<0.0011	<0.0011	<0.0011	<0.0011	<0.0014	<0.0011
Pentachlorophenol	87-86-5	mg/Kg	1.24E-01	<0.0041	<0.0041	<0.0041	<0.0041	<0.0041	<0.0053	<0.0041
Phenanthrene	85-01-8	mg/Kg	9.28E+03	0.0032J	0.0058	0.047	<0.0019	0.0065	0.019	0.0098
Phenol	108-95-2	mg/Kg	1.33E+02	<0.0014	0.0058J	0.0041J	<0.0014	0.0044J	<0.0018	<0.0014
Pyrene	129-00-0	mg/Kg	1.86E+04	0.0099	0.2	0.15	0.012	0.32	0.13	0.039

Notes:

1. Critical PCL (cPCL) based on lowest of $^{TOT}Soil_{COMB}$ and $^{GW}Soil_{Ing}$ (Tier 1 or 2) PCL assum

2. Concentrations > cPCL are highlighted yellow.

Appendix 4 - Table 1
SUMMARY OF PRE-EXCAVATION SOIL BORING SAMPLING RESULTS
UPRR Houston Wood Preserving Works

ANALYTE	CAS NUMBER	UNITS	cPCL	GSB9(0-3)	SB212(0-5)	SB213(0-5)	SB214(0-5)	SB215(0-5)	Railcar
Date				**2/6/2016**	**2/3/2016**	**2/3/2016**	**2/3/2016**	**2/3/2016**	**3/3/2016**
Method: SW6020 - ICP_S_Low									
Arsenic	7440-38-2	mg/Kg	2.00E+02	8.26	1.46	7.18	5.09	6.58	5.08
Lead	7439-92-1	mg/Kg	1.60E+03	12.3	7.56	107	76.3	108	58.3
Method: SW8270 - 8270_LOW_S									
1,2-Diphenylhydrazine	122-66-7	mg/Kg	5.09E-01	<0.014	<0.013	<0.013	<0.013	<0.012	<0.007
2,4-Dimethylphenol	105-67-9	mg/Kg	5.27E+01	<0.043	<0.039	<0.039	<0.038	<0.037	<0.021
2,4-Dinitrotoluene	121-14-2	mg/Kg	4.89E-02	<0.012	<0.011	<0.011	<0.01	<0.01	<0.0057
2,6-Dinitrotoluene	606-20-2	mg/Kg	4.02E-02	<0.043	<0.039	<0.039	<0.038	<0.037	<0.021
2-Chloronaphthalene	91-58-7	mg/Kg	1.49E+04	<0.017	<0.015	<0.015	<0.015	<0.014	<0.0083
2-Methylnaphthalene	91-57-6	mg/Kg	3.78E+02	0.0089J	82	1.8	2.9	11	0.92
4,6-Dinitro-2-methylphenol	534-52-1	mg/Kg	7.00E-03	<0.028	<0.025	<0.025	<0.024	<0.023	<0.013
4-Nitrophenol	100-02-7	mg/Kg	2.65E-01	<0.025	<0.022	<0.022	<0.022	<0.021	<0.012
Acenaphthene	83-32-9	mg/Kg	5.23E+03	1.1	92	3.7	6.6	15	2.5
Acenaphthylene	208-96-8	mg/Kg	9.09E+03	0.26	0.77	3.3	2.2	1.1	0.29
Anthracene	120-12-7	mg/Kg	1.03E+04	1.1	38	10	6.2	10	4.5
Benz(a)anthracene	56-55-3	mg/Kg	2.36E+01	3	11	8.4	8.8	4	3.6
Benzo(a)pyrene	50-32-8	mg/Kg	2.37E+00	2.5	2.6	11	4.8	1.4	1.3
Bis(2-chloroethoxy)methane	111-91-1	mg/Kg	1.73E-01	<0.012	<0.011	<0.011	<0.01	<0.01	<0.0057
Bis(2-ethylhexyl)phthalate	117-81-7	mg/Kg	5.63E+02	0.065J	0.62	2.3	0.45	0.46	0.74
Chrysene	218-01-9	mg/Kg	2.36E+03	3.9	11	15	10	3.5	6.3
Di-n-butyl phthalate	84-74-2	mg/Kg	1.62E+04	<0.016	<0.014	<0.014	<0.014	<0.013	<0.0077
Dibenzofuran	132-64-9	mg/Kg	7.44E+02	0.24	72	2.7	2.3	12	1.8
Fluoranthene	206-44-0	mg/Kg	2.48E+04	12	130	51	49	29	21
Fluorene	86-73-7	mg/Kg	6.65E+03	0.77	110	4.5	5.1	22	2.5
N-Nitrosodiphenylamine	86-30-6	mg/Kg	4.18E+01	<0.0092	0.8	<0.0083	<0.008	0.33	<0.0045
Naphthalene	91-20-3	mg/Kg	1.90E+02	<0.0079	390	5	12	12	0.25
Nitrobenzene	98-95-3	mg/Kg	1.48E+00	<0.012	<0.011	<0.011	<0.01	<0.01	<0.0057
Pentachlorophenol	87-86-5	mg/Kg	1.24E-01	<0.043	<0.039	0.23	0.41	0.25	<0.021
Phenanthrene	85-01-8	mg/Kg	9.28E+03	4.1	260	17	28	47	13
Phenol	108-95-2	mg/Kg	1.33E+02	<0.014	0.99	0.35	0.16	0.1	<0.007
Pyrene	129-00-0	mg/Kg	1.86E+04	12	86	39	40	17	16

Notes:

1. Critical PCL (cPCL) based on lowest of $^{TOT}Soil_{COMB}$ and $^{GW}Soil_{Ing}$ (Tier 1 or 2) PCL assum

2. Concentrations > cPCL are highlighted yellow.

Appendix 4 - Table 2
SUMMARY OF CONFIRMATION SOIL SAMPLING RESULTS
UPRR Houston Wood Preserving Works

ANALYTE	CAS NUMBER	UNITS	cPCL	Area A								
				CSAW1(0-5)	CSAW2(0-5)	CSAW3(0-5)	CSAW1R(0-5)	CSA8(0-3.5)	BSA1(5)	BSA2(5)	BSA3(5)	BSA4(5)
				West wall	West wall	West wall	West wall	East wall	Bottom	Bottom	Bottom	Bottom
Sample Date				2/3/2016	2/3/2016	2/3/2016	2/18/2016	2/27/2016	2/12/2016	2/27/2016	2/27/2016	2/27/2016
Method: SW6020 - ICP_S_Low												
Arsenic	7440-38-2	mg/Kg	2.00E+02	1.28	1.56	1.16	2.11	1.23	1.85	1.18	3.69	2.1
Lead	7439-92-1	mg/Kg	1.60E+03	7.38	44	27.3	19.6	12.3	6.32	7.54	7.68	6.45
Method: SW8270 - 8270_LOW_S												
1,2-Diphenylhydrazine	122-66-7	mg/Kg	5.09E-01	<0.0012	<0.006	<0.012	<0.0013	<0.0013	<0.0013	<0.0013	<0.0013	<0.0013
2,4-Dimethylphenol	105-67-9	mg/Kg	5.27E+01	<0.0037	<0.018	<0.036	<0.0038	0.015	<0.004	<0.004	<0.004	<0.004
2,4-Dinitrotoluene	121-14-2	mg/Kg	4.89E-02	<0.001	<0.0049	<0.0099	<0.001	<0.001	<0.0011	<0.0011	<0.0011	<0.0011
2,6-Dinitrotoluene	606-20-2	mg/Kg	4.02E-02	<0.0037	<0.018	<0.036	<0.0038	<0.0038	<0.004	<0.004	<0.004	<0.004
2-Chloronaphthalene	91-58-7	mg/Kg	1.49E+04	<0.0015	<0.0071	<0.014	<0.0015	<0.0015	<0.0016	<0.0016	<0.0016	<0.0016
2-Methylnaphthalene	91-57-6	mg/Kg	3.78E+02	<0.00056	0.02	20	1.2	0.022	<0.00061	<0.00061	0.037	0.8
4,6-Dinitro-2-methylphenol	534-52-1	mg/Kg	7.00E-03	<0.0024	<0.011	<0.023	<0.0024	<0.0024	<0.0025	<0.0025	<0.0026	<0.0025
4-Nitrophenol	100-02-7	mg/Kg	2.65E-01	<0.0021	<0.01	<0.021	<0.0022	<0.0022	<0.0023	<0.0023	<0.0023	<0.0023
Acenaphthene	83-32-9	mg/Kg	5.23E+03	0.032	0.23	40	1.5	0.013	<0.00061	<0.00061	0.038	1.8
Acenaphthylene	208-96-8	mg/Kg	9.09E+03	0.12	0.31	3.1	0.29	0.16	<0.0012	<0.0012	<0.0012	<0.0012
Anthracene	120-12-7	mg/Kg	1.03E+04	0.26	0.96	50	1.8	0.41	0.0026J	0.0021J	0.084	1.9
Benz(a)anthracene	56-55-3	mg/Kg	2.36E+01	0.081	0.28	22	2.8	0.13	<0.0019	<0.0019	0.011	0.45
Benzo(a)pyrene	50-32-8	mg/Kg	2.37E+00	0.078	0.23	13	1.6	0.2	<0.0012	<0.0012	<0.0012	0.15
Bis(2-chloroethoxy)methane	111-91-1	mg/Kg	1.73E-01	<0.001	<0.0049	<0.0099	<0.001	<0.001	<0.0011	<0.0011	<0.0011	<0.0011
Bis(2-ethylhexyl)phthalate	117-81-7	mg/Kg	5.63E+02	<0.0019	<0.0093	<0.019	<0.002	0.012	<0.0021	<0.0021	<0.0021	<0.002
Chrysene	218-01-9	mg/Kg	2.36E+03	0.11	0.33	25	2.5	0.14	<0.00097	<0.00097	0.01	0.49
Di-n-butyl phthalate	84-74-2	mg/Kg	1.62E+04	<0.0014	<0.0066	<0.013	<0.0014	<0.0014	<0.0015	<0.0015	<0.0015	<0.0014
Dibenzofuran	132-64-9	mg/Kg	7.44E+02	<0.00079	0.04	30	0.29	0.022	0.0021J	<0.00085	0.04	1.8
Fluoranthene	206-44-0	mg/Kg	2.48E+04	0.19	0.96	140	9.9	0.17	0.008	0.0031J	0.066	3.6
Fluorene	86-73-7	mg/Kg	6.65E+03	0.038	0.18	63	1.3	0.021	<0.0013	<0.0013	0.05	2.3
N-Nitrosodiphenylamine	86-30-6	mg/Kg	4.18E+01	<0.00079	<0.0038	<0.0077	<0.00081	<0.00082	<0.00085	<0.00085	<0.00086	<0.00084
Naphthalene	91-20-3	mg/Kg	1.90E+02	0.0064	0.035	11	0.19	0.078	<0.00073	<0.00073	0.12	0.21
Nitrobenzene	98-95-3	mg/Kg	1.48E+00	<0.001	<0.0049	<0.0099	<0.001	<0.001	<0.0011	<0.0011	<0.0011	<0.0011
Pentachlorophenol	87-86-5	mg/Kg	1.24E-01	<0.0037	<0.018	0.81	<0.0038	0.12	<0.004	<0.004	<0.004	<0.004
Phenanthrene	85-01-8	mg/Kg	9.28E+03	0.046	0.24	87	3.2	0.09	0.0061	0.0024J	0.12	7.8
Phenol	108-95-2	mg/Kg	1.33E+02	0.0068J	<0.006	<0.012	<0.0013	0.013	<0.0013	<0.0013	<0.0013	<0.0013
Pyrene	129-00-0	mg/Kg	1.86E+04	0.21	0.71	100	8.5	0.21	0.0063	0.003J	0.044	2.4

Notes:

1. Critical PCL (cPCL) based on lowest of $^{TOT}Soil_{COMB}$ and $^{GW}Soil_{Ing}$ (Tier 1 or 2) PCL assuming 30-acre commercial/industrial land use.

2. Concentrations > cPCL are highlighted yellow.

Appendix 4 - Table 2
SUMMARY OF CONFIRMATION SOIL SAMPLING RESULTS
UPRR Houston Wood Preserving Works

ANALYTE	CAS NUMBER	UNITS	cPCL	Area A			Area B					
				BSA5(5)	BSA6(5)	BSA7(3.5)	CSBB1(5.0-5.5)	CSBB2(5.0-5.5)	CSBE1(0-5)	CSBN1(0-5)	CSBN2(0-5)	CSBS1(0-5)
				Bottom	Bottom	Bottom	Bottom	Bottom	East wall	North wall	North wall	South wall
Sample Date				2/27/2016	2/27/2016	2/25/2016	2/4/2016	2/4/2016	2/2/2016	2/2/2016	2/2/2016	2/2/2016
Method: SW6020 - ICP_S_Low												
Arsenic	7440-38-2	mg/Kg	2.00E+02	1.14	0.538	1.58	1.21	1.12	2.65	8.72	1.12	0.609
Lead	7439-92-1	mg/Kg	1.60E+03	5.82	5.71	5.97	6.6	5.84	11.3	7.74	4.71	6.45
Method: SW8270 - 8270_LOW_S												
1,2-Diphenylhydrazine	122-66-7	mg/Kg	5.09E-01	<0.0013	<0.0013	<0.0013	<0.0013	<0.0013	<0.013	<0.0013	<0.013	<0.013
2,4-Dimethylphenol	105-67-9	mg/Kg	5.27E+01	<0.0039	<0.0039	<0.0039	<0.0039	<0.0039	<0.04	<0.0039	<0.038	<0.038
2,4-Dinitrotoluene	121-14-2	mg/Kg	4.89E-02	<0.0011	<0.0011	<0.0011	<0.0011	<0.0011	<0.011	<0.0011	<0.01	<0.01
2,6-Dinitrotoluene	606-20-2	mg/Kg	4.02E-02	<0.0039	<0.0039	<0.0039	<0.0039	<0.0039	<0.04	<0.0039	<0.038	<0.038
2-Chloronaphthalene	91-58-7	mg/Kg	1.49E+04	<0.0015	<0.0015	<0.0015	<0.0015	<0.0015	<0.016	<0.0015	<0.015	<0.015
2-Methylnaphthalene	91-57-6	mg/Kg	3.78E+02	0.39	<0.00059	0.0016J	<0.0006	0.0038J	0.59	0.21	0.15	2.1
4,6-Dinitro-2-methylphenol	534-52-1	mg/Kg	7.00E-03	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	<0.025	<0.0025	<0.024	<0.024
4-Nitrophenol	100-02-7	mg/Kg	2.65E-01	<0.0023	<0.0023	<0.0023	<0.0023	<0.0022	<0.023	<0.0022	<0.022	<0.022
Acenaphthene	83-32-9	mg/Kg	5.23E+03	0.37	0.056	<0.00059	0.0023J	0.004	2.6	0.25	0.3	7
Acenaphthylene	208-96-8	mg/Kg	9.09E+03	<0.0012	<0.0012	0.0089	<0.0012	<0.0012	0.12	0.0053	0.048	0.11
Anthracene	120-12-7	mg/Kg	1.03E+04	0.21	0.046	0.031	<0.0006	<0.00059	1.3	0.096	0.26	12
Benz(a)anthracene	56-55-3	mg/Kg	2.36E+01	0.095	0.037	<0.0019	<0.0019	<0.0019	1.5	0.065	0.24	12
Benzo(a)pyrene	50-32-8	mg/Kg	2.37E+00	0.044	0.019	0.041	<0.0012	<0.0012	0.94	0.031	0.2	5.9
Bis(2-chloroethoxy)methane	111-91-1	mg/Kg	1.73E-01	<0.0011	<0.0011	<0.0011	<0.0011	<0.0011	<0.011	<0.0011	<0.01	<0.01
Bis(2-ethylhexyl)phthalate	117-81-7	mg/Kg	5.63E+02	<0.002	<0.002	<0.002	<0.002	<0.002	<0.021	0.0078	<0.02	<0.019
Chrysene	218-01-9	mg/Kg	2.36E+03	0.096	0.035	0.03	<0.00095	0.002J	2	0.067	0.31	14
Di-n-butyl phthalate	84-74-2	mg/Kg	1.62E+04	<0.0014	<0.0014	<0.0014	<0.0014	<0.0014	<0.014	0.0041J	<0.014	<0.014
Dibenzofuran	132-64-9	mg/Kg	7.44E+02	0.31	0.045	0.0016J	<0.00083	0.0027J	1.1	0.16	0.17	5.9
Fluoranthene	206-44-0	mg/Kg	2.48E+04	0.57	0.21	0.026	0.0031J	0.0063	10	0.35	1.6	72
Fluorene	86-73-7	mg/Kg	6.65E+03	0.46	0.071	<0.0013	<0.0013	0.0032J	1.9	0.25	0.25	12
N-Nitrosodiphenylamine	86-30-6	mg/Kg	4.18E+01	<0.00083	<0.00083	<0.00083	<0.00083	<0.00082	<0.0085	<0.00082	<0.0081	<0.008
Naphthalene	91-20-3	mg/Kg	1.90E+02	0.063	<0.00071	0.0039	<0.00071	0.0093	0.37	0.26	0.28	3.7
Nitrobenzene	98-95-3	mg/Kg	1.48E+00	<0.0011	<0.0011	<0.0011	<0.0011	<0.0011	<0.011	<0.0011	<0.01	<0.01
Pentachlorophenol	87-86-5	mg/Kg	1.24E-01	<0.0039	<0.0039	<0.0039	<0.0039	<0.0039	<0.04	<0.0039	<0.038	<0.038
Phenanthrene	85-01-8	mg/Kg	9.28E+03	1.2	0.24	0.0074	0.0033J	0.0063	3.9	0.51	0.93	72
Phenol	108-95-2	mg/Kg	1.33E+02	<0.0013	<0.0013	<0.0013	<0.0013	<0.0013	<0.013	<0.0013	0.042J	<0.013
Pyrene	129-00-0	mg/Kg	1.86E+04	0.35	0.14	0.029	<0.00071	0.0042	11	0.27	1.2	45

Notes:

1. Critical PCL (cPCL) based on lowest of $^{TOT}Soil_{COMB}$ and $^{GW}Soil_{Ing}$ (Tier 1 or 2) PCL assuming 30-acre commercial/industrial land use.

2. Concentrations > cPCL are highlighted yellow.

Appendix 4 - Table 2
SUMMARY OF CONFIRMATION SOIL SAMPLING RESULTS
UPRR Houston Wood Preserving Works

ANALYTE	CAS NUMBER	UNITS	cPCL	Area B				Area C				Area C
				CSBS1R(0-5)	CSBS1RR(0-5)	CSBS2(0-5)	CSBW1(0-5)	CSCE1(0-5)	CSCN1(0-5)	CSCS1(0-5)	CSCW1(0-5)	BSC1(5)
				South wall	South wall	South wall	West wall	East wall	North wall	South wall	West wall	Bottom
Sample Date				2/4/2016	2/18/2016	2/2/2016	2/2/2016	2/1/2016	2/1/2016	2/1/2016	2/1/2016	2/2/2016
Method: SW6020 - ICP_S_Low												
Arsenic	7440-38-2	mg/Kg	2.00E+02	1.8	0.889	1.33	6.97	1.56	1.37	1.1	1.35	1.43
Lead	7439-92-1	mg/Kg	1.60E+03	11.2	266	18	6.84	6.76	9.99	5.62	14.6	5
Method: SW8270 - 8270_LOW_S												
1,2-Diphenylhydrazine	122-66-7	mg/Kg	5.09E-01	<0.0063	<0.0013	<0.0012	<0.0013	<0.0013	<0.0013	<0.0014	<0.0013	<0.0013
2,4-Dimethylphenol	105-67-9	mg/Kg	5.27E+01	<0.019	<0.0038	<0.0037	<0.0038	<0.0038	<0.0039	<0.0041	<0.0039	<0.004
2,4-Dinitrotoluene	121-14-2	mg/Kg	4.89E-02	<0.0051	<0.001	<0.001	<0.001	<0.001	<0.0011	<0.0011	<0.0011	<0.0011
2,6-Dinitrotoluene	606-20-2	mg/Kg	4.02E-02	<0.019	<0.0038	<0.0037	<0.0038	<0.0038	<0.0039	<0.0041	<0.0039	<0.004
2-Chloronaphthalene	91-58-7	mg/Kg	1.49E+04	<0.0074	<0.0015	<0.0015	<0.0015	<0.0015	<0.0015	<0.0016	<0.0015	<0.0016
2-Methylnaphthalene	91-57-6	mg/Kg	3.78E+02	1.9	0.054	0.008	0.47	0.28	0.0035J	0.0014J	0.0062	<0.0006
4,6-Dinitro-2-methylphenol	534-52-1	mg/Kg	7.00E-03	<0.012	<0.0024	<0.0024	<0.0024	<0.0024	<0.0025	<0.0026	<0.0025	<0.0025
4-Nitrophenol	100-02-7	mg/Kg	2.65E-01	<0.011	<0.0022	<0.0022	<0.0022	<0.0022	<0.0022	<0.0024	<0.0022	<0.0023
Acenaphthene	83-32-9	mg/Kg	5.23E+03	8.1	0.19	0.016	0.48	0.51	0.19	0.006	0.084	<0.0006
Acenaphthylene	208-96-8	mg/Kg	9.09E+03	0.32	0.035	<0.0011	0.0075	0.084	0.0074	<0.0012	0.005	<0.0012
Anthracene	120-12-7	mg/Kg	1.03E+04	21	0.079	0.018	0.24	0.27	0.13	0.0045	0.057	<0.0006
Benz(a)anthracene	56-55-3	mg/Kg	2.36E+01	17	0.2	0.018	0.096	0.31	0.18	0.011	0.053	0.0031J
Benzo(a)pyrene	50-32-8	mg/Kg	2.37E+00	8.9	0.16	0.015	0.033	0.31	0.097	0.0045	0.081	0.0033J
Bis(2-chloroethoxy)methane	111-91-1	mg/Kg	1.73E-01	<0.0051	<0.001	<0.001	<0.001	<0.001	<0.0011	<0.0011	<0.0011	<0.0011
Bis(2-ethylhexyl)phthalate	117-81-7	mg/Kg	5.63E+02	<0.0097	<0.002	<0.0019	<0.0019	0.026	<0.002	0.0025J	0.0032J	<0.002
Chrysene	218-01-9	mg/Kg	2.36E+03	31	0.25	0.021	0.087	0.38	0.19	0.015	0.051	0.0052
Di-n-butyl phthalate	84-74-2	mg/Kg	1.62E+04	<0.0068	<0.0014	<0.0014	<0.0014	<0.0014	<0.0014	<0.0015	0.0023J	<0.0014
Dibenzofuran	132-64-9	mg/Kg	7.44E+02	7.1	0.059	0.0049	0.4	0.23	0.022	0.0021J	0.012	<0.00084
Fluoranthene	206-44-0	mg/Kg	2.48E+04	120	1.4	0.038	0.67	1.3	0.87	0.068	0.21	0.012
Fluorene	86-73-7	mg/Kg	6.65E+03	15	0.12	0.015	0.55	0.4	0.25	0.0046	0.069	<0.0013
N-Nitrosodiphenylamine	86-30-6	mg/Kg	4.18E+01	0.29	<0.00081	<0.00079	<0.0008	<0.0008	<0.00083	<0.00087	<0.00082	<0.00084
Naphthalene	91-20-3	mg/Kg	1.90E+02	2.8	0.092	0.007	0.74	0.014	0.0045	0.0095	0.012	<0.00072
Nitrobenzene	98-95-3	mg/Kg	1.48E+00	<0.0051	<0.001	<0.001	<0.001	<0.001	<0.0011	<0.0011	<0.0011	<0.0011
Pentachlorophenol	87-86-5	mg/Kg	1.24E-01	<0.019	<0.0038	<0.0037	<0.0038	0.091	<0.0039	<0.0041	<0.0039	<0.004
Phenanthrene	85-01-8	mg/Kg	9.28E+03	120	0.1	0.03	1.3	0.99	0.68	0.021	0.18	0.0034J
Phenol	108-95-2	mg/Kg	1.33E+02	<0.0063	<0.0013	<0.0012	0.0015J	0.0064J	<0.0013	<0.0014	0.004J	<0.0013
Pyrene	129-00-0	mg/Kg	1.86E+04	85	1.7	0.039	0.44	1.3	0.69	0.053	0.16	0.01

Notes:

1. Critical PCL (cPCL) based on lowest of $^{TOT}Soil_{COMB}$ and $^{GW}Soil_{Ing}$ (Tier 1 or 2) PCL assuming 30-acre commercial/industrial land use.

2. Concentrations > cPCL are highlighted yellow.

Appendix 4 - Table 2
SUMMARY OF CONFIRMATION SOIL SAMPLING RESULTS
UPRR Houston Wood Preserving Works

ANALYTE	CAS NUMBER	UNITS	cPCL	Ditch (SB-107)		Area D					
				CSDCH107E(0-2)	CSDCH107W(0-2)	CSDE1(0-5)	CSDE2(0-5)	CSDN1(0-5)	CSDN2(0-5)	CSDS1(0-5)	CSDS2(0-5)
				East wall	West wall	East wall	East wall	North wall	North wall	South wall	South wall
Sample Date				2/12/1916	2/12/1916	1/29/2016	1/29/2016	1/30/2016	1/30/2016	1/29/2016	1/29/2016
Method: SW6020 - ICP_S_Low											
Arsenic	7440-38-2	mg/Kg	2.00E+02	1.42	2.76	2.04	1.67	8.53	3.04	177	2.19
Lead	7439-92-1	mg/Kg	1.60E+03	5.87	6.68	13.6	7.26	24.1	12.7	8.75	19.1
Method: SW8270 - 8270_LOW_S											
1,2-Diphenylhydrazine	122-66-7	mg/Kg	5.09E-01	<0.0013	<0.0069	<0.0013	<0.0013	<0.0014	<0.013	<0.0014	<0.014
2,4-Dimethylphenol	105-67-9	mg/Kg	5.27E+01	<0.0038	<0.021	<0.004	<0.0039	<0.0041	<0.04	<0.0041	<0.041
2,4-Dinitrotoluene	121-14-2	mg/Kg	4.89E-02	<0.001	<0.0057	<0.0011	<0.0011	<0.0011	<0.011	<0.0011	<0.011
2,6-Dinitrotoluene	606-20-2	mg/Kg	4.02E-02	<0.0038	<0.021	<0.004	<0.0039	<0.0041	<0.04	<0.0041	<0.041
2-Chloronaphthalene	91-58-7	mg/Kg	1.49E+04	<0.0015	<0.0082	<0.0016	<0.0015	<0.0016	<0.016	<0.0016	<0.016
2-Methylnaphthalene	91-57-6	mg/Kg	3.78E+02	<0.00058	<0.0031	0.0054	0.011	<0.00063	<0.006	0.19	<0.0062
4,6-Dinitro-2-methylphenol	534-52-1	mg/Kg	7.00E-03	<0.0024	<0.013	<0.0026	<0.0025	<0.0026	<0.025	<0.0026	<0.026
4-Nitrophenol	100-02-7	mg/Kg	2.65E-01	<0.0022	<0.012	<0.0023	<0.0023	<0.0024	<0.023	<0.0024	<0.024
Acenaphthene	83-32-9	mg/Kg	5.23E+03	<0.00058	<0.0031	0.0089	0.08	0.021	0.039J	1.4	<0.0062
Acenaphthylene	208-96-8	mg/Kg	9.09E+03	0.002J	0.11	0.25	0.14	0.097	0.25	0.38	0.43
Anthracene	120-12-7	mg/Kg	1.03E+04	0.0029J	0.15	0.023	0.15	0.038	0.17	1.1	0.44
Benz(a)anthracene	56-55-3	mg/Kg	2.36E+01	0.0057	0.055	0.17	0.13	0.28	0.34	2.3	0.72
Benzo(a)pyrene	50-32-8	mg/Kg	2.37E+00	0.0088	0.27	0.64	0.27	0.41	1.1	1.5	1.5
Bis(2-chloroethoxy)methane	111-91-1	mg/Kg	1.73E-01	<0.001	<0.0057	<0.0011	<0.0011	<0.0011	<0.011	<0.0011	<0.011
Bis(2-ethylhexyl)phthalate	117-81-7	mg/Kg	5.63E+02	0.0021J	<0.011	<0.0021	<0.002	0.0072J	0.042J	<0.0021	<0.021
Chrysene	218-01-9	mg/Kg	2.36E+03	0.013	0.084	0.27	0.2	0.37	0.61	2.5	1
Di-n-butyl phthalate	84-74-2	mg/Kg	1.62E+04	<0.0014	<0.0075	<0.0015	<0.0014	0.0031J	<0.014	<0.0015	<0.015
Dibenzofuran	132-64-9	mg/Kg	7.44E+02	<0.00082	0.011J	0.0067	0.046	<0.00088	<0.0084	0.41	<0.0087
Fluoranthene	206-44-0	mg/Kg	2.48E+04	0.015	0.14	0.13	0.38	1.1	0.73	8.3	0.65
Fluorene	86-73-7	mg/Kg	6.65E+03	<0.0013	0.015J	0.027	0.085	0.0075	<0.013	0.92	0.043
N-Nitrosodiphenylamine	86-30-6	mg/Kg	4.18E+01	<0.00082	<0.0044	<0.00086	<0.00083	<0.00088	<0.0084	<0.00087	<0.0087
Naphthalene	91-20-3	mg/Kg	1.90E+02	<0.0007	0.04	0.0097	0.0093	<0.00075	<0.0072	0.35	0.048
Nitrobenzene	98-95-3	mg/Kg	1.48E+00	<0.001	<0.0057	<0.0011	<0.0011	<0.0011	<0.011	<0.0011	<0.011
Pentachlorophenol	87-86-5	mg/Kg	1.24E-01	<0.0038	<0.021	0.014	<0.0039	<0.0041	<0.04	<0.0041	<0.041
Phenanthrene	85-01-8	mg/Kg	9.28E+03	0.0039	0.048	0.26	0.26	0.006	0.061	4.2	0.11
Phenol	108-95-2	mg/Kg	1.33E+02	<0.0013	<0.0069	0.024	0.013	0.0024J	<0.013	0.027	0.045J
Pyrene	129-00-0	mg/Kg	1.86E+04	0.015	0.12	0.26	0.38	0.78	0.63	8.3	0.9

Notes:

1. Critical PCL (cPCL) based on lowest of $^{TOT}Soil_{COMB}$ and $^{GW}Soil_{Ing}$ (Tier 1 or 2) PCL assuming 30-acre commercial/industrial land use.

2. Concentrations > cPCL are highlighted yellow.

Appendix 4 - Table 2
SUMMARY OF CONFIRMATION SOIL SAMPLING RESULTS
UPRR Houston Wood Preserving Works

ANALYTE	CAS NUMBER	UNITS	cPCL	Area D				Area E				Area E	
				CSDW1(0-5)	CSDW2(0-5)	BSD1(5)	BSD2(5)	CSEE1(0-5)	CSEN1(0-5)	CSES1(0-5)	CSEW1(0-5)	BSE1(5)	BSE2(5)
				West wall	West wall	Bottom	Bottom	East wall	North wall	South wall	West wall	Bottom	Bottom
Sample Date				1/29/2016	1/29/2016	2/1/2016	2/1/2016	2/1/2016	1/30/2016	1/30/2016	1/30/2016	2/1/2016	2/1/2016
Method: SW6020 - ICP_S_Low													
Arsenic	7440-38-2	mg/Kg	2.00E+02	1.24	1.41	0.86	1.44	2.27	1.05	1.57	1.99	1.4	0.868
Lead	7439-92-1	mg/Kg	1.60E+03	6.28	8.35	6.85	5.4	11.6	7.28	9.57	13	8.32	6.48
Method: SW8270 - 8270_LOW_S													
1,2-Diphenylhydrazine	122-66-7	mg/Kg	5.09E-01	<0.0013	<0.0013	<0.0013	<0.0014	<0.0013	<0.0013	<0.013	<0.0013	<0.0014	<0.0014
2,4-Dimethylphenol	105-67-9	mg/Kg	5.27E+01	<0.004	<0.004	<0.0039	<0.0041	<0.004	<0.0039	<0.04	<0.004	<0.0041	<0.0041
2,4-Dinitrotoluene	121-14-2	mg/Kg	4.89E-02	<0.0011	<0.0011	<0.0011	<0.0011	<0.0011	<0.0011	<0.011	<0.0011	<0.0011	<0.0011
2,6-Dinitrotoluene	606-20-2	mg/Kg	4.02E-02	<0.004	<0.004	<0.0039	<0.0041	<0.004	<0.0039	<0.04	<0.004	<0.0041	<0.0041
2-Chloronaphthalene	91-58-7	mg/Kg	1.49E+04	<0.0016	<0.0016	<0.0015	<0.0016	<0.0016	<0.0015	<0.016	<0.0016	<0.0016	<0.0016
2-Methylnaphthalene	91-57-6	mg/Kg	3.78E+02	<0.00061	0.0031J	1.4	0.01	<0.00061	<0.00059	<0.0061	0.016	0.0089	<0.00062
4,6-Dinitro-2-methylphenol	534-52-1	mg/Kg	7.00E-03	<0.0026	<0.0025	<0.0025	<0.0026	<0.0026	<0.0025	<0.025	<0.0025	<0.0026	<0.0026
4-Nitrophenol	100-02-7	mg/Kg	2.65E-01	<0.0023	<0.0023	<0.0022	0.042	<0.0023	<0.0023	<0.023	<0.0023	<0.0023	<0.0024
Acenaphthene	83-32-9	mg/Kg	5.23E+03	0.18	0.0098	7.7	0.022	0.0032J	<0.00059	0.028J	0.1	0.9	<0.00062
Acenaphthylene	208-96-8	mg/Kg	9.09E+03	0.079	0.1	0.064	0.17	0.06	0.0032J	0.1	0.055	0.077	<0.0012
Anthracene	120-12-7	mg/Kg	1.03E+04	0.12	0.034	8.4	0.084	0.04	0.0062	0.036J	0.14	1.6	<0.00062
Benz(a)anthracene	56-55-3	mg/Kg	2.36E+01	0.25	0.27	1.8	0.28	0.064	0.019	0.39	0.18	1.2	0.0026J
Benzo(a)pyrene	50-32-8	mg/Kg	2.37E+00	0.21	0.24	0.37	1	0.26	0.017	0.65	0.25	0.71	0.0047
Bis(2-chloroethoxy)methane	111-91-1	mg/Kg	1.73E-01	0.0026J	<0.0011	<0.0011	<0.0011	<0.0011	<0.0011	<0.011	<0.0011	<0.0011	<0.0011
Bis(2-ethylhexyl)phthalate	117-81-7	mg/Kg	5.63E+02	<0.0021	<0.0021	0.021	0.011	0.0074J	0.0033J	<0.021	0.0063J	<0.0021	<0.0021
Chrysene	218-01-9	mg/Kg	2.36E+03	0.3	0.3	2	0.64	0.12	0.029	0.61	0.26	1.6	0.0039J
Di-n-butyl phthalate	84-74-2	mg/Kg	1.62E+04	<0.0015	<0.0014	<0.0014	0.003J	<0.0015	<0.0014	<0.015	0.0025J	<0.0015	<0.0015
Dibenzofuran	132-64-9	mg/Kg	7.44E+02	0.027	0.0025J	5.6	0.022	<0.00086	<0.00083	<0.0085	0.07	0.17	<0.00087
Fluoranthene	206-44-0	mg/Kg	2.48E+04	1.3	0.73	9.7	0.47	0.032	0.037	0.91	0.76	5.3	0.0099
Fluorene	86-73-7	mg/Kg	6.65E+03	0.051	0.012	9.2	0.028	0.0044	<0.0013	<0.013	0.07	0.35	<0.0014
N-Nitrosodiphenylamine	86-30-6	mg/Kg	4.18E+01	<0.00085	<0.00084	<0.00083	<0.00086	<0.00086	<0.00083	<0.0085	<0.00084	<0.00087	<0.00087
Naphthalene	91-20-3	mg/Kg	1.90E+02	0.0067	0.0031J	7.1	0.037	0.0022J	<0.00071	<0.0073	0.029	0.012	<0.00074
Nitrobenzene	98-95-3	mg/Kg	1.48E+00	<0.0011	<0.0011	<0.0011	<0.0011	<0.0011	<0.0011	<0.011	<0.0011	<0.0011	<0.0011
Pentachlorophenol	87-86-5	mg/Kg	1.24E-01	<0.004	<0.004	<0.0039	<0.0041	<0.004	<0.0039	<0.04	<0.004	<0.0041	<0.0041
Phenanthrene	85-01-8	mg/Kg	9.28E+03	0.23	0.076	20	0.087	0.0059	0.007	0.032J	0.37	3.4	0.0059
Phenol	108-95-2	mg/Kg	1.33E+02	0.0054J	0.0058J	0.0074J	0.0041J	0.0098	0.0064J	<0.013	0.0029J	0.0035J	<0.0014
Pyrene	129-00-0	mg/Kg	1.86E+04	0.86	0.6	8	0.19	0.049	0.036	0.85	0.47	5.1	0.005

Notes:

1. Critical PCL (cPCL) based on lowest of $^{TOT}Soil_{COMB}$ and $^{GW}Soil_{Ing}$ (Tier 1 or 2) PCL assuming 30-acre commercial/industrial land use.

2. Concentrations > cPCL are highlighted yellow.

Appendix 4 - Table 2
SUMMARY OF CONFIRMATION SOIL SAMPLING RESULTS
UPRR Houston Wood Preserving Works

ANALYTE	CAS NUMBER	UNITS	cPCL	Area F				Area F				A
				CSFE1(0-5)	CSFE2(0-5)	CSFN1(0-5)	CSFN2(0-5)	CSFN3(0-5)	CSFS1(0-5)	CSFS2(0-5)	CSFS3(0-5)	CSFW1(0-5)
				East wall	East wall	North wall	North wall	North wall	South wall	South wall	South wall	West wall
Sample Date				1/29/2016	1/29/2016	1/26/2016	1/26/2016	1/28/2016	1/26/2016	1/26/2016	1/28/2016	1/26/2016
Method: SW6020 - ICP_S_Low												
Arsenic	7440-38-2	mg/Kg	2.00E+02	2.16	1.35	1.16	1.66	1.77	1.11	1.46	1.87	1.49
Lead	7439-92-1	mg/Kg	1.60E+03	9.65	7.84	8.62	11.3	8.37	8.93	21.6	10.6	17.2
Method: SW8270 - 8270_LOW_S												
1,2-Diphenylhydrazine	122-66-7	mg/Kg	5.09E-01	<0.0013	<0.0013	<0.0013	<0.0014	<0.0013	<0.0013	<0.0013	<0.0013	<0.0013
2,4-Dimethylphenol	105-67-9	mg/Kg	5.27E+01	<0.004	<0.0038	<0.0039	<0.0042	<0.004	<0.0039	<0.0039	<0.0038	<0.004
2,4-Dinitrotoluene	121-14-2	mg/Kg	4.89E-02	<0.0011	<0.001	<0.0011	<0.0011	<0.0011	<0.0011	<0.0011	<0.001	<0.0011
2,6-Dinitrotoluene	606-20-2	mg/Kg	4.02E-02	<0.004	<0.0038	<0.0039	<0.0042	<0.004	<0.0039	<0.0039	<0.0038	<0.004
2-Chloronaphthalene	91-58-7	mg/Kg	1.49E+04	<0.0016	<0.0015	<0.0015	<0.0016	<0.0016	<0.0016	<0.0016	<0.0015	<0.0016
2-Methylnaphthalene	91-57-6	mg/Kg	3.78E+02	0.003J	0.0094	0.12	8.5	0.012	<0.0006	0.09	<0.00058	<0.00061
4,6-Dinitro-2-methylphenol	534-52-1	mg/Kg	7.00E-03	<0.0026	<0.0024	<0.0025	<0.0026	<0.0025	<0.0025	<0.0025	<0.0024	<0.0026
4-Nitrophenol	100-02-7	mg/Kg	2.65E-01	<0.0023	<0.0022	<0.0022	<0.0024	<0.0023	<0.0023	<0.0023	<0.0022	<0.0023
Acenaphthene	83-32-9	mg/Kg	5.23E+03	<0.00061	<0.00058	0.51	12	0.044	<0.0006	0.1	<0.00058	<0.00061
Acenaphthylene	208-96-8	mg/Kg	9.09E+03	0.0062	0.2	0.02	0.13	0.15	<0.0012	0.15	0.11	<0.0012
Anthracene	120-12-7	mg/Kg	1.03E+04	0.0069	0.015	0.29	9.4	0.16	<0.0006	0.19	0.13	<0.00061
Benz(a)anthracene	56-55-3	mg/Kg	2.36E+01	0.023	0.13	0.29	3.5	0.4	0.01	0.21	0.028	<0.002
Benzo(a)pyrene	50-32-8	mg/Kg	2.37E+00	0.12	0.51	0.27	0.99	0.32	0.02	0.71	0.33	<0.0012
Bis(2-chloroethoxy)methane	111-91-1	mg/Kg	1.73E-01	<0.0011	<0.001	<0.0011	<0.0011	<0.0011	<0.0011	<0.0011	<0.001	<0.0011
Bis(2-ethylhexyl)phthalate	117-81-7	mg/Kg	5.63E+02	0.011	<0.002	0.016	<0.0021	<0.0021	<0.002	0.024	<0.002	0.0055J
Chrysene	218-01-9	mg/Kg	2.36E+03	0.042	0.22	0.35	3.2	0.47	0.015	0.34	0.066	<0.00098
Di-n-butyl phthalate	84-74-2	mg/Kg	1.62E+04	<0.0015	<0.0014	<0.0014	<0.0015	<0.0015	<0.0014	<0.0014	<0.0014	<0.0015
Dibenzofuran	132-64-9	mg/Kg	7.44E+02	0.0029J	0.014	0.28	9	0.022	<0.00084	0.07	<0.00081	<0.00086
Fluoranthene	206-44-0	mg/Kg	2.48E+04	0.018	0.099	1.2	24	0.51	0.01	0.61	0.045	<0.0013
Fluorene	86-73-7	mg/Kg	6.65E+03	<0.0013	0.018	0.6	15	0.055	<0.0013	0.12	0.019	<0.0013
N-Nitrosodiphenylamine	86-30-6	mg/Kg	4.18E+01	<0.00085	<0.00081	0.0067J	<0.00088	<0.00085	<0.00084	<0.00084	<0.00081	<0.00086
Naphthalene	91-20-3	mg/Kg	1.90E+02	0.0068	0.017	0.18	23	0.012	<0.00072	0.21	0.003J	<0.00074
Nitrobenzene	98-95-3	mg/Kg	1.48E+00	<0.0011	<0.001	<0.0011	<0.0011	<0.0011	<0.0011	<0.0011	<0.001	<0.0011
Pentachlorophenol	87-86-5	mg/Kg	1.24E-01	<0.004	<0.0038	<0.0039	<0.0042	0.016	<0.0039	<0.0039	<0.0038	<0.004
Phenanthrene	85-01-8	mg/Kg	9.28E+03	0.0086	0.21	1.9	41	0.11	<0.0018	0.31	0.0086	0.0036J
Phenol	108-95-2	mg/Kg	1.33E+02	0.0024J	0.023	<0.0013	0.04	<0.0013	<0.0013	0.01	0.0091	0.0043J
Pyrene	129-00-0	mg/Kg	1.86E+04	0.036	0.18	1	17	0.83	0.02	1	0.058	<0.00074

Notes:

1. Critical PCL (cPCL) based on lowest of $^{TOT}Soil_{COMB}$ and $^{GW}Soil_{Ing}$ (Tier 1 or 2) PCL assuming 30-acre commercial/industrial land use.

2. Concentrations > cPCL are highlighted yellow.

Appendix 4 - Table 2
SUMMARY OF CONFIRMATION SOIL SAMPLING RESULTS
UPRR Houston Wood Preserving Works

ANALYTE	CAS NUMBER	UNITS	cPCL	rea F			Area G		Area G			
				BSF1(5)	BSF2(5)	BSF3(5)	CSG1(3)	CSG2(3)	CSG3(0-3)	CSG4(3)	CSG5(0-3)	CSG6(3)
				Bottom	Bottom	Bottom	Bottom	Bottom	North wall	Bottom	West wall	South wall
Sample Date				2/2/2016	2/2/2016	2/2/2016	2/12/2016	2/13/2016	2/13/2016	2/13/2016	2/15/2016	2/16/2016
Method: SW6020 - ICP_S_Low												
Arsenic	7440-38-2	mg/Kg	2.00E+02	2.13	0.752	1.63	8.67	1.46	2.88	6.03	5.54	1.71
Lead	7439-92-1	mg/Kg	1.60E+03	7.65	9.58	6.51	10.8	7.24	8.86	14	10	7.35
Method: SW8270 - 8270_LOW_S												
1,2-Diphenylhydrazine	122-66-7	mg/Kg	5.09E-01	0.0076J	<0.0013	<0.0014	0.0025J	<0.0013	<0.0013	<0.0013	<0.0013	<0.0013
2,4-Dimethylphenol	105-67-9	mg/Kg	5.27E+01	<0.0039	<0.0039	<0.0042	<0.004	<0.0039	<0.004	<0.004	<0.004	<0.0039
2,4-Dinitrotoluene	121-14-2	mg/Kg	4.89E-02	<0.0011	<0.0011	<0.0011	<0.0011	<0.0011	<0.0011	<0.0011	<0.0011	<0.0011
2,6-Dinitrotoluene	606-20-2	mg/Kg	4.02E-02	<0.0039	<0.0039	<0.0042	<0.004	<0.0039	<0.004	<0.004	<0.004	<0.0039
2-Chloronaphthalene	91-58-7	mg/Kg	1.49E+04	<0.0016	<0.0015	<0.0016	<0.0016	<0.0015	<0.0016	<0.0016	<0.0016	<0.0016
2-Methylnaphthalene	91-57-6	mg/Kg	3.78E+02	<0.0006	<0.00059	<0.00063	0.0043	<0.00059	2.5	0.034	<0.0006	0.0057
4,6-Dinitro-2-methylphenol	534-52-1	mg/Kg	7.00E-03	<0.0025	<0.0025	<0.0027	<0.0025	<0.0025	<0.0026	<0.0025	<0.0025	<0.0025
4-Nitrophenol	100-02-7	mg/Kg	2.65E-01	0.0079J	<0.0022	<0.0024	<0.0023	<0.0023	<0.0023	<0.0023	<0.0023	<0.0023
Acenaphthene	83-32-9	mg/Kg	5.23E+03	0.11	0.0014J	<0.00063	0.0014J	0.035	8.2	2.4	<0.0006	<0.0006
Acenaphthylene	208-96-8	mg/Kg	9.09E+03	0.006	<0.0012	<0.0013	<0.0012	<0.0012	0.098	0.038	0.006	<0.0012
Anthracene	120-12-7	mg/Kg	1.03E+04	0.31	0.008	0.0027J	0.0033J	0.019	3.5	1.4	0.0076	0.0063
Benz(a)anthracene	56-55-3	mg/Kg	2.36E+01	0.1	0.0057	0.021	0.0086	0.0069	1.8	0.9	0.016	0.0087
Benzo(a)pyrene	50-32-8	mg/Kg	2.37E+00	0.04	0.0034J	0.014	0.0022J	0.0044	0.45	0.22	0.017	0.0059
Bis(2-chloroethoxy)methane	111-91-1	mg/Kg	1.73E-01	<0.0011	<0.0011	<0.0011	<0.0011	<0.0011	<0.0011	<0.0011	<0.0011	<0.0011
Bis(2-ethylhexyl)phthalate	117-81-7	mg/Kg	5.63E+02	0.0021J	0.0025J	<0.0021	<0.0021	0.0038J	0.027	0.005J	0.011	0.0077J
Chrysene	218-01-9	mg/Kg	2.36E+03	0.21	0.012	0.027	0.014	0.019	1.6	0.81	0.02	0.019
Di-n-butyl phthalate	84-74-2	mg/Kg	1.62E+04	0.002J	0.0017J	<0.0015	<0.0015	<0.0014	<0.0015	<0.0014	0.004J	0.0039J
Dibenzofuran	132-64-9	mg/Kg	7.44E+02	0.12	0.0024J	<0.00088	0.011	0.024	6.6	1.8	<0.00085	<0.00084
Fluoranthene	206-44-0	mg/Kg	2.48E+04	0.7	0.027	0.044	0.099	0.058	16	7.1	0.03	<0.0013
Fluorene	86-73-7	mg/Kg	6.65E+03	0.27	0.0016J	<0.0014	0.0031J	0.042	10	3	<0.0013	0.0083
N-Nitrosodiphenylamine	86-30-6	mg/Kg	4.18E+01	<0.00083	<0.00082	<0.00088	0.0026J	<0.00083	<0.00085	<0.00084	<0.00085	<0.00084
Naphthalene	91-20-3	mg/Kg	1.90E+02	0.0018J	0.001J	<0.00076	<0.00073	<0.00071	6.6	0.073	<0.00073	<0.00072
Nitrobenzene	98-95-3	mg/Kg	1.48E+00	<0.0011	0.0031J	<0.0011	<0.0011	<0.0011	<0.0011	<0.0011	<0.0011	<0.0011
Pentachlorophenol	87-86-5	mg/Kg	1.24E-01	<0.0039	<0.0039	<0.0042	<0.004	<0.0039	<0.004	<0.004	<0.004	<0.0039
Phenanthrene	85-01-8	mg/Kg	9.28E+03	1.2	0.026	0.0066	0.085	0.13	30	11	0.0054	0.025
Phenol	108-95-2	mg/Kg	1.33E+02	0.0083	0.0023J	<0.0014	0.0022J	<0.0013	0.0041J	<0.0013	<0.0013	<0.0013
Pyrene	129-00-0	mg/Kg	1.86E+04	0.3	0.014	0.072	0.028	0.04	8.5	3	0.03	0.021

Notes:

1. Critical PCL (cPCL) based on lowest of $^{TOT}Soil_{COMB}$ and $^{GW}Soil_{Ing}$ (Tier 1 or 2) PCL assuming 30-acre commercial/industrial land use.

2. Concentrations > cPCL are highlighted yellow.

APPENDIX 5

SAMPLING PROCEDURES

CTEH Air Monitoring and Sampling Report

CTEH® CENTER FOR TOXICOLOGY AND ENVIRONMENTAL HEALTH, LLC

Union Pacific Railroad

Houston Wood Preserving Worksite

Soil Capping Project

Air Monitoring and Sampling Report

Houston, Texas

February 10, 2016 – April 28, 2016

CTEH® Project Number: 107907

June 20, 2016

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Executive Summary

The Center for Toxicology and Environmental Health, L.L.C. (CTEH®) was contacted by Union Pacific Railroad (UP) in Houston, Texas, to provide air monitoring and sampling support during remediation activities at the Houston Wood Preserving Worksite (HWPW), the location of a former wood-creosoting facility. After developing a Texas Commission on Environmental Quality (TCEQ)-approved Air Sampling and Analysis Plan (Air SAP), CTEH® staff implemented real-time air monitoring and analytical air sampling beginning on February 10, 2016. During the course of the project, the initial Air SAP was revised two times to reflect changes and/or modification in methodologies utilized by CTEH®. All SAP revisions were approved by TCEQ.

One primary focus of the CTEH® Air SAP was to assess exposure to polynuclear aromatic hydrocarbons (PNAH) contained in dust, if any, migrating off-site. As such, CTEH® conducted analytical air sampling at three locations per day, as required by the Air SAP, for a suite of 18 PNAHs in both the particulate (dust-bound) and vapor phase. In total, 4 PNAH compounds were detected: naphthalene, acenaphthene, fluorene, and phenanthrene. Naphthalene was detected at the greatest frequency (17.7% of samples) while both fluorene and phenanthrene were detected at the least frequency (1.6% of samples). A comparison of the airborne concentrations of the detected PNAH compounds with health-based screening values developed by both the United States Environmental Protection Agency (USEPA) and TCEQ indicate that PNAHs did not pose a health-risk to nearby community members during remediation operations.

CTEH® also conducted real-time air monitoring and analytical air sampling for particulate matter (as PM_{10}). Real-time air monitoring conducted on handheld instruments at the perimeter and within the HWPW yielded average concentrations of 0.026 mg/m^3 and 0.031 mg/m^3, respectively. Furthermore, CTEH® positioned real-time data-logging particulate monitoring instruments at three locations around the perimeter of the HWPW (including downwind) on a daily basis. Rolling 30-minute average PM_{10} levels were compared to both 'take action' and 'stop work' action levels as defined in the Air SAP. With few exceptions, rolling 30-minute average concentrations were well below the 'take action' PM_{10} level. Aside from a 30-minute exceedance of the 'take-action' level on April 9, 2016; elevated particulate levels may be explained by off-site sources and/or the presence of adverse environmental conditions (e.g., fog or haze). No exceedances of the 'stop work' action level were observed. Analytical air sampling, while modified many times throughout the project, indicated no exceedances of respirable dust in excess of the 'take action' level.

Based on the data contained herein, community members living nearby the HWPW during remediation operations were not exposed to PNAH-containing dust at levels that posed a significant health risk. Once operations with the potential to generate dust had been completed, CTEH® demobilized at the request of UP.

1.0 Introduction

On February 5, 2016, the Center for Toxicology and Environmental Health, LLC (CTEH®) was contacted by a Union Pacific Railroad (UP) representative to provide air monitoring and sampling support during ongoing soil remediation activities at the Houston Wood Preserving Worksite (HWPW), a historical creosote wood treatment site in Houston, Texas. At the time CTEH® was engaged in the project, remediation operations – e.g., soil excavation and transportation to a centralized site location for capping – at the HWPW were ongoing and the site was operating under a Dust Control Plan and Air Monitoring Procedure developed by Lone Wolf Resources, LLC.

In early February, the Texas Commission on Environmental Quality (TCEQ) requested UP to expand the air monitoring efforts that were currently outlined in the Lone Wolf Resources Air Monitoring Procedure to include an assessment of exposure, if any, to dust-bound polynuclear aromatic hydrocarbons (PNAHs). TCEQ was interested in an assessment to ascertain whether or not dust-bound PNAHs were migrating off-site to the neighboring community areas during remediation operations. Based on conversations with personnel from Pastor, Behling & Wheeler, LLC (PBW) – the overall site remediation management contractor for UP – an Air Sampling and Analysis Plan (Air SAP; Attachment A) was developed with two primary objectives. First, real-time particulate matter (as PM_{10}[1]) air monitoring was to be conducted at locations downwind of dust-producing operations at both the excavation site and the perimeter of the HWPW. The purpose of monitoring at these locations was to identify those operations, if any, with the potential to generate dust above the site-specific action levels (as outlined in the Air SAP) and, if necessary, to implement corrective action to minimize dust generation and off-site dust migration. Secondly, CTEH® was to collect analytical area air samples for PM_{10} and a subset of 18 PNAHs at HWPW perimeter locations (co-located with perimeter real-time PM_{10} air monitoring instrumentation). The analytical assessment was to include those areas downwind of ongoing remediation operations. The Air SAP also included real-time monitoring of meteorological conditions using an on-site meteorological station. CTEH® initiated air and meteorological station monitoring activities on the morning of February 10, 2016. The Air SAP was approved by TCEQ prior to implementation.

During the course of the project, the Air SAP underwent two revisions. On February 24, 2016, CTEH® revised the analytical methodology used to assess perimeter PM_{10} concentrations from the low pump flow rate – 2 liters per minute (LPM) – modified USEPA Method IP-10A to a higher flow rate (16.7 LPM) gravimetric method more consistent with 40 CFR 50[2]. This revision was driven by observations of inconsistent pump flow rates and erroneous sampling results using modified USEPA Method IP-10A. A

[1] PM_{10} – Airborne particulate matter with an aerodynamic diameter less than 10 micrometers (µm)

[2] Samples were collected using instrumentation consistent with 40 CFR 50; however, samples were not collected over a 24-hour period.

brief description of the modification in methodology is provided in Air SAP V1.1, while a more detailed data-driven explanation is presented in **Attachment B**. In an identical process to the initial Air SAP, all revisions to this and subsequent Air SAPs were reviewed and approved by TCEQ prior to implementation.

The second revision to the Air SAP occurred on March 9, 2016, following completion of soil excavation, transportation of impacted soil to its final destination (i.e., location of future soil cap), and installation of a vapor barrier over the contaminated soil. As these engineering activities limited the potential for off-site soil migration impact – and therefore the potential for exposure to PNAH-bound dust – the revised Air SAP (V1.2) discontinued all analytical air sampling efforts, while real-time PM_{10} air monitoring continued until project completion.

After the construction of the soil cap over the vapor barrier was completed and an asphalt roadway was constructed, remediation operations at the HWPW were complete. On April 28, 2016, CTEH® concluded air monitoring operations and, at the request of UP, demobilized from the work site.

2.0 Chemicals of Concern

At the outset of the project, CTEH® developed an Air SAP in collaboration with PBW. As expressed by TCEQ, the primary interest was in assessing the concentrations of PNAHs and PNAH-containing dust, if any, migrating outside of the HWPW site during ongoing remediation efforts. Therefore, CTEH® focused on airborne PM_{10}[3] and a suite of PNAHs as target analytes of concern. More specifically, CTEH® analyzed PNAH samples for a subset of 18 PNAHs (listed as an appendix in the Air SAP), three of which had been identified as chemicals of concern present in soils at the site: benzo(a)pyrene, benzo(a)anthracene, and naphthalene[4]. As outlined in Section 3, both vapor phase and particulate-bound PNAH were captured in analytical media and are reported collectively in the results.

2.1 Community Exposure Standards and Guidelines

Results of real-time air monitoring and analytical air sampling were compared to applicable health-based community exposure standards and guidelines, if available, and are discussed in Section 5.0.

[3] Note that in the process of revising the analytical methodology for PM_{10}, samples for both total dust (NIOSH 0500) and respirable dust (NIOSH 0600) were collected. Results for total dust measurements are reported as a replacement for PM_{10} measurements collected on February 18 through February 25. Because measurements of total dust include the PM_{10} size fraction, it is a conservative surrogate for PM_{10}.

[4] Note that while 2-methyl naphthalene was defined as a chemical of concern at the outset, CTEH® understands that this compound was a minor PNAH contributor localized to a small area of the site.

2.2 CTEH® Site-Specific Action Levels

CTEH® site-specific action levels were employed at the HWPW to provide information for corrective action to limit potential exposures. These values do not replace community exposure standards or guidelines, but are intended to be a concentration limit that warrants a course of action to reduce or eliminate off-site dust migration and the potential for exposure to PNAH-containing dust. CTEH® site-specific action levels for the chemicals of concern are provided in the Air Sampling and Analysis Plan. Because it is not possible to measure airborne PNAH concentrations in real time, an airborne dust screening level of 0.943 mg/m^3 was developed by PBW based on the maximum detected soil concentration of benzo(a)pyrene in comparison with TCEQ standards. Because this calculated airborne dust screening level was found to be greater than the 24-hour National Ambient Air Quality Standard (NAAQS) for PM_{10} of 0.150 mg/m^3, the more conservative value of the two was chosen as a site-specific 'take action' action level at which point dust suppression activities were to be implemented if exceedances of this value for greater than 30 minutes were observed. Additionally, a daily 'stop work' action level of 0.300 mg/m^3 – sustained for 30 minutes – was also established.

With regards to meteorological monitoring, a 'stop work' action level was established based on five-minute block average wind speeds in excess of 20 mph. As such, if the sustained wind speed exceeded 20 miles per hour (mph), all dust producing activities were to cease until the sustained wind speed declined to 20 mph or lower for a minimum of 10 consecutive minutes.

3.0 Air Monitoring and Sampling Methods

CTEH® methodology is defined in the Air SAP and was approved by TCEQ prior to implementation. The following sections provide a brief outline of the instrumentation utilized to conduct PM_{10} and meteorological monitoring and analytical air sampling. Methodological changes implemented during the project, are more completely described in the Air SAPs presented in Attachment A.

3.1 Air Monitoring and Sampling Methodology

At the outset of the project, CTEH® developed an Air SAP in collaboration with the overall remediation contractor, PBW. The SAP includes details on real-time air monitoring and sampling methodology as well as specific instrumentation used in the field. As detailed in the introduction, the Air SAP underwent two revisions during the course of the project.

Throughout the project, CTEH® conducted real-time air monitoring for PM_{10}. Air monitoring refers to the use of direct-reading instruments that report near instantaneous measurements of the estimated concentration of a substance in real-time. Because real-time air monitoring provides near-instantaneous feedback on the concentrations of airborne PM_{10}, these instruments are generally utilized to identify those operations and/or environmental conditions which may generate particulates. If concentrations of

PM_{10} were observed on real-time instrumentation above the 'take action' site-specific action level, increased dust suppression activities or a modification of work activities were to occur. Throughout the project, CTEH® maintained a network of three stationary perimeter real-time PM_{10} monitoring TSI AM510 instruments and two handheld, roaming PM_{10} monitoring TSI DustTrak DRX instruments with which CTEH® personnel monitored around and within the site perimeter. Every effort was made to position stationary PM_{10} monitoring instruments at upwind, crosswind, and downwind locations and conduct monitoring during all working hours. All real-time instruments were within factory calibration dates and were zero-calibrated on a daily basis.

CTEH® also collected air samples for particulate matter and PNAHs throughout the project. With regards to the chemicals of concern for this project, air sampling refers to a process in which a measured volume of air is pulled through a chemical-specific filter and/or media for subsequent analysis at an off-site, accredited laboratory. In general, laboratory analysis is more accurate than real-time measurements and provides chemical-specific results at reduced detection limits when compared to real-time instrumentation.

Throughout the project, CTEH® collected discrete air samples at three established analytical stations per day for PNAH and PM_{10}[5] along the perimeter of the HWPW site. Once collected, samples were sent to SGS Galson Laboratories, an American Industrial Hygiene Association (AIHA) accredited laboratory for analysis. The location of each selected analytical air sampling station was determined using the current and forecasted meteorological conditions (i.e. prevailing wind direction) each day. Analytical air samples for PNAH were collected in accordance with NIOSH Method 5506 over an 8-hour time period. Sampling media for PNAH consisted of both a 37 PFTE Filter and XAD-2 adsorbent media capable of sampling both PNAH-containing dust and vapors, simultaneously. At the outset of the project, PM_{10} samples were collected using a Personal Environmental Monitor (PEM) sampler operating at a flow rate of 2 liters per minute (2 LPM) per USEPA Method IP-10A. After reviewing the first few days of analytical data collected using the PEM PM_{10} sampling devices, CTEH® observed a discernible difference between results collected using this method and time-weighted average readings from the collocated real-time air monitoring stations. Due to a number of factors (e.g. high pump flow rate variability and inconsistency of results with field observations and total dust analytical samples), results collected using the PEM sampler appeared to be erroneous in nature. As such, on February 24, 2016, the Air SAP was revised with respect to the instrumentation and methodology utilized to sample for PM_{10} (see Air SAP V1.2). Beginning on February 26, 2016, PM_{10} samples were collected using the BGI PQ200 instrument operating at a flow rate of approximately 16.7 LPM. This instrument is often utilized to collect gravimetric sampling in accordance with 40 CFR 50; however, as CTEH® did not conduct 24-hr sampling,

[5] Note that CTEH® also collected analytical samples for both total dust (NIOSH 0500) and respirable dust (NIOSH 0600) on some dates.

the results are not in direct accordance with the NAAQS. A more detailed explanation for the change in analytical methodology can be found in **Attachment B.**

Analytical air sampling data underwent Level II data verification by eDATAPro. Level II data verification is a systematic process that reviews sample chain-of-custody, holding time, and matrix/precision/and recovery. The verification process includes checks for internal consistency, transmittal errors, and verification of laboratory capability. Additionally, the data are reviewed for detection limits, calibration records, target compound results, and sample results.

3.2 Meteorological Monitoring Methodology

CTEH® conducted continuous real-time meteorological monitoring during field activities using the prevailing, forecasted, and current winds for the most accurate measurements and coverage. Real-Time meteorological monitoring was accomplished using a WeatherPak weather station (WeatherPak) measuring wind speed and direction, air temperature, and barometric pressure. Use of the WeatherPak followed EPA guidelines for positioning of the station as closely to the site as logistics allowed to collect data accurately representing actual on-site conditions.

4.0 Air Monitoring and Sampling Results

The following sections summarize the air monitoring and air sampling data recorded using the methodologies described in Section 3.0. Maps of all handheld real-time air monitoring locations and analytical sampling station locations are provided in **Attachment C**. Graphical charts depicting the 30-minute rolling averages for the stationary data-logging PM_{10} monitoring stations are provided in **Attachment D**. Meteorological data and graphical representations are provided in **Attachment E**. All lab reports and Level II verification reports are provided in **Attachment F** and **Attachment G**, respectively.

4.1 Real-Time PM_{10} Air Monitoring Results

Table 4.1a Handheld Real-Time PM_{10} Air Monitoring Summary

Analyte	No. of Readings	No. of Detections	Concentration Range
PM_{10}	3,955	3,955	0.026 – 0.144 mg/m^3

Table 4.1b Data-logging PM_{10} Air Monitoring Results

Date	No. of Monitoring Stations	Range of TWA Results (mg/m^3)
Feb. 10, 2016	3	0.003 - 0.021
Feb. 11, 2016	3	0.005 - 0.011
Feb. 12, 2016	3	0.006 - 0.009
Feb. 13, 2016	3	0.017 - 0.047
Feb. 15, 2016	3	0.012 - 0.030
Feb. 16, 2016	3	0.012 - 0.019
Feb. 17, 2016	3	0.010 - 0.016
Feb. 18, 2016	3	0.001 - 0.028
Feb. 19, 2016	3	0.012 - 0.019
Feb. 20, 2016	3	0.012 - 0.021
Feb. 24, 2016	3	0.006 - 0.031
Feb. 25, 2016	3	0.010 - 0.017
Feb. 26, 2016	3	0.013 - 0.027
Feb. 27, 2016	3	0.019 - 0.037
Feb. 29, 2016	3	0.013 - 0.025
Mar. 1, 2016	3	0.030 - 0.037
Mar. 2, 2016	3	0.010 - 0.012
Mar. 3, 2016	3	0.036 - 0.047
Mar. 4, 2016	3	0.013 - 0.037
Mar. 5, 2016	3	0.028 - 0.041
Mar. 7, 2016	3	0.016 - 0.036
Mar. 8, 2016	3	0.029 - 0.045
Mar. 14, 2016	3	0.025 - 0.035
Mar. 15, 2016	3	0.068 - 0.110
Mar. 16, 2016	3	0.054 - 0.066
Mar. 17, 2016	3	0.026 - 0.031
Mar. 18, 2016	3	0.035 - 0.045
Mar. 19, 2016	3	0.009 - 0.015
Mar. 21, 2016	3	0.010 - 0.018
Mar. 22, 2016	3	0.009 - 0.013
Mar. 23, 2016	3	0.012 - 0.017
Mar. 24, 2016	3	0.006 - 0.008
Mar. 25, 2016	3	0.014 - 0.017
Mar. 28, 2016	3	0.015 - 0.027

Date	No. of Monitoring Stations	Range of TWA Results (mg/m^3)
Mar. 29, 2016	2	0.020 - 0.051
Mar. 30, 2016	3	0.023 - 0.031
Mar. 31, 2016	3	0.058 - 0.078
Apr. 1, 2016	3	0.008 - 0.015
Apr. 2, 2016	3	0.008 - 0.011
Apr. 4, 2016	3	0.013 - 0.021
Apr. 5, 2016	3	0.015 - 0.018
Apr. 6, 2016	3	0.007 - 0.012
Apr. 7, 2016	3	0.012 - 0.020
Apr. 8, 2016	3	0.014 - 0.017
Apr. 9, 2016	2	0.014 - 0.025
Apr. 11, 2016	2	0.031 - 0.036
Apr. 12, 2016	3	0.033 - 0.035
Apr. 13, 2016	3	0.020 - 0.025
Apr. 14, 2016	2	0.032 - 0.033
Apr. 15, 2016	3	0.034 - 0.043
Apr. 16, 2016	2	0.024 – 0.31*
Apr. 22, 2016	3	0.017 - 0.025
Apr. 26, 2016	3	0.034 - 0.059
Apr. 28, 2016	3	0.050 - 0.066

*One air monitoring station (AS12) recorded a TWA of 1.036 mg/m^3 on April 16, 2016. These readings have been considered invalid as further detailed in Attachment H.

4.2 Analytical Air Sampling Results

Table 4.2a PNAH Analytical Sampling Summary

Analyte	No. of Samples	No. of Detections	Detection Range (mg/m^3)*
1-nitropyrene	62	0	< 0.0004
Acenaphthene	62	4	0.0004 - 0.0025
Acenaphthylene	62	0	< 0.0004
Anthracene	62	0	< 0.0004
Benzo(a)anthracene	62	0	< 0.0005
Benzo(a)pyrene	62	0	< 0.0005
Benzo(b)fluoranthene	62	0	< 0.0005
Benzo(e)pyrene	62	0	< 0.0005
Benzo(g,h,i)perylene	62	0	< 0.0006
Benzo(k)fluoranthene	62	0	< 0.0005
Chrysene	62	0	< 0.0005
Dibenz(a,h)anthracene	62	0	< 0.0005
Fluoranthene	62	0	< 0.0004
Fluorene	62	1	0.001
Indeno-1,2,3-cd-pyrene	62	0	< 0.0006
Naphthalene	62	11	0.0004 - 0.024
Phenanthrene	62	1	0.0007
Pyrene	62	0	< 0.0004

*If the analyte was below the limit of quantitation (LOQ), a "<" with the LOQ for mod. NIOSH 5506 is listed. Some results in Table 4.2a are J-flagged in the laboratory report, meaning that while these compounds were detected, their concentrations are solely estimations because they were below the limit of quantitation. Please refer to the lab reports for additional information.

Table 4.2b Particulate Matter Analytical Sampling Results

Analyte	Date	No. of Samples	Range of TWA Results (mg/m^3)*
Total Dust (NIOSH 0500)	Feb. 18, 2016	3	< 0.049 – 0.250
	Feb. 19, 2016	3	0.054 – 0.130
	Feb. 20, 2016	3	< 0.046 – 0.091
	Feb. 24, 2016	3	< 0.045 – 0.046
	Feb. 25, 2016	3	0.045 – 0.047
PM_{10} Mod. 40 CFR 50	Feb. 26, 2016	3	0.022 - 0.051
	Feb. 27, 2016	3	0.029 - 0.054
	Feb. 29, 2016	1**	0.058 - 0.058
	Mar. 1, 2016	3	0.039 - 0.063
	Mar. 2, 2016	3	0.053 - 0.095
	Mar. 3, 2016	3	0.032 - 0.059
	Mar. 4, 2016	3	0.048 - 0.090
	Mar. 5, 2016	3	0.030 - 0.094
	Mar. 7, 2016	3	0.064 - 0.091

* If no detections were recorded in a sample, the limit of quantitation (LOQ), a '<' with the LOQ for the method is listed.
** While 3 sampling stations were established on February 29, 2016, two instruments encountered runtime errors and results were not reportable.

4.3 Meteorological Monitoring Results

Table 4.3a Meteorological Monitoring Results

Date	Average Wind Speed (mph)	Maximum 5-Minute Rolling Average Wind Speed (mph)	Average Vector
Feb. 10, 2016	6.3	9.4	SSE
Feb. 11, 2016	10.5	13.6	SW
Feb. 12, 2016	6.2	11	W
Feb. 13, 2016	9.1	12.1	ESE
Feb. 15, 2016	9	12.5	WNW
Feb. 16, 2016	6.1	9.6	WSW
Feb. 17, 2016	6.4	9.4	ESE
Feb. 18, 2016	10	13	SSE

Date	Average Wind Speed (mph)	Maximum 5-Minute Rolling Average Wind Speed (mph)	Average Vector
Feb. 19, 2016	9.6	13.4	S
Feb. 20, 2016	7.8	11.4	S
Feb. 24, 2016	11.3	14.8	NW
Feb. 25, 2016	6.6	11	WNW
Feb. 26, 2016	5	8.3	ENE
Feb. 27, 2016	5.2	8.9	SSE
Feb. 29, 2016	7	10.5	SSW
Mar. 1, 2016	6.9	10.1	WSW
Mar. 2, 2016	10.2	11.6	SE
Mar. 3, 2016	7.1	8.9	WNW
Mar. 4, 2016	4.9	7.8	ESE
Mar. 5, 2016	4.4	6	E
Mar. 7, 2016	12.2	15.2	S
Mar. 8, 2016	11.3	13	SSE
Mar. 14, 2016	7.3	12.1	SW
Mar. 15, 2016	9.7	13	SW
Mar. 16, 2016	7.7	8.9	ESE
Mar. 17, 2016	6.2	9.4	SSE
Mar. 18, 2016	5.1	7.4	ESE
Mar. 19, 2016	10.3	13	N
Mar. 21, 2016	4.9	6.9	SSE
Mar. 22, 2016	9.7	14.3	SSW
Mar. 23, 2016	11.1	16.3	S
Mar. 24, 2016	10.2	14.8	NNW
Mar. 25, 2016	4.3	7.8	ENE
Mar. 28, 2016	5.1	8.7	E
Mar. 29, 2016	6.4	9.4	ESE
Mar. 30, 2016	8.7	12.1	S
Mar. 31, 2016	5.9	8.9	WSW
Apr. 1, 2016	9.9	11.6	NE

Date	Average Wind Speed (mph)	Maximum 5-Minute Rolling Average Wind Speed (mph)	Average Vector
Apr. 2, 2016	8.3	12.3	NNE
Apr. 4, 2016	4.4	7.2	WSW
Apr. 5, 2016	5.6	10.7	SSW
Apr. 6, 2016	6.6	10.7	W
Apr. 7, 2016	3.8	7.4	WSW
Apr. 8, 2016	7.6	12.1	ENE
Apr. 9, 2016	7.4	11	SE
Apr. 11, 2016	8.8	12.5	S
Apr. 12, 2016	5.7	8.9	NE
Apr. 13, 2016	4.3	6.9	NNE
Apr. 14, 2016	6.4	10.1	NNW
Apr. 15, 2016	3.9	5.6	NNW
Apr. 16, 2016	12	15.9	SSE
Apr. 22, 2016	6.2	7.8	N
Apr. 26, 2016	8	12.1	S
Apr. 28, 2016	8.4	11.4	ESE

5.0 Discussion

In response to a request from UP, CTEH® provided air monitoring and air sampling support at the HWPW site between the dates of February 10, 2016, and April 28, 2016. As previously detailed, CTEH® made every effort to capture air samples at locations downwind, upwind, and crosswind of ongoing remediation operations during the daylight periods when work was ongoing. The following sections provide an analysis of the air monitoring and sampling results and include comparisons to site-specific action levels or health-based screening levels, where applicable.

5.1 Review of PNAH Results

Analytical air samples for PNAHs were collected at several discrete locations around the perimeter of the HWPW starting on February 10, 2016. Sampling continued at air sampling locations during days in which remediation operations were ongoing until March 8, 2016. In the vast majority of samples, the results indicate that few PNAHs were detected. In total, 4 PNAHs were detected with naphthalene being the most frequent (17.7% of samples). Other PNAHs detected included acenaphthene (6.5% of samples),

fluorene (1.6% of samples), and phenanthrene (1.6% of samples). Furthermore, naphthalene was the only PNAH detected out of those PNAH compounds outlined as chemicals of concern in the SAP (i.e., benzo(a)pyrene was not detected). A summary of the PNAH analytical air sampling detections is provided in Table 5.1 alongside each analytes respective risk-based health-protective screening level. In total, no exceedances of USEPA 1-year PNAH screening levels or TCEQ Air Monitoring Comparison Values (AMCVs) were observed. As such, none of the detected PNAHs were found at concentrations that would pose a human health risk.

Table 5.1 Comparison of PNAH Detections vs Risk-Based Screening Levels

Analyte	No. of Samples	No. of Detections	Maximum Detection	USEPA 1-Year SL* (mg/m^3)	TCEQ Long-Term AMCV (mg/m^3)**
Acenaphthene	62	4	0.0025	--	0.01
Fluorene	62	1	0.001	--	0.001
Naphthalene	62	11	0.024	0.030	0.05
Phenanthrene	62	1	0.0007	--	0.0008

* These health-protective screening levels take into account continuous exposure for up to 1 year in duration (USEPA, 2016)

** AMCVs are chemical-specific air concentrations set to protect human health and welfare. Exposure to an air concentration at or below the AMCVs is not likely to cause adverse health effects in the general public, including sensitive subgroups such as children, the elderly, pregnant women, and people with preexisting health conditions. Use of long-term AMCVs to evaluate events of a sub-chronic duration is a conservative approach. (TCEQ, 2015)

5.2 Review of Particulate Matter Air Monitoring and Sampling Results

As part of CTEH® air quality investigation efforts, handheld and data-logging PM_{10} real-time air monitoring and analytical air sampling for PM_{10}[6] were performed as previously described. Such monitoring was initiated on February 10, 2016, and remained ongoing during operational days until CTEH® demobilized on April 28, 2016. The following paragraphs discuss the results of these efforts.

CTEH® recorded 3,995 real-time handheld PM_{10} readings during working operations between February 10, 2016, and April 28, 2016. In contrast to the data-logging PM_{10} stations that were positioned around the perimeter of the HWPW, handheld real-time PM_{10} readings were also recorded at locations within the site with specific emphasis placed on those locations downwind of ongoing remediation operations. Overall, average PM_{10} concentrations detected on handheld instruments were 0.031 mg/m^3 at the perimeter and 0.026 mg/m^3 within the perimeter, respectively. As observed in **Table 4.1a**, the maximum PM_{10} detection observed on handheld real-time instruments (DustTrak DRX) was 0.144 mg/m^3, recorded on a foggy, hazy day which may artificially elevate readings (see further explanation below).

[6] CTEH® also collected samples for total dust (NIOSH 0500) and respirable dust (NIOSH 0500) as described elsewhere in the report.

Instantaneous PM_{10} readings were primarily utilized to identify operations producing elevated levels of dust, if any, and are not directly comparable to the sustained 30-minute action levels better addressed by the perimeter data-logging stations capable of calculating a 30-minute rolling average.

CTEH® positioned real-time PM_{10} air monitoring instruments at three[7] locations daily – to include the downwind direction – along the perimeter of the HWPW. The range of time-weighted average results for these stations by day is presented in **Table 4.1b,** while a graphical representation of the instantaneous results and the corresponding 30-minute rolling average is presented in **Attachment D**. At the outset of the response, these instruments were co-located with PM_{10} analytical air sampling instruments; however, because CTEH® had not observed any exceedances of the site-specific action level on handheld or data-logging perimeter monitoring instruments by March 8, 2016, the co-located analytical sampling stations were demobilized following approval of the amended SAP eliminating this sampling methodology. A rough comparison of the results between the received PM_{10} analytical air sampling data and the data-logged real-time air monitoring data at this point indicated that, on average, the results from analytical air sampling measurements were 1.7 times higher than data-logging real-time results (AM510 Instruments). Therefore, the Air SAP (see V1.2) was revised to reflect this adjustment at data logging stations. As such, the application of a 1.7 fold correction factor resulted in new effective action levels of 30-minute sustained concentrations of 0.088 mg/m^3 and 0.176 mg/m^3. As discussed in the paragraphs below, CTEH® observed four dates after implementation of Air SAP V1.2 where a rolling 30-minute average of data-logging PM_{10} monitoring results were in excess of 0.088 mg/m^3; however, at no point during remediation efforts did data-logging PM_{10} results exceed the corrected "Daily Stop Work Action Level" as defined in the SAP.

On March 15, 2016, CTEH® field notes report that remediation operations (i.e., trucks offloading soil, bulldozers distributing soil, and an excavator positioning concrete barriers) were localized to the western corner of the site. On this day, results from all three data-logging PM_{10} instruments (AS07, AS18, and AS12), despite their location and orientation to the site, recorded several hours of PM_{10} 30-minute rolling averages in excess of 0.088 mg/m^3. An examination of the meteorological conditions from the on-site station indicated that the predominant wind direction on this day was from the southeast; however, all instruments on this day recorded similarly elevated readings despite their location being upwind or downwind. This indicates that elevated readings on all three instruments on March 15, 2016, were likely not a result of on-site remediation operations, but instead from a source which originated from an off-site location or an artifact of local environmental conditions (e.g., humidity).

[7] Note that CTEH® encountered instrument issues on April 9, April 11, and April 14. Only two PM_{10} data-logging stations were available on these days.

On March 17, 2016, the data-logging PM_{10} monitoring instrument at AS18 recorded 30-minute rolling averages readings above the corrected 'take action' level for a mid-day time period of 49 minutes (12:07 – 12:56). AS18 was located approximately 30 yards off of the western point of the site, just before the Liberty Road underpass of Lockwood Drive. The wind direction for the day, being mostly from the south and southeast, indicated that AS18 was crosswind from the remediation operations for the time period discussed. Three handheld readings were recorded by on-site CTEH® personnel between 12:43 and 12:46 near the area of AS18, with the highest observed PM_{10} concentration being 0.022 mg/m^3. Comments associated with these handheld readings indicate that was no work activity or visible dust at that time. These handheld readings and notes, coupled with the fact that AS18 was located crosswind of remediation operations at the time of these elevated readings, suggest that such readings were not due to on-site work operations and likely originated from an off-site source.

On March 31, 2106, two data-logging PM_{10} air monitoring instruments recorded rolling 30-minute average concentrations greater than the corrected 'take action' level. AS18 recorded elevated readings between 13:42 and 15:42, while station AS07 recorded elevated readings between 12:25 and 16:39. The on-site CTEH® personnel reported that throughout the day, the weather conditions were foggy and hazy. Such conditions can interfere with photometric-based particulate monitoring devices leading to false positive readings (i.e., elevated concentrations). Furthermore, the TSI instrument manual indicates that condensing atmospheres are outside of the instrument's operational parameters. Such patterns were also observed in handheld particulate matter readings on this day, many of which were elevated and collected at upwind directions with field notes containing the words 'hazy' or 'foggy' in the comments. Therefore, it is likely that consistent elevations of PM_{10} on March 31, 2016, are an artifact of environmental conditions.

On April 9, 2016, the data-logging instrument at AS07 recorded a 30-minute rolling average concentration in excess of the corrected 'take action' level between for a 30-minute period (8:54 - 9:24). During this time period, the wind was coming from the east. CTEH® personnel on-site reported that there were paving operations taking place on the nearby road that runs parallel to the tracks. Additionally, the southwest corner of the site where AS07 is located was where most of the site's heavy equipment was parked. The startup and movement of those machines to begin the day's operations may have contributed to the briefly elevated PM_{10} concentrations recorded. While these elevated readings may be attributed to on-site dust generation, all contaminated soil operations had been completed and covered with a vapor barrier by March 9, 2016; therefore, despite the brief period of elevated dust, this dust was unlikely to contain PNAH-contaminated material.

As previously mentioned, real-time instruments such as the AM510 and DustTrak are essentially screening tools which allow some action to be quickly taken. While these instruments are useful in the field, analytical air sampling provides a more accurate level of quantification. Therefore, throughout the project, CTEH® supplemented real-time air monitoring efforts with PM_{10} with analytical air sampling.

CTEH® initiated PM_{10} analytical sampling efforts on February 10, 2016, according to USEPA Method IP-10A. As detailed in **Attachment B**, PM_{10} samples collected using this method and sampling device were abandoned after results and field data were reviewed. While not listed in the sampling plan, CTEH® deployed analytical air samples for total dust (NIOSH 0500) and respirable dust (NIOSH 0600) to better ascertain the airborne concentrations of particulate matter until February 25, 2016. A review of these results indicates that that with one exception (AS08 on February 8, 2016), daily time-weighted average total dust concentrations were below 0.150 mg/m^3[8]. Furthermore, co-located respirable dust measurements (50% cut point of 4 µm), collected simultaneously yielded non-detectible concentrations (<0.041 mg/m^3). Therefore, while AS08 experienced elevated total dust levels on February 8, 2016, most of this was larger particulates not in the respirable range.

On February 26, 2016, CTEH® implemented the revised PM_{10} sampling methodology using an instrument consistent with 40 CFR 50 (BGI PQ200). Due to site-security concerns, the instrument was positioned each day prior to initiation of work operations and was removed each day following the termination of work operations. The length of such sampling periods yielded sufficient limits of detection. As detailed in **Table 4.2**, concentrations of PM_{10} ranged from 0.022 mg/m^3 to 0.094 mg/m^3. As such, daily PM_{10} concentrations were well below 0.150 mg/m^3, indicating that PM_{10} did not pose a concern on these days.

5.3 Review of Meteorological Monitoring Results

CTEH® conducted real-time meteorological monitoring during operational days at the site[9]. There were numerous days during the project where work was postponed or cancelled due to forecasted wind and rain events. While on-site, CTEH® personnel focused on the 5-minute rolling average wind speed. If this average wind speed exceeded 20 mph, work was to subside as listed in the Air SAP. As detailed in **Table 4.3a**, the maximum 5-minute rolling average wind speed observed by CTEH® was 16.3 mph. Therefore, no 'stop work' action level exceedances were observed.

6.0 Conclusion

At the request of UP, CTEH® conducted real-time air monitoring and analytical air sampling between February 10, 2016, and April 28, 2016, in support of ongoing remediation operations. CTEH® observed few detections of PNAHs during air sampling efforts, and no detected PNAHs were present in excess of human health-based screening values outlined by the USEPA or TCEQ. CTEH® observed a few, brief periods of elevated airborne particulate matter (as PM_{10}) on real-time instruments; however, all

[8] Note that while not directly comparable due to the sampling duration, the value of 0.150 mg/m^3 was utilized as a rolling 30-minute action level for this project and is also the NAAQS primary standard for PM_{10}.

[9] Note that there were various time periods throughout the response where the instrument had difficulty transmitting data. These periods are identified in Attachment E by straight, abnormal lines in wind speed and/or wind direction when in graphical form (e.g., March 1, 2016).

observations outside a single date (April 9, 2016) were likely due to off-site sources or adverse meteorological conditions (e.g. fog or haze). Furthermore, by April 9, 2016, all contaminated soil had been sealed with a vapor barrier in the center of the HWPW. Based on the aforementioned discussions, available data indicate that off-site migration of PNAH-containing dust did not pose a significant risk to community members living nearby the HWPW during remediation operations.

7.0 References

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Attachment A

Sampling and Analysis Plan

UPRR

Houston Wood Preserving Works Site

Soil Capping Project

Houston, TX

Air Sampling and Analysis Plan

Version 1.0

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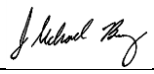
Date: February 9, 2016

Version 1.0			
	Name/Organization	Signature	Date Signed
Prepared by:	Charles Connolly/CTEH		2/5/2016
Reviewed by:	Mike Berg, Ph.D./CTEH		2/9/2016
Approved by			
Approved by			

Project Objectives

This air monitoring and sampling plan is being prepared to support remediation operations at the Houston Wood Preserving Works Site Union Pacific Rail Yard in Houston, TX. The site is a former creosote wood treatment facility and there are currently concerns associated with the potential for community exposure to polynuclear aromatic hydrocarbon (PNAH)-containing dust during ongoing remediation and soil capping operations. The purpose of this plan is to outline air monitoring and sampling efforts for these aforementioned analytes at the perimeter of the rail yard.

The premise of this plan is two-fold. First, CTEH® will conduct real-time air monitoring downwind of dust-producing operations both at the excavation site and at the perimeter of the rail yard. The purpose of this monitoring is to identify those operations, if any, with the potential to generate dust above the site-specific action levels (as outlined in the sections below) and implement near immediate corrective action to minimize dust generation and offsite dust migration. To supplement real-time air monitoring efforts, CTEH® will also collect analytical air samples for PM_{10} and PNAHs at locations downwind of remediation operations. In contrast to real-time methodology, analytical air samples are capable of making chemical-specific measurements (for PNAH) and are able to achieve sufficiently low limits of analytical sensitivity.

Because meteorological conditions have the potential to impact particulate matter transportation, CTEH® will also position a WeatherPak meteorological station directly within the rail yard. This station will assist with the positioning of air monitoring and sampling equipment, which may be repositioned on a daily basis in accordance with the predicted meteorological conditions. Data from the meteorological station will be used to determine if there is a 180 degree change in wind direction that lasts for greater than 1 hour. If such a change is observed, roaming real-time air monitoring instruments and personnel will ensure they are positioned to measure particulate levels at downwind locations.

Real-Time Air Monitoring

Because it is not possible to assess airborne PAH levels in real-time, an airborne dust screening level has previously been developed (0.943 mg/m^3) by Pastor, Behling & Wheeler, LLC based on the maximum detected concentration of benzo(a)pyrene in soil within the excavation area. Because this calculated airborne dust screening level is greater than the National Ambient Air Quality Screening (NAAQS) value for PM_{10}, an airborne screening level of 0.150 mg/m^3 is conservative for use in this scenario. Comparisons to the real-time PM_{10} action level will be based on the instrument reading and will not be net of any observable background. Note that readings collected on these real-time instruments are to be utilized for field screening purposes and implementation of corrective action and are not directly comparable to the NAAQs.

CTEH® will conduct real-time air monitoring for particulate matter (as PM_{10}) using field instruments manufactured by TSI, including both the Dusttrak DRX 8534 and the AM510. The Dusttrak DRX 8534 is a battery-operated, data-logging, light scattering laser photometer that generates a direct readout of size-specific airborne particulate matter. This instruments operates at a total flow rate of 3 L/min, with a

measured aerosol flow rate of 2 L/min. Similarly, the AM510 is a battery-operated laser photometer capable of size-specific PM_{10} measurements with the use of a 10 µm impactor and flow rate of 1.7 L/min. CTEH® will utilize three stationary AM510 instruments and two roaming Dusttrak instruments at or within the perimeter of the remediation area. Daily real-time air monitoring for particulate matter shall start prior to the initiation of any dust producing activities and will cease after the termination of dust producing activities at the end of the workday. Instruments will be zero-calibrated on a daily basis prior to initiation of work activities or when deemed necessary by field staff. A written calibration log will be kept.

Table 1. Real-Time Air Monitoring Action Levels

Analyte	Action Level	Action to be Taken	Basis
Particulate Matter (PM_{10})	0.150 mg/m^3 Sustained 30 minutes	Report reading to PM and Site Management. Implement increased dust suppression activities.	PM_{10} NAAQS Value
Particulate Matter (PM_{10})	0.300 mg/m^3 Sustained 30 minutes	Daily Stop Work Level - Report reading to PM and Site Management.	Twice the PM_{10} NAAQS Value

On-site CTEH® personnel will verbally communicate the results of data-logged and instantaneous real-time readings to site management every half hour. If an exceedance of the above action levels are observed, CTEH® field staff will notify site-management immediately who will action taken as outlined in the Lone Wolf Resources Dust Control Plan.

Analytical Air Sampling

To supplement real-time air monitoring efforts, CTEH® will conduct daily analytical air sampling for particulate matter (as PM_{10}) and PNAHs. Daily analytical air sampling shall start prior to the initiation of any dust producing activities and will cease after the termination of dust producing activities at the end of the workday. At the present time, four PNAHs have been identified as chemicals of concern in surface soils at the site including benzo(a)pyrene, benzo(a)anthracene, naphthalene, and 2-methyl naphthalene. As identified in **Table 2**, below, three of these PNAH compounds have been assigned human-health risk based screening values by the USEPA for a 1 year exposure duration (24 hours a day, 7 days a week) and will be included in our analysis[1]. To remain conservative, CTEH will report the results from the full Galson 18 PNAH Profile as reported by the lab (**Appendix A**).

Note that these screening values are not a threshold for effects, but rather levels which indicate additional site investigation or dust suppression activities are warranted. Thus, if exceedances of any analytical screening values are observed, work operations will be temporarily halted and a site assessment will be conducted to ensure that sufficient dust suppression operations have been implemented (e.g. spraying of water onto roadways and excavation areas) as outlined in the Lone Wolf Resources Dust Control Plan.

[1] Note that neither the USEPA nor the TCEQ have develop risk-based airborne screening levels for 2 methyl naphthalene.

Table 2. Airborne PNAH Screening Levels

PNAH Airborne Screening Levels		
Analyte	**USEPA 1 Year SL ($\mu g/m^3$)**	**Reference**
Benzo(a)anthracene	6.4	USEPA, 2014[a]
Benzo(a)pyrene	0.64	USEPA, 2014
Naphthalene	30	USEPA, 2014

[a] USEPA. 2014. Polycyclic Aromatic Hydrocarbons on the Gulf Coastline. Washington, DC. U.S. Environmental Protection Agency; Undated. Accessed at http://epa.gov/bpspill/pahs.html on Feb. 2, 2016

CTEH® will conduct daily analytical air sampling in accordance with approved methodology as outlined in **Table 3**, below. CTEH® will position one analytical air sampling station at the perimeter of the facility at a location directly downwind of the operations with the greatest potential to generate dust (e.g. dump truck haul routes, excavation backfill areas, or areas where bulldozers are pushing and grading soil). The remaining two analytical air sampling stations will be positioned at locations approximately 120° away (referencing the site center) to ensure that one sampling location is always positioned at the downwind location. These locations will be chosen on a daily basis based on the predicted prevailing wind direction and operational activities planned for that sampling day. Once analytical sampling stations have been positioned, they will remain stationary until the end of their sampling period in an attempt to minimize sampling error. One field blank will be submitted with each sampling group. Sample results from the first six days of sampling will be completed on a two-day turn around period. All subsequent samples will be analyzed on a standard (1 week) turnaround time.

Table 3. Analytical Air Sampling Methodology

Dust Analytical Methods				
Analyte	Media/Can	Method	Flow Rate/Time	Analytical Sensitivity
PM_{10}	37PVC 5.0 PW with PEM Sampler	Mod. EPA Method IP-10A	2 LPM/480 min	0.05 $\mu g/m^3$

Polynuclear Aromatic Hydrocarbon Analytical Sampling			
Analyte	Media	Method	Flow Rate/Time
Particulate & Vapor Phase PAH	37PTFE 2.0/Treated Amberlite XAD-2	NIOSH 5506	2.0 LPM/480 min
Analyte		**Method LOQ[a]**	**Limits of Analytical Sensitivity[b]**
PAH		0.3 µg/sample	0.3125 $\mu g/m^3$

a. Method LOQ as reported by Galson
b. All limits of analytical sensitivity are below respective short-term USEPA Screening Values as listed in **Table 2**.

Air sampling pumps will undergo both pre- and post-calibration and flow rates documented accordingly. All analytical air samples will be shipped to Galson Laboratories under appropriate Chain-of-Custody procedures. All data packages received will undergo Level II data verification by Environmental Data Professional, L.L.C. (eDATApro). The following parameters will be evaluated by eDataPro:

- Data Completeness
- Holding Times
- Sample Preservation
- Sample Receipt
- Sample Analysis
- Review of all QA/QC Samples (e.g. field blanks)

Meteorology

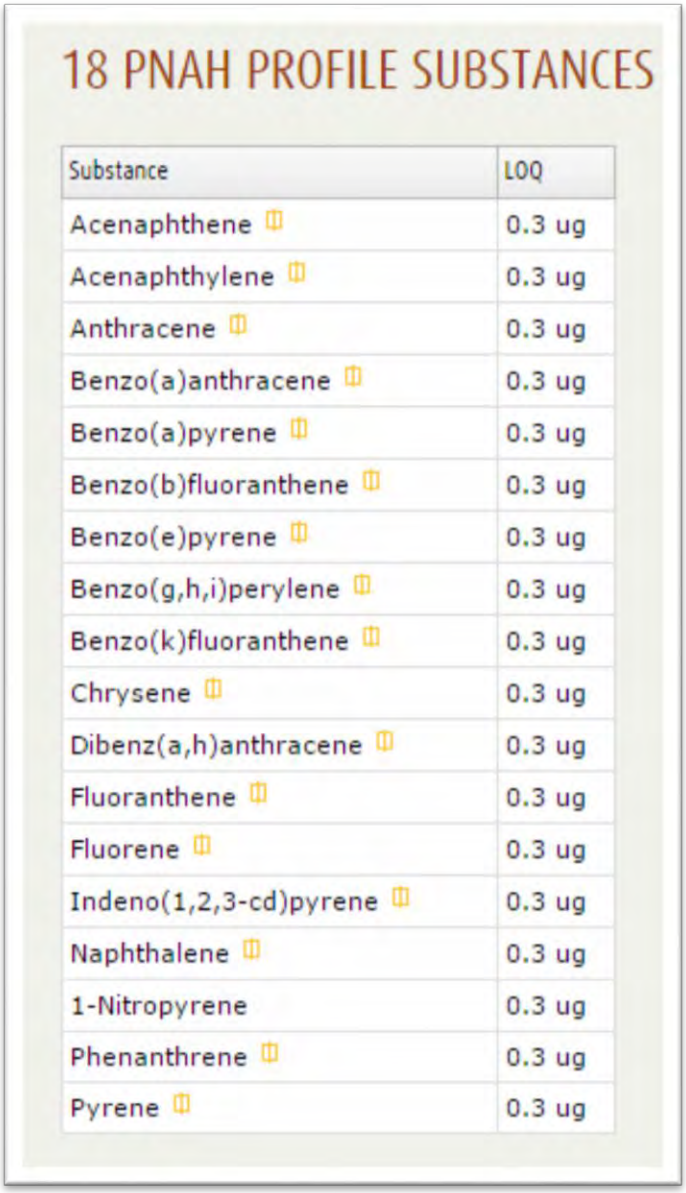
On-site continuous meteorological data will be collected during the field activities using the prevailing, forecasted, and current winds for the most accurate measurements and coverage. On-site meteorology will also be collected to establish and document the current conditions. A WeatherPak weather station will be deployed to measure wind speed and direction, air temperature, and barometric pressure. The weather station will follow EPA guidelines for siting of meteorological monitoring as closely as site logistics allow, ensuring the data collected accurately represent the actual on-site conditions. Meteorological monitoring will continue for the duration of the project.

A wind speed 'Stop Work' level notification will be set on a five-minute block average using data from the on-site meteorological station. If the sustained wind speed (the wind speed obtained by averaging the measured values over a five minute period) exceeds 20 miles per hour, all waste-disturbing activities must cease until the sustained wind speed declines to 20 miles per hour or lower for at least 10 consecutive minutes. Non-dust producing activities (equipment maintenance, etc.) may still be conducted during these periods. Data from the meteorological station will be used to determine if there is a 180 degree change in wind direction that last for more than one hour, if so then the monitors will be repositioned such that the proper number of downwind monitors is maintained.

Reporting

The CTEH® team will consist of a Project Toxicologist or Project Technical Director (PTD), a Project Manager, and two on-site Environmental Scientists. The Environmental Scientists will be present at the site at all times during on-going work operations and will be responsible for on-site work including instrument calibration, documentation, and communication of results to Site Management on an hourly basis. CTEH® will also host an online password-protected portal where results of air monitoring readings and analytical air sample analysis will be available for viewing from a remote-location. Additionally, CTEH® will prepare daily summaries of real-time air monitoring, analytical air sampling locations and meteorological data and provide them to Site Management. Analytical results will be provided once received. Once the project is complete, CTEH® will prepare a final report outlining the overall air monitoring and air sampling findings. This report will be submitted to TCEQ upon request.

Appendix A. Galson 18 PNAH Profile



18 PNAH PROFILE SUBSTANCES

Substance	LOQ
Acenaphthene	0.3 ug
Acenaphthylene	0.3 ug
Anthracene	0.3 ug
Benzo(a)anthracene	0.3 ug
Benzo(a)pyrene	0.3 ug
Benzo(b)fluoranthene	0.3 ug
Benzo(e)pyrene	0.3 ug
Benzo(g,h,i)perylene	0.3 ug
Benzo(k)fluoranthene	0.3 ug
Chrysene	0.3 ug
Dibenz(a,h)anthracene	0.3 ug
Fluoranthene	0.3 ug
Fluorene	0.3 ug
Indeno(1,2,3-cd)pyrene	0.3 ug
Naphthalene	0.3 ug
1-Nitropyrene	0.3 ug
Phenanthrene	0.3 ug
Pyrene	0.3 ug

UPRR

Houston Wood Preserving Works Site

Soil Capping Project

Houston, TX

Air Sampling and Analysis Plan

Version 1.1

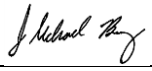
Prepared On Behalf Of:

Union Pacific Rail Road

Prepared By:

Center for Toxicology and Environmental Health, L.L.C.
2000 Anders Lane
Kemah, TX 77565

Date: February 24, 2016

Version 1.0			
	Name/Organization	Signature	Date Signed
Prepared by:	Charles Connolly/CTEH		2/5/2016
Reviewed by:	Mike Berg, Ph.D./CTEH		2/9/2016

Change from version 1.0 to 1.1

- *In the section titled: Analytical Air Sampling*
  - Due to a number of factors (e.g. high pump flow rate variability and inconsistency of results with field observations & additional analytical total dust sampling measurements), the analytical PM_{10} results from samples collected using the PEM sampler (2 LPM) appear to be erroneous in nature. Thus, CTEH® is amending this Air Sampling Plan to modify the PM_{10} analytical method from mod. USEPA Method IP-10A using a PEM sampler to 40 CFR 50 using a PQ-200 PM_{10} sampling instrument operating at a flow rate of approximately 16.7 LPM. Note that the PQ-200 will collect a PM_{10} sample over a time period of 12 hours as opposed to a 24-hr period as listed in the method. As such, results will not be directly comparable to the NAAQS but proposed detection limits are significantly lower than currently achievable using the PEM sampler. Results will be processed as quickly as possible by Intermountain Labs (~1-2 weeks). It is notable that, to date, no real-time PM_{10} or PNAH analytical sampling action levels have been observed.

	Name/Organization	Signature	Date Signed
Prepared by:	Mike Berg, Ph.D.		2-24-2016

Project Objectives

This air monitoring and sampling plan is being prepared to support remediation operations at the Houston Wood Preserving Works Site Union Pacific Rail Yard in Houston, TX. The site is a former creosote wood treatment facility and there are currently concerns associated with the potential for community exposure to polynuclear aromatic hydrocarbon (PNAH)-containing dust during ongoing remediation and soil capping operations. The purpose of this plan is to outline air monitoring and sampling efforts for these aforementioned analytes at the perimeter of the rail yard.

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CTEH® will conduct real-time air monitoring for particulate matter (as PM_{10}) using field instruments manufactured by TSI, including both the Dusttrak DRX 8534 and the AM510. The Dusttrak DRX 8534 is a battery-operated, data-logging, light scattering laser photometer that generates a direct readout of size-specific airborne particulate matter. This instruments operates at a total flow rate of 3 L/min, with a measured aerosol flow rate of 2 L/min. Similarly, the AM510 is a battery-operated laser photometer capable of size-specific PM_{10} measurements with the use of a 10 µm impactor and flow rate of 1.7 L/min. CTEH® will utilize three stationary AM510 instruments and two roaming Dusttrak instruments at or within the perimeter of the remediation area. Daily real-time air monitoring for particulate matter shall start prior to the initiation of any dust producing activities and will cease after the termination of dust producing activities at the end of the workday. Instruments will be zero-calibrated on a daily basis prior to initiation of work activities or when deemed necessary by field staff. A written calibration log will be kept.

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Analyte	Action Level	Action to be Taken	Basis
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Analytical Air Sampling

To supplement real-time air monitoring efforts, CTEH® will conduct analytical air sampling for PNAH and particulate matter (as PM_{10}) on a daily basis. Daily PNAH analytical air sampling shall start prior to the initiation of any dust producing activities and will cease after the termination of dust producing activities at the end of the workday. At the present time, four PNAHs have been identified as chemicals of concern in surface soils at the site including benzo(a)pyrene, benzo(a)anthracene, naphthalene, and 2-methyl naphthalene. As identified in **Table 2**, below, three of these PNAH compounds have been assigned human-health risk based screening values by the USEPA for a 1 year exposure duration (24 hours a day, 7 days a week) and will be included in our analysis[1]. To remain conservative, CTEH will report the results from the full Galson 18 PNAH Profile as reported by the lab (**Appendix A**).

Note that these screening values are not a threshold for effects, but rather levels which indicate additional site investigation or dust suppression activities are warranted. Thus, if exceedances of any analytical screening values are observed, work operations will be temporarily halted and a site assessment will be conducted to ensure that sufficient dust suppression operations have been implemented (e.g. spraying of water onto roadways and excavation areas) as outlined in the Lone Wolf Resources Dust Control Plan.

Table 2. Airborne PNAH Screening Levels

PNAH Airborne Screening Levels		
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[a] USEPA. 2014. Polycyclic Aromatic Hydrocarbons on the Gulf Coastline. Washington, DC. U.S. Environmental Protection Agency; Undated. Accessed at http://epa.gov/bpspill/pahs.html on Feb. 2, 2016

CTEH® will conduct daily PNAH and PM_{10} analytical air sampling in accordance with approved methodology as outlined in **Table 3**, below. CTEH® will position one analytical air sampling station at the perimeter of the facility at a location directly downwind of the operations with the greatest potential to generate dust (e.g. dump truck haul routes, excavation backfill areas, or areas where bulldozers are pushing and grading soil). The remaining two analytical air sampling stations will be positioned at locations approximately 120° away (referencing the site center) to ensure that one sampling location is always positioned at the downwind location. These locations will be chosen on a daily basis based on the predicted prevailing wind direction and operational activities planned for that sampling day. Once analytical sampling stations have been positioned, they will remain stationary until the end of their sampling period in an attempt to minimize sampling error. One field blank will be submitted with each sampling group. Sample results from the first six days of sampling will be completed on a two-day turn around period. All subsequent PNAH samples will be analyzed on a standard (1 week) turnaround time.

[1] Note that neither the USEPA nor the TCEQ have develop risk-based airborne screening levels for 2 methyl naphthalene.

Table 3. Analytical Air Sampling Methodology

Dust Analytical Methods*				
Analyte	Media/Can	Method	Flow Rate/Time	Analytical Sensitivity
PM_{10}	PFTE Membrane Filter	40 CFR 50	16.7 LPM	2 µg/m^3

* Note that PM_{10} sampling will be conducted over a 12 hr. working period as opposed to a 24 hr. period as outlined in 40 CFR 50. While similar detection limits (2µg/m^3) are achievable, results will not be directly comparable to the NAAQS.

Polynuclear Aromatic Hydrocarbon Analytical Sampling			
Analyte	Media	Method	Flow Rate/Time
Particulate & Vapor Phase PAH	37PTFE 2.0/Treated Amberlite XAD-2	NIOSH 5506	2.0 LPM/480 min
Analyte		**Method LOQ[a]**	**Limits of Analytical Sensitivity[b]**
PAH		0.3 µg/sample	0.3125 µg/m^3

a. Method LOQ as reported by Galson
b. All limits of analytical sensitivity are below respective short-term USEPA Screening Values as listed in **Table 2**.

Air sampling pumps will undergo both pre- and post-calibration and flow rates documented accordingly. All analytical air samples will be shipped to Galson Laboratories under appropriate Chain-of-Custody procedures. All data packages received will undergo Level II data verification by Environmental Data Professional, L.L.C. (eDATApro). The following parameters will be evaluated by eDataPro:

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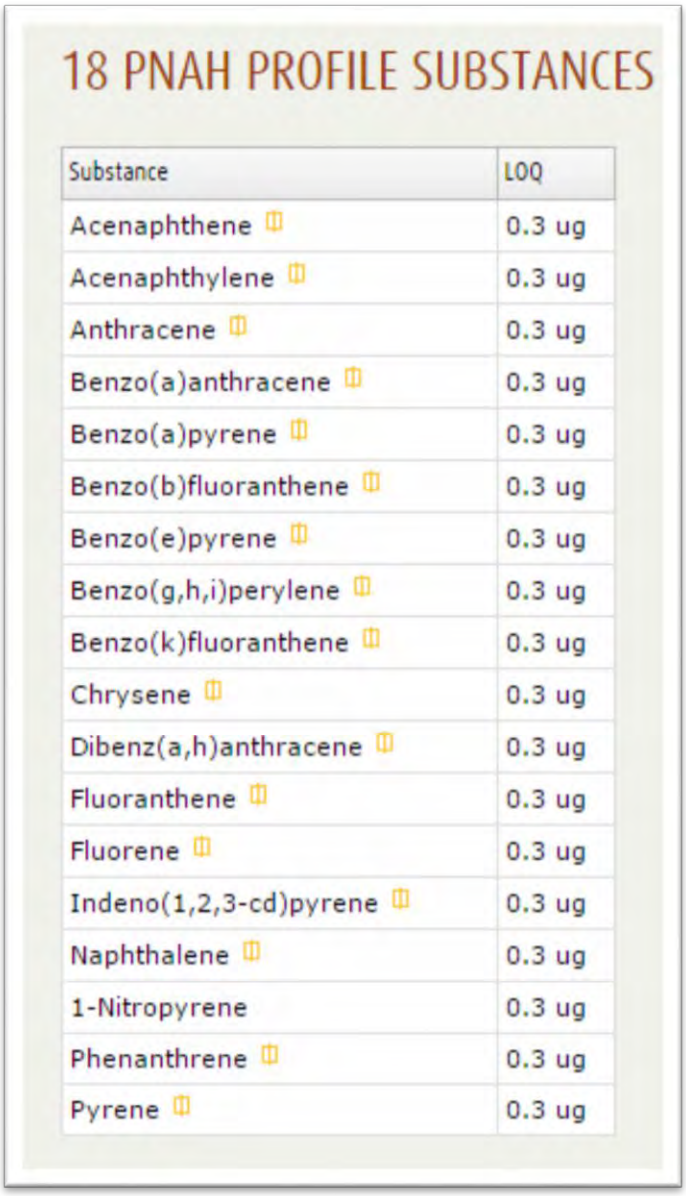
Appendix A. Galson 18 PNAH Profile



18 PNAH PROFILE SUBSTANCES

Substance	LOQ
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Acenaphthylene	0.3 ug
Anthracene	0.3 ug
Benzo(a)anthracene	0.3 ug
Benzo(a)pyrene	0.3 ug
Benzo(b)fluoranthene	0.3 ug
Benzo(e)pyrene	0.3 ug
Benzo(g,h,i)perylene	0.3 ug
Benzo(k)fluoranthene	0.3 ug
Chrysene	0.3 ug
Dibenz(a,h)anthracene	0.3 ug
Fluoranthene	0.3 ug
Fluorene	0.3 ug
Indeno(1,2,3-cd)pyrene	0.3 ug
Naphthalene	0.3 ug
1-Nitropyrene	0.3 ug
Phenanthrene	0.3 ug
Pyrene	0.3 ug

UPRR

Houston Wood Preserving Works Site

Soil Capping Project

Houston, TX

Air Sampling and Analysis Plan

Version 1.2

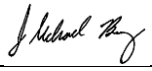
Prepared On Behalf Of:

Union Pacific Rail Road

Prepared By:

Center for Toxicology and Environmental Health, L.L.C.
2000 Anders Lane
Kemah, TX 77565

Date: March 8, 2016

Version 1.0			
	Name/Organization	Signature	Date Signed
Prepared by:	Charles Connolly/CTEH		2/5/2016
Reviewed by:	Mike Berg, Ph.D./CTEH		2/9/2016

Change from Version 1.0 to 1.1

- *In the section titled: Analytical Air Sampling*
  - Due to a number of factors (e.g. high pump flow rate variability and inconsistency of results with field observations & additional analytical total dust sampling measurements), the analytical PM_{10} results from samples collected using the PEM sampler (2 LPM) appear to be erroneous in nature. Thus, CTEH® is amending this Air Sampling Plan to modify the PM_{10} analytical method from mod. USEPA Method IP-10A using a PEM sampler to 40 CFR 50 using a PQ-200 PM_{10} sampling instrument operating at a flow rate of approximately 16.7 LPM. Note that the PQ-200 will collect a PM_{10} sample over a time period of 12 hours as opposed to a 24-hr period as listed in the method. As such, results will not be directly comparable to the NAAQS but proposed detection limits are significantly lower than currently achievable using the PEM sampler. Results will be processed as quickly as possible by Intermountain Labs (~1-2 weeks). It is notable that, to date, no real-time PM_{10} or PNAH analytical sampling action levels have been observed.

	Name/Organization	Signature	Date Signed
Prepared by:	Mike Berg, Ph.D.		2-24-2016

Change from Version 1.1 to 1.2

- *In the section titled: Analytical Air Sampling*
  - Following a review of analytical results (see Appendix B), analytical air sampling for PNAH and PM_{10} is to be discontinued. Real-time air monitoring will continue and a real-time particulate matter correction factor of 1.7 will be applied to field real-time measurements moving forward. Note that to date, no exceedances of the PM_{10} site-specific action level have been observed.
- *In the section titled: Reporting*
  - CTEH will continue to process the real-time air monitoring results daily and written data summaries will be provided upon request.

	Name/Organization	Signature	Date Signed
Prepared by:	Mike Berg, Ph.D.		3-8-2016

Project Objectives

This air monitoring plan is being prepared to support remediation operations at the Houston Wood Preserving Works Site Union Pacific Rail Yard in Houston, TX. The site is a former creosote wood treatment facility and there are currently concerns associated with the potential for community exposure to polynuclear aromatic hydrocarbon (PNAH)-containing dust during ongoing remediation and soil capping operations. The purpose of this plan is to outline air monitoring efforts for these aforementioned analytes at the perimeter of the rail yard.

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Because meteorological conditions have the potential to impact particulate matter transportation, CTEH® will also position a WeatherPak meteorological station directly within the rail yard. This station will assist with the positioning of air monitoring equipment, which may be repositioned on a daily basis in accordance with the predicted meteorological conditions. Data from the meteorological station will be used to determine if there is a 180 degree change in wind direction that lasts for greater than 1 hour. If such a change is observed, roaming real-time air monitoring instruments and personnel will ensure they are positioned to measure particulate levels at downwind locations.

Real-Time Air Monitoring

Because it is not possible to assess airborne PAH levels in real-time, an airborne dust screening level has previously been developed (0.943 mg/m^3) by Pastor, Behling & Wheeler, LLC based on the maximum detected concentration of benzo(a)pyrene in soil within the excavation area. Because this calculated airborne dust screening level is greater than the National Ambient Air Quality Screening (NAAQS) value for PM_{10}, an airborne screening level of 0.150 mg/m^3 is conservative for use in this scenario. Comparisons to the real-time PM_{10} action level will be based on the instrument reading and will not be net of any observable background. Note that readings collected on these real-time instruments are to be utilized for field screening purposes and implementation of corrective action and are not directly comparable to the NAAQs. A conservative real-time particulate monitoring correction factor for comparison to gravimetric measurements has been established (see **Appendix A**). This correction factor will be applied to real-time instruments for field measurement and reporting purposes.

CTEH® will conduct real-time air monitoring for particulate matter (as PM_{10}) using field instruments manufactured by TSI, including both the Dusttrak DRX 8534 and the AM510. The Dusttrak DRX 8534 is a battery-operated, data-logging, light scattering laser photometer that generates a direct readout of size-specific airborne particulate matter. This instruments operates at a total flow rate of 3 L/min, with a measured aerosol flow rate of 2 L/min. Similarly, the AM510 is a battery-operated laser photometer capable of size-specific PM_{10} measurements with the use of a 10 µm impactor and flow rate of 1.7 L/min. CTEH® will utilize three stationary AM510 instruments and two roaming Dusttrak instruments at or within the perimeter of the remediation area. Daily real-time air monitoring for particulate matter shall start prior to the initiation of any dust producing activities and will cease after the termination of dust producing activities at the end of the workday. Instruments will be zero-calibrated on a daily basis prior to initiation of work activities or when deemed necessary by field staff. A written calibration log will be kept.

Table 1. Real-Time Air Monitoring Action Levels

Analyte	Action Level	Action to be Taken	Basis
Particulate Matter (PM_{10})	0.150 mg/m^3 Sustained 30 minutes	Report reading to PM and Site Management. Implement increased dust suppression activities.	PM_{10} NAAQS Value

Analyte	Action Level	Action to be Taken	Basis
Particulate Matter (PM_{10})	0.300 mg/m^3 Sustained 30 minutes	Daily Stop Work Level - Report reading to PM and Site Management.	Twice the PM_{10} NAAQS Value

On-site CTEH® personnel will verbally communicate the results of data-logged and instantaneous real-time readings to site management every half hour. If an exceedance of the above action levels are observed, CTEH® field staff will notify site-management immediately who will action taken as outlined in the Lone Wolf Resources Dust Control Plan.

Meteorology

On-site continuous meteorological data will be collected during the field activities using the prevailing, forecasted, and current winds for the most accurate measurements and coverage. On-site meteorology will also be collected to establish and document the current conditions. A WeatherPak weather station will be deployed to measure wind speed and direction, air temperature, and barometric pressure. The weather station will follow EPA guidelines for siting of meteorological monitoring as closely as site logistics allow, ensuring the data collected accurately represent the actual on-site conditions. Meteorological monitoring will continue for the duration of the project.

A wind speed 'Stop Work' level notification will be set on a five-minute block average using data from the on-site meteorological station. If the sustained wind speed (the wind speed obtained by averaging the measured values over a five minute period) exceeds 20 miles per hour, all waste-disturbing activities must cease until the sustained wind speed declines to 20 miles per hour or lower for at least 10 consecutive minutes. Non-dust producing activities (equipment maintenance, etc.) may still be conducted during these periods. Data from the meteorological station will be used to determine if there is a 180 degree change in wind direction that last for more than one hour, if so then the monitors will be repositioned such that the proper number of downwind monitors is maintained.

Reporting

The CTEH® team will consist of a Project Toxicologist or Project Technical Director (PTD), a Project Manager, and two on-site Environmental Scientists. The Environmental Scientists will be present at the site at all times during on-going work operations and will be responsible for on-site work including instrument calibration, documentation, and communication of results to Site Management on an hourly basis. CTEH® will also host an online password-protected portal where results of air monitoring readings will be available for viewing from a remote-location. Additionally, CTEH® will process the real-time monitoring results daily and prepare summaries of real-time air monitoring as requested. Once the project is complete, CTEH® will prepare a final report outlining the overall air monitoring and air sampling findings. This report will be submitted to TCEQ upon request.

Appendix A: Analytical Air Sampling Results Summary

Since February 10, 2016, CTEH® has been conducting ambient air monitoring and analytical air sampling in and around the perimeter of the Union Pacific Railroad Wood Preserving Works Site in Houston, TX. In accordance with the TCEQ-approved SAP, air sampling stations were positioned at downwind, crosswind and upwind locations and the air sampled at these locations during working hours. At the present time, this document is being prepared as an attachment to the air sampling plan to summarize the current status of analytical air sampling results and to provide justification for elimination of analytical air sampling efforts following completion of the excavation and transportation of contaminated soil.

Polynuclear Aromatic Hydrocarbon Results

As outlined in the SAP, CTEH® initiated analytical air sampling for a suite of 18 polynuclear aromatic hydrocarbons (PNAH) in accordance with mod. NIOSH 5506[1]. Included in this suite of PNAHs were three compounds of specific interest (benzo(a)pyrene, benzo(a)anthracene, and naphthalene) to this project, as they were reported to be present in the soil being moved at the Houston Wood Preserving Work Site. The SAP also defined specific screening values for these compounds based on a 1 year exposure period previously defined by the United States Environmental Protection Agency (USEPA, 2014). A review of analytical air sampling results indicates no detections of benzo(a) pyrene or benzo(a)anthracene to date. Furthermore, while naphthalene has been detected in 7 out of 12 samples, the maximum reported airborne concentration was below the established screening value defined in the SAP. Additionally, analytical results indicate that three other PNAH compounds were detected at a relatively low frequency using mod. NIOSH Method 5506. As observed in **Table 1,** below, none of these detections have exceeded their respective Air Monitoring Comparison Values (AMCVs) established by the Texas Commission on Environmental Quality (TCEQ).

Table 1. Summary of PNAH Analytical Sampling Detections[2]

February 10, 2016 to February 26, 2016

Analyte	2/10	2/11	2/12	2/13	2/19	2/20	2/26	TCEQ AMCV[3] Short Term	TCEQ AMCV[3] Long Term
Acenaphthene (mg/m³)	ND	ND	ND	ND	0.0025	0.0008	ND	**0.1**	**0.01**
Fluorene (mg/m³)	ND	ND	ND	ND	0.001	ND	ND	**0.01**	**0.001**
Naphthalene (mg/m³)	0.0004	0.0007	0.0005	0.0004	0.024	0.0043	0.0004	**0.5**	**0.05**
Phenanthrene (mg/m³)	ND	ND	ND	ND	0.0006	ND	ND	**0.008**	**0.0008**

ND= Analyte not detected on this date.

[1] See Air SAP Attachment A for list of all 18 PNAH analyzed

[2] Only days where detections were observed are listed. Results for the remaining days are available on **Appendix B**.

[3] AMCVs are chemical-specific air concentrations set to protect human health and welfare. Exposure to an air concentration at or below the AMCVs is not likely to cause adverse health effects in the general public, including sensitive subgroups such as children, the elderly, pregnant women, and people with preexisting health conditions.

Particulate Matter (as PM_{10}) Sampling Results

CTEH® also initiated air monitoring and air sampling for particulate matter (as PM_{10}) at the Houston Wood Preserving Works site in an effort to address the potential for offsite migration of particulate matter potentially generated during remediation operations. As outlined in the Air Sampling and Analysis Plan, an action level for real-time particulate monitoring was developed based on a sustained value 0.150 mg/m^3 sustained for a 30 minute time period. Since February 10, 2016, CTEH® has been conducting real-time air monitoring downwind of dust-producing operations at the excavation site as well as around the perimeter of the rail yard. To date, no action level exceedances have been observed on real-time monitoring instrumentation.

To support the real-time air monitoring results, analytical air sampling for PM_{10} was also conducted at the perimeter of the work site along with co-located PM_{10} air monitoring equipment (AM510). At the outset of the project, PM_{10} samples were collected using a Personal Environmental Monitor (PEM) sampler operating at a flow rate of 2 liters per minute (2 LPM; USEPA Method IP-10A). After reviewing the first few days of analytical data collected using these PEM PM_{10} sampling devices, CTEH® observed a discernible difference between results collected using this method and time-weighted average readings from the co-located real-time air monitoring stations. Due to a number of factors (e.g. high pump flow rate variability and inconsistency of results with field observations and total dust analytical samples), results collected using the PEM sampler appeared to be erroneous in nature. As such, on February 24, 2016, the Air SAP was revised with respect to the instrumentation and methodology utilized to sample for PM_{10} (See Air SAP Vs. 1.2). Beginning on February 26, 2016, PM_{10} samples were collected using the BGI PQ200 instrument operating at a flow rate of approximately 16.7 LPM.

To date, CTEH® has received data from the first two days of PM_{10} analytical sampling efforts using the PQ200 instrument. A review of this data (see **Table 2**) indicates that, on average, results from PM_{10} sampling using the PQ200 instrument are approximately 1.7 times that of the AM510 real-time particulate monitoring instrumentation[4].

Table 2. Particulate Monitoring and Sampling Results Comparison

Date	Unit/Location	AM510 (mg/m^3)	PQ200 (mg/m^3)
02/26/2016	*AS07*	0.013	0.0223
	AS12	0.020	0.0510
	AS16	0.027	0.0501
2/27/2016	*AS07*	0.033	0.0541
	AS12	0.037	0.0398
	AS16	0.019	0.0290

Because such a comparison between reliable gravimetric results and real-time instrumentation is now available, analytical PM_{10} sampling stations may be demobilized and such a correction factor[5] applied to real-time particulate matter air monitoring measurements moving forward.

[4] While every effort was made to operate these units simultaneously, this did not occur in every case due to instruments battery limitations. As such, time differences between analytical samples and real-time monitoring are likely to exist.
[5] This correction factor is subject to change for final reporting purposes upon receipt of additional air sampling data.

Appendix B

Analytical Sampling Results

PNAH Analytical Sampling Results

Houston Wood Preserving Work Site

Results Received for Samples Collected from: February 10, 2016 to February 26, 2016

		AS01	AS03	AS04	AS05						AS06		AS07				AS08		
		HOTX0210PNAH001	HOTX0210PNAH003	HOTX0211PNAH001	HOTX0211PNAH002	HOTX0212PNAH003	HOTX0215PNAH003	HOTX0216PNAH003	HOTX0217PNAH003	HOTX0218PNAH003	HOTX0211PNAH003	HOTX0212PNAH002	HOTX0212PNAH001	HOTX0220PNAH003	HOTX0224PNAH002	HOTX0226PNAH001	HOTX0213PNAH001	HOTX0217PNAH001	HOTX0218PNAH001
		02/10	02/10	02/11	02/11	02/12	02/15	02/16	02/17	02/18	02/11	02/12	02/12	02/20	02/24	02/26	02/13	02/17	02/18
1-NITROPYRENE	mg/m³	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004
ACENAPHTHENE	mg/m³	< 0.0004	< 0.0004	< 0.0003	< 0.0004	< 0.0003	< 0.0003	< 0.0004	< 0.0003	< 0.0003	< 0.0003	< 0.0003	< 0.0003	< 0.0003	< 0.0003	< 0.0003	< 0.0003	< 0.0003	< 0.0003
ACENAPHTHYLENE	mg/m³	< 0.0003	< 0.0003	< 0.0003	< 0.0004	< 0.0003	< 0.0003	< 0.0004	< 0.0003	< 0.0003	< 0.0003	< 0.0003	< 0.0003	< 0.0003	< 0.0003	< 0.0003	< 0.0003	< 0.0003	< 0.0003
ANTHRACENE	mg/m³	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004
BENZO(A)ANTHRACENE	mg/m³	< 0.0004	< 0.0004	< 0.0004	< 0.0005	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004
BENZO(A)PYRENE	mg/m³	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005
BENZO(B)FLUORANTHENE	mg/m³	< 0.0005	< 0.0005	< 0.0004	< 0.0005	< 0.0004	< 0.0004	< 0.0005	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004
BENZO(E)PYRENE	mg/m³	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0004	< 0.0004	< 0.0005	< 0.0005	< 0.0005	< 0.0005
BENZO(G,H,I)PERYLENE	mg/m³	< 0.0006	< 0.0006	< 0.0005	< 0.0006	< 0.0005	< 0.0005	< 0.0006	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005
BENZO(K)FLUORANTHENE	mg/m³	< 0.0005	< 0.0005	< 0.0004	< 0.0005	< 0.0004	< 0.0004	< 0.0005	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004
CHRYSENE	mg/m³	< 0.0004	< 0.0004	< 0.0004	< 0.0005	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004
DIBENZ(A,H)ANTHRACENE	mg/m³	< 0.0005	< 0.0005	< 0.0004	< 0.0005	< 0.0004	< 0.0004	< 0.0005	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004
FLUORANTHENE	mg/m³	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004
FLUORENE	mg/m³	< 0.0004	< 0.0004	< 0.0003	< 0.0004	< 0.0003	< 0.0003	< 0.0004	< 0.0003	< 0.0003	< 0.0003	< 0.0003	< 0.0003	< 0.0003	< 0.0003	< 0.0003	< 0.0003	< 0.0003	< 0.0003
INDENO-1,2,3-CD-PYRENE	mg/m³	< 0.0005	< 0.0005	< 0.0005	< 0.0006	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005
NAPHTHALENE	mg/m³	0.0004	< 0.0004	< 0.0003	0.0007	0.0005	< 0.0003	< 0.0004	< 0.0003	< 0.0003	< 0.0003	< 0.0003	< 0.0003	< 0.0003	< 0.0003	< 0.0003	0.0004	< 0.0003	< 0.0003
PHENANTHRENE	mg/m³	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0003	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004
PYRENE	mg/m³	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004

The data displayed in the above table has not undergone complete QC analysis and is presented in preliminary format.

ND = Non-Detection

Detection

Non-Detection

PNAH Analytical Sampling Results

Houston Wood Preserving Work Site

Results Received for Samples Collected from: February 10, 2016 to February 26, 2016

		AS09			AS10	AS11	AS12						AS13	AS14		AS15	AS16	
		HOTX0213PNAH002	HOTX0217PNAH002	HOTX0218PNAH002	HOTX0213PNAH003	HOTX0215PNAH001	HOTX0215PNAH002	HOTX0216PNAH002	HOTX0219PNAH002	HOTX0220PNAH002	HOTX0224PNAH003	HOTX0226PNAH002	HOTX0216PNAH001	HOTX0219PNAH001	HOTX0220PNAH001	HOTX0219PNAH003	HOTX0224PNAH001	HOTX0226PNAH003
		02/13	02/17	02/18	02/13	02/15	02/15	02/16	02/19	02/20	02/24	02/26	02/16	02/19	02/20	02/19	02/24	02/26
1-NITROPYRENE	mg/m³	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0003	< 0.0004	< 0.0004	< 0.0004
ACENAPHTHENE	mg/m³	< 0.0003	< 0.0004	< 0.0003	< 0.0004	< 0.0003	< 0.0003	< 0.0003	< 0.0003	< 0.0003	< 0.0004	< 0.0003	< 0.0004	0.0025	0.0008	< 0.0003	< 0.0003	< 0.0003
ACENAPHTHYLENE	mg/m³	< 0.0003	< 0.0003	< 0.0003	< 0.0003	< 0.0003	< 0.0003	< 0.0003	< 0.0003	< 0.0003	< 0.0003	< 0.0003	< 0.0003	< 0.0003	< 0.0003	< 0.0003	< 0.0003	< 0.0003
ANTHRACENE	mg/m³	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0003	< 0.0004	< 0.0004	< 0.0004
BENZO(A)ANTHRACENE	mg/m³	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004
BENZO(A)PYRENE	mg/m³	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0004	< 0.0005	< 0.0005	< 0.0005
BENZO(B)FLUORANTHENE	mg/m³	< 0.0004	< 0.0004	< 0.0004	< 0.0005	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0005	< 0.0005	< 0.0004	< 0.0004	< 0.0004	< 0.0004
BENZO(E)PYRENE	mg/m³	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0004	< 0.0004	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0004	< 0.0005	< 0.0004	< 0.0005
BENZO(G,H,I)PERYLENE	mg/m³	< 0.0005	< 0.0005	< 0.0005	< 0.0006	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0006	< 0.0005	< 0.0006	< 0.0006	< 0.0005	< 0.0005	< 0.0005	< 0.0005
BENZO(K)FLUORANTHENE	mg/m³	< 0.0004	< 0.0004	< 0.0004	< 0.0005	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0005	< 0.0004	< 0.0005	< 0.0005	< 0.0004	< 0.0004	< 0.0004	< 0.0004
CHRYSENE	mg/m³	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004
DIBENZ(A,H)ANTHRACENE	mg/m³	< 0.0004	< 0.0004	< 0.0004	< 0.0005	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0005	< 0.0004	< 0.0005	< 0.0005	< 0.0004	< 0.0004	< 0.0004	< 0.0004
FLUORANTHENE	mg/m³	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004
FLUORENE	mg/m³	< 0.0003	< 0.0004	< 0.0003	< 0.0004	< 0.0003	< 0.0003	< 0.0003	< 0.0003	< 0.0003	< 0.0004	< 0.0003	< 0.0004	0.001	< 0.0003	< 0.0003	< 0.0003	< 0.0003
INDENO-1,2,3-CD-PYRENE	mg/m³	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005
NAPHTHALENE	mg/m³	< 0.0003	< 0.0003	< 0.0003	< 0.0004	< 0.0003	< 0.0003	< 0.0003	< 0.0003	< 0.0003	< 0.0004	< 0.0003	< 0.0004	0.024 J	0.0043 J	< 0.0003	< 0.0003	0.0004
PHENANTHRENE	mg/m³	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004	0.0007	< 0.0003	< 0.0004	< 0.0004	< 0.0004
PYRENE	mg/m³	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004

The data displayed in the above table has not undergone complete QC analysis and is presented in preliminary format.

ND = Non-Detection

Detection

Non-Detection

Attachment B

Rationale for Modification of Particulate Matter Analytical Air Sampling Methodology

Rationale for Modification of Particulate Matter Analytical Air Sampling Methodology

Analytical air sampling was conducted by CTEH® to evaluate levels of airborne particulate matter in support of remediation and soil capping operations at the HWPW Site between February 10, 2016 and March 8, 2016. Upon arrival, CTEH® initiated analytical air sampling for PNAHs using NIOSH Method 5506, and particulate matter using EPA Method IP-10A with Personal Environmental Monitor (PEM) sampler to assess the PM_{10} size-fraction. Concomitantly, CTEH® conducted real-time air monitoring for PM_{10} using field instruments manufactured by TSI, including both the DustTrak DRX8534 and the AM510. The purpose of this appendix is to provide the rationale and scientific data behind the transition of PM_{10} sampling methodology from EPA Method IP-10A to a modified 40 CFR 50 method on February 26, 2016.

On February 10, 2016, CTEH® personal initiated analytical sampling for PM_{10} at three perimeter locations on a daily basis using USEPA Method IP-10A with the PEM Sampler[1]. The PEM sampler – provided to CTEH® by SGS Galson Laboratories – is a pump-driven sampling device which consists of a single-stage impactor and an after filter; reportingly achieving a 50% size cut point of 10 micrometers (µm). However, after reviewing the first few days of available analytical sampling data, CTEH® personnel observed a substantial discrepancy between the PM_{10} readings observed on real-time equipment, field observations, and PM_{10} results obtained via USEPA Method IP-10A. Furthermore, a review of the sampling field forms indicated a large percentage of samples collected using the PEM sampler had high pump flow rate variability (>10 %) between pre- and post-calibration readings. In many instances, post-calibration flow rates were significantly different than the 2 liters per minute (LPM) needed for PM_{10} size-selectivity. Results from PM_{10} sampling efforts between February 10, 2016 and February 16, 2016 are presented in **Table B.1**. As a result of this observed inconsistency, CTEH® initiated additional particulate matter sampling methodology.

On February 18, 2016, CTEH® begin co-locating both total dust (NIOSH Method 0500) and respirable dust (NIOSH Method 0600) samples with the PM_{10} PEM samplers to better evaluate the accuracy of the results obtained using USEPA Method IP-10A with the PEM samplers. Because the PM_{10} fraction of particulate matter represents only a subset of total dust, it is not possible for PM_{10} concentrations to be greater than total dust concentrations. However, as observed in **Table B.2**, CTEH® noted that in every instance, PM_{10} concentrations exceeded the total dust sampling results. This indicated that samples collected using the USEPA Method IP-10A using the PEM samplers were erroneous in nature. CTEH®, working with SGS Galson Laboratories made every attempt to identify the source of the issue; however, a decision to switch to a different gravimetric analytical method (mod. 40 CFR 50) using high flow rate (16.7 LPM) BGI PQ200 instrument was made. The TCEQ approved the transition in PM_{10} sampling methodology.

CTEH® continued to collect analytical air samples using the revised sampling methodology on operational days between February 26, 2016 and March 8, 2016. For reporting purposes, CTEH® has relied upon total dust measurements for the date range of February 18, 2016 – February 25, 2016 and

[1] While the PEM sampler was originally designed for indoor air quality investigations, the manufacturer states that outdoor use can be effective if no excessive wind velocity or rain is present at the time of sampling (SKC Publication 13367 Rev. 1601).

PM_{10} measurements using the mod 40 CFR 50 between the date range of February 26, 2016 – March 8, 2016.

Table B.1 PM_{10} Sampling Results Using USEPA Method IP-10A with PEM Sampler

February 10, 2016 – February 17, 2016

Sample Date	Location	PM_{10} (mg/m^3)
February 10, 2016	AS01	0.084
	AS02	0.170
	AS03	<0.050
February 11, 2016	AS04	0.051
	AS05	<0.052
	AS06	<0.052
February 12, 2016	AS05	0.180
	AS06	0.180
	AS07	0.170
February 13, 2016	AS08	0.110
	AS09	0.130
	AS10	0.270
February 15, 2016	AS05	0.31
	AS11	0.130
	AS12	0.150
February 16, 2016	AS05	0.096
	AS12	0.230
	AS13	0.160
February 17, 2016	AS05	0.120
	AS08	0.500
	AS09	0.360

Table B.2. Comparison between Airborne PM_{10} and Total Dust Concentrations

February 18, 2016 – February 25, 2016

Sample Date	Location	PM_{10} (mg/m^3) using EPA method IP-10A	TOTAL DUST (mg/m^3) using NIOSH 0500 method	PM_{10} > Total Dust?
February 18, 2016	AS05	0.390	0.063	**Yes**
	AS08	1.000	0.250	**Yes**
	AS09	1.100	0.049	**Yes**
February 19, 2016	AS12	0.330	0.054	**Yes**
	AS14	0.870	0.065	**Yes**
	AS15	0.240	0.130	**Yes**
February 20, 2016	AS07	0.310	0.091	**Yes**
	AS12	0.230	0.047	**Yes**
	AS14	0.290	0.046	**Yes**
February 24, 2016	AS07	0.330	0.045	**Yes**
	AS12	0.320	0.046	**Yes**
	AS16	0.680	0.045	**Yes**
February 25, 2016	AS07	0.220	0.047	**Yes**
	AS12	0.180	0.047	**Yes**
	AS16	0.240	0.045	**Yes**

Attachment C

Maps of Real-Time Reading Locations and Analytical Station Locations

CTEH

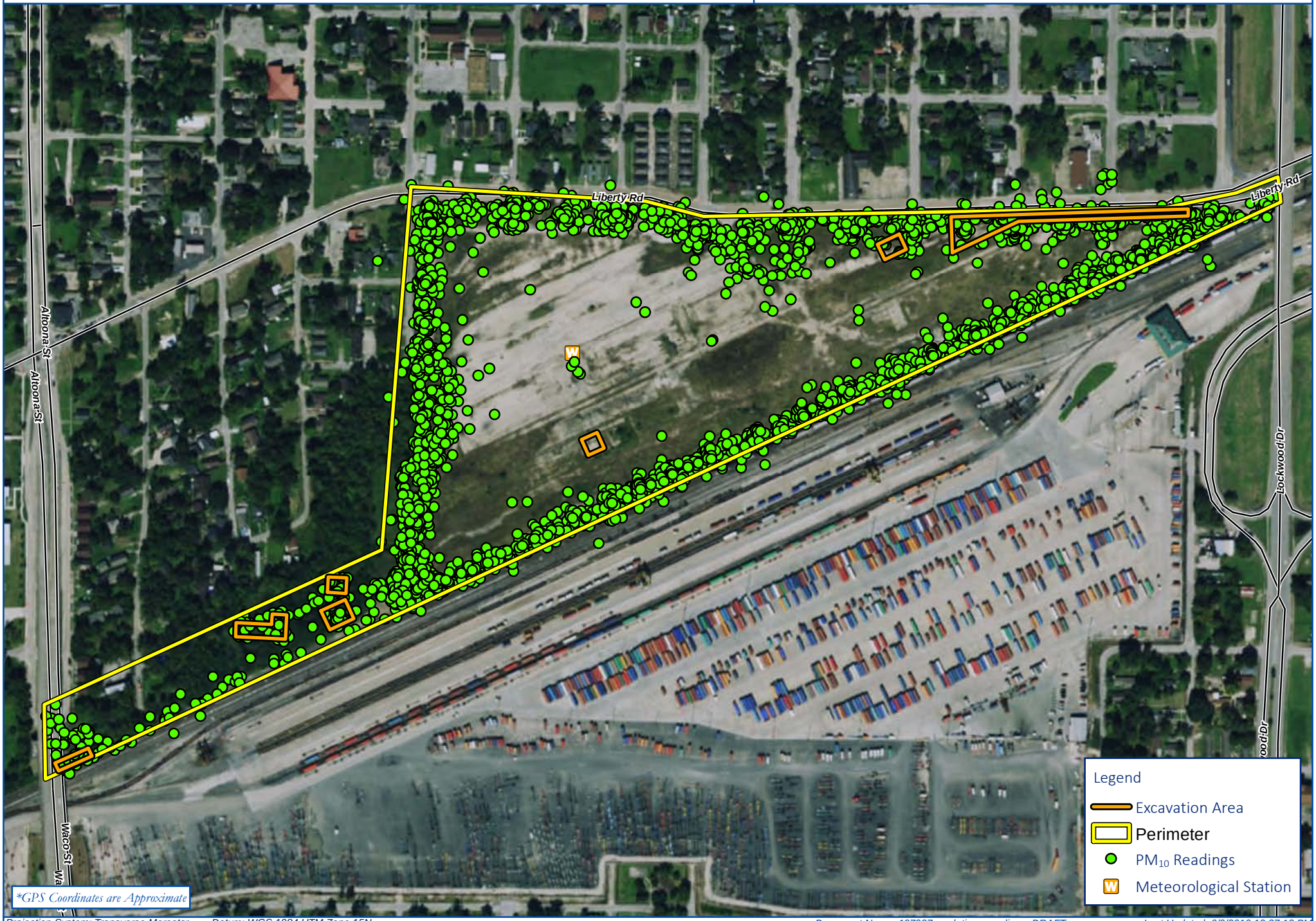
Real-Time Handheld Air Monitoring Locations

Houston Wood Preserving Work Site - February 10, 2016 - April 28, 2016

0 250 500 Feet

N

Project: 107907
Client: UPRR
City: Houston, TX
County: Harris



*GPS Coordinates are Approximate

Projection System: Transverse Mercator Datum: WGS 1984 UTM Zone 15N

Document Name: 107907_real_time_readings_DRAFT

Last Updated: 6/6/2016 12:37:13 PM

Analytical Air Stations and PM_{10} Data Logging Stations

Houston Wood Preserving Work Site

0 250 500 Feet

Project: 107907
Client: UPRR
City: Houston, TX
County: Harris

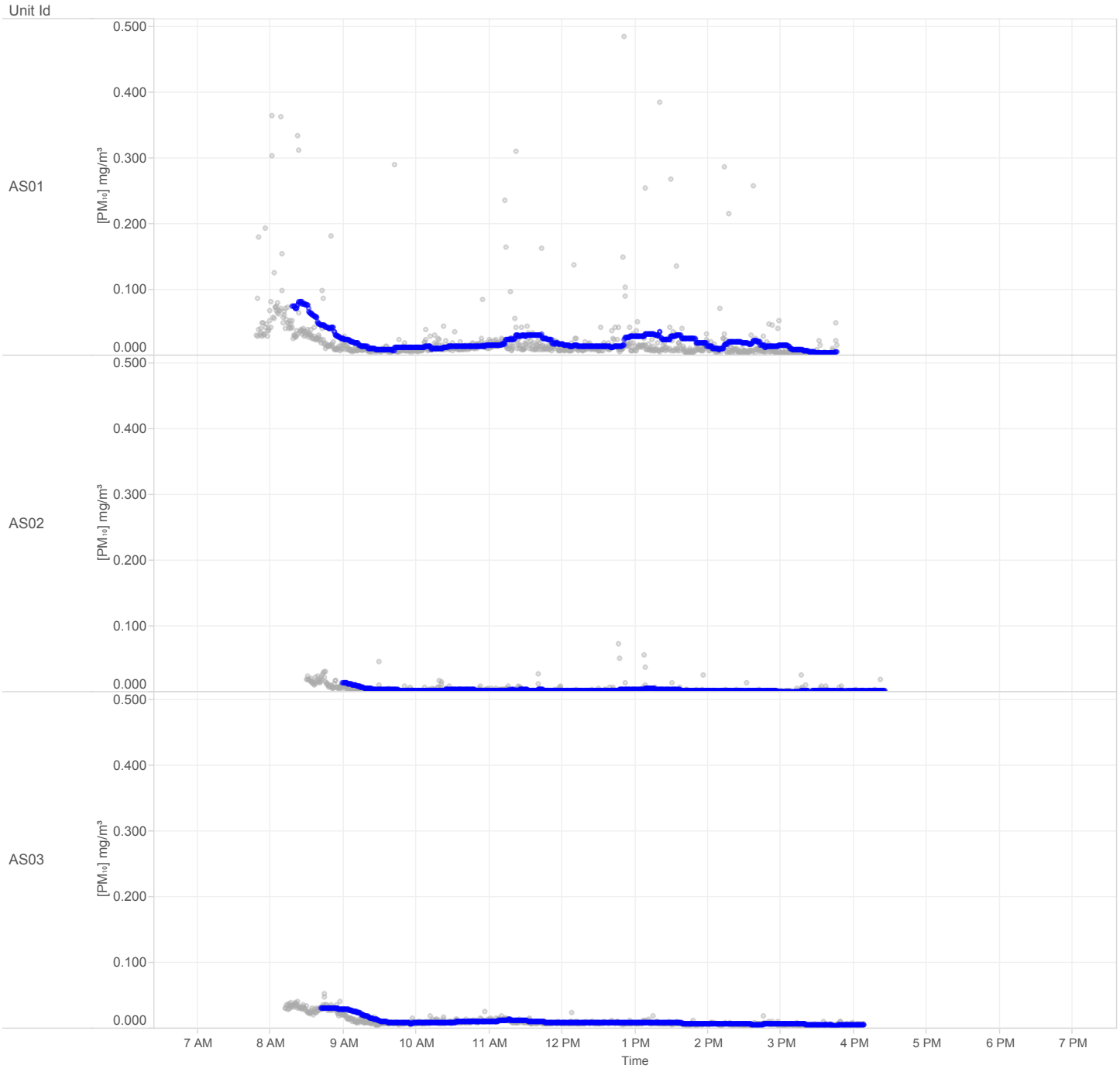
Projection System: Transverse Mercator Datum: WGS 1984 UTM Zone 15N Document Name: analytical_stations Last Updated: 6/6/2016 12:38:00 PM

Attachment D

AM510 Datalog Results

Datalogged PM_{10} Concentrations in Air

Houston Wood Preserving Work Site - February 10, 2016



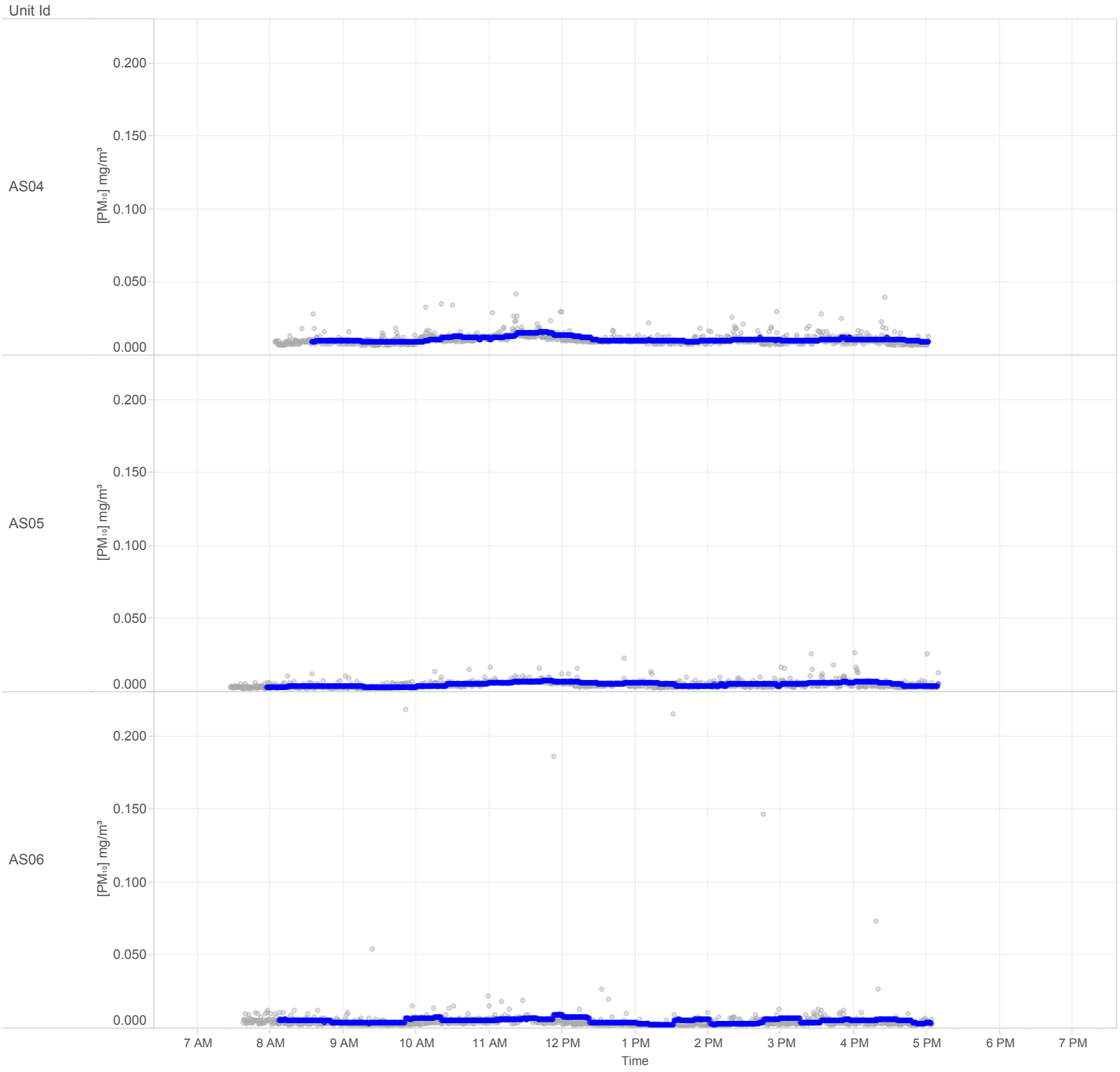
Particulate monitors were deployed around the facility perimeter to monitor 10 µm airborne dust concentrations.

30min Rolling Avg

Instantaneous Reading

Datalogged PM_{10} Concentrations in Air

Houston Wood Preserving Work Site - February 11, 2016



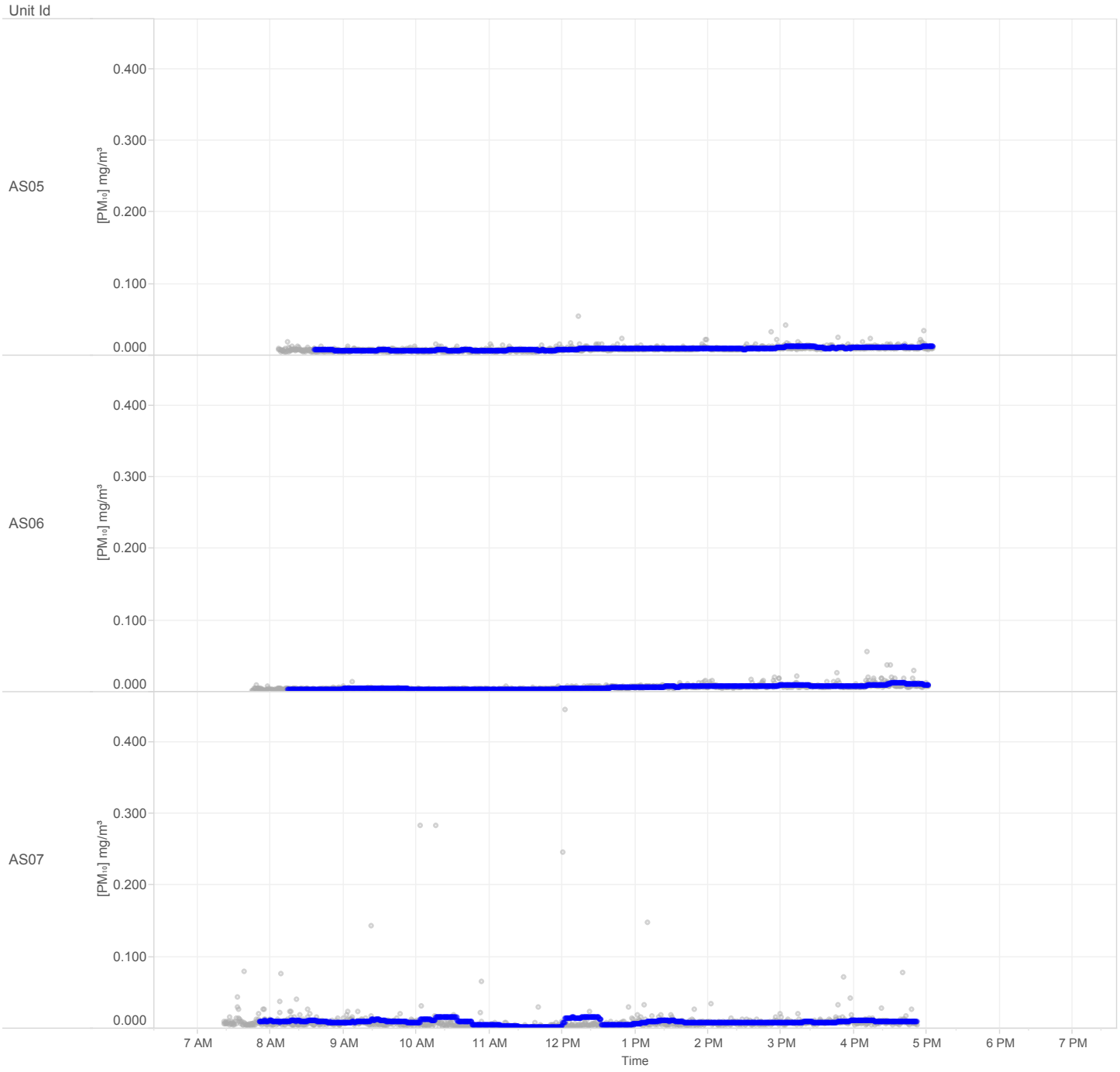
Particulate monitors were deployed around the facility perimeter to monitor 10 µm airborne dust concentrations.

30min Rolling Avg

Instantaneous Reading

Datalogged PM_{10} Concentrations in Air

Houston Wood Preserving Work Site - February 12, 2016



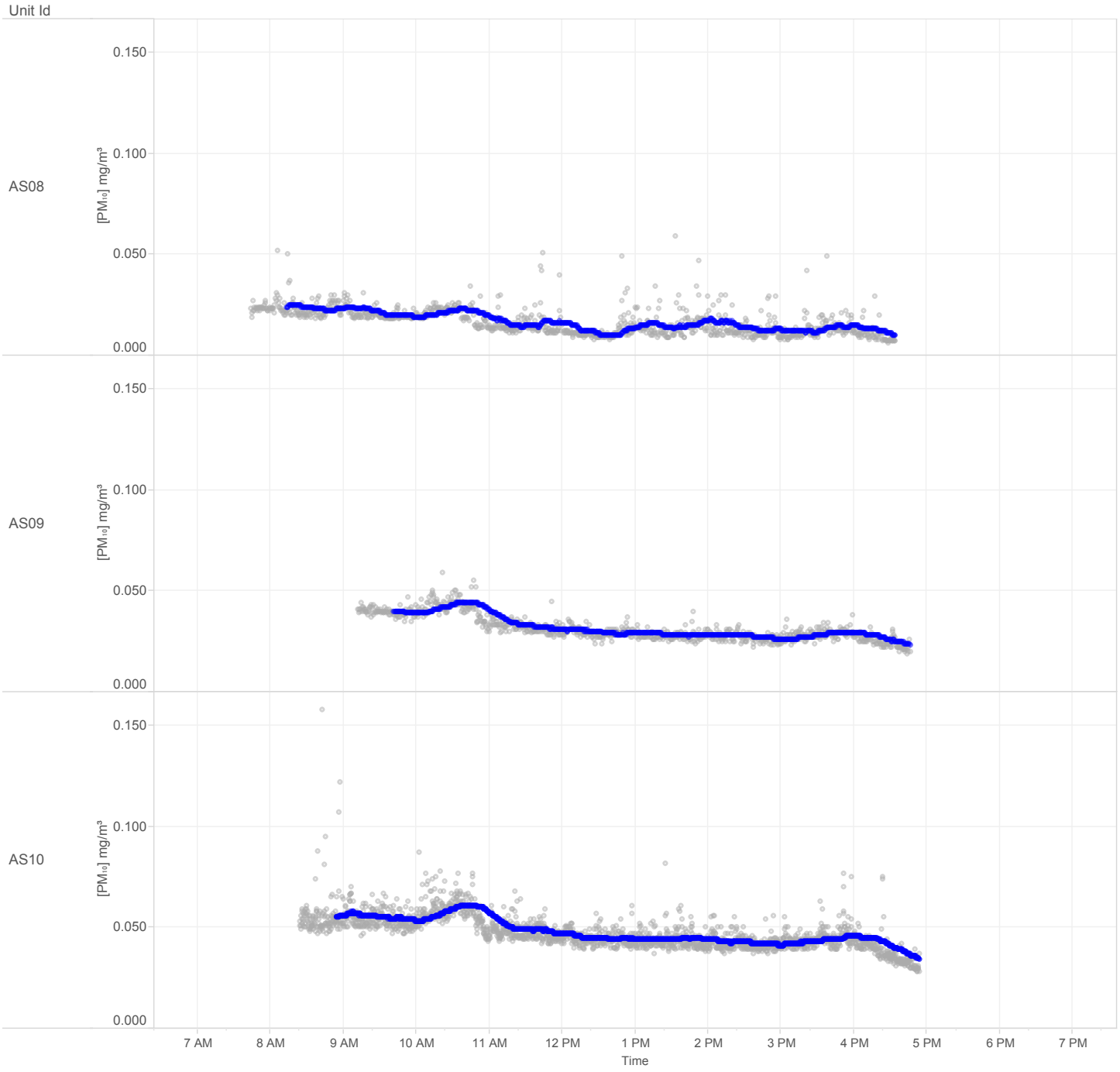
Particulate monitors were deployed around the facility perimeter to monitor 10 µm airborne dust concentrations.

30min Rolling Avg

Instantaneous Reading

Datalogged PM_{10} Concentrations in Air

Houston Wood Preserving Work Site - February 13, 2016



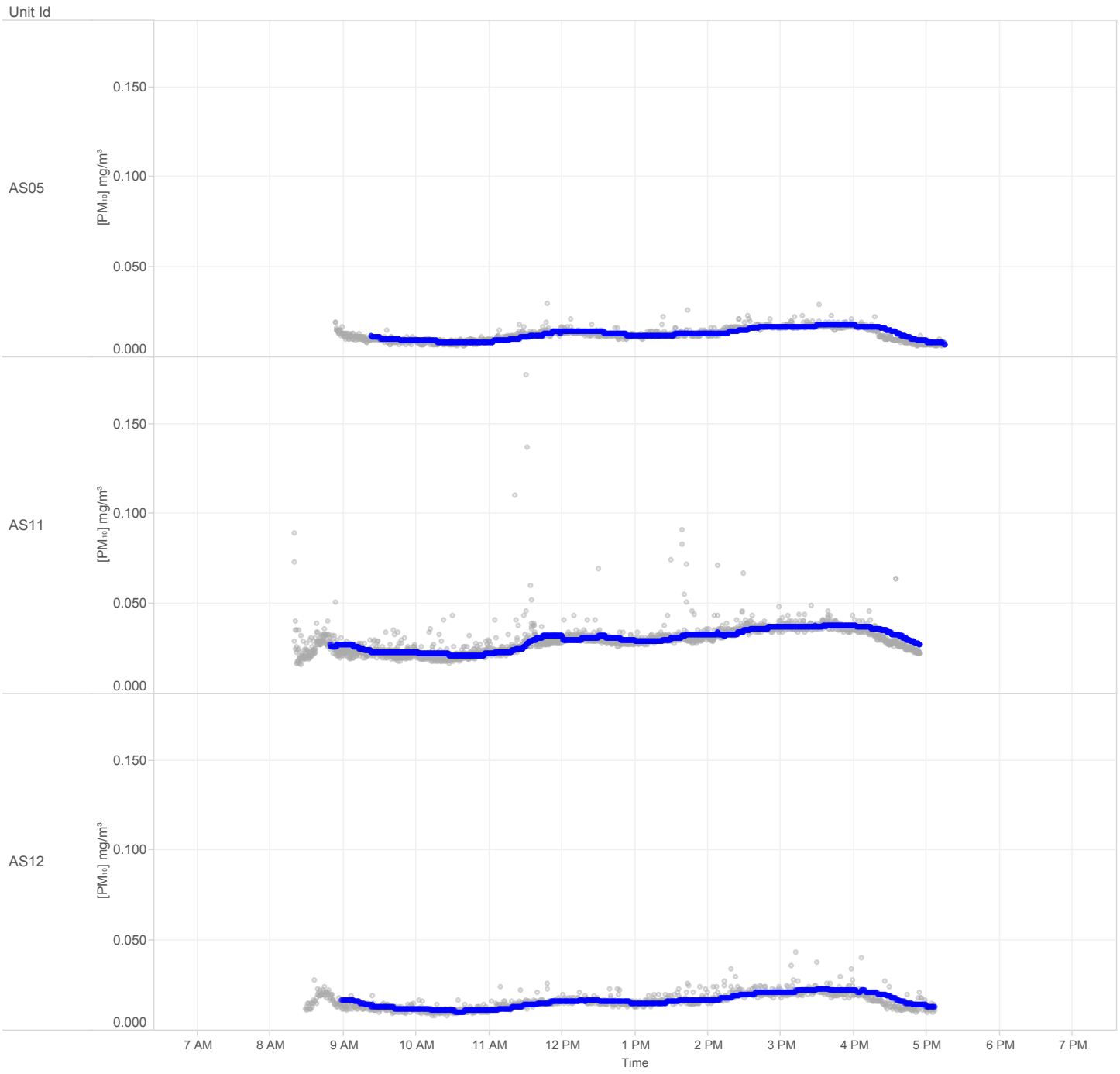
Particulate monitors were deployed around the facility perimeter to monitor 10 µm airborne dust concentrations.

30min Rolling Avg

Instantaneous Reading

Datalogged PM_{10} Concentrations in Air

Houston Wood Preserving Work Site - February 15, 2016



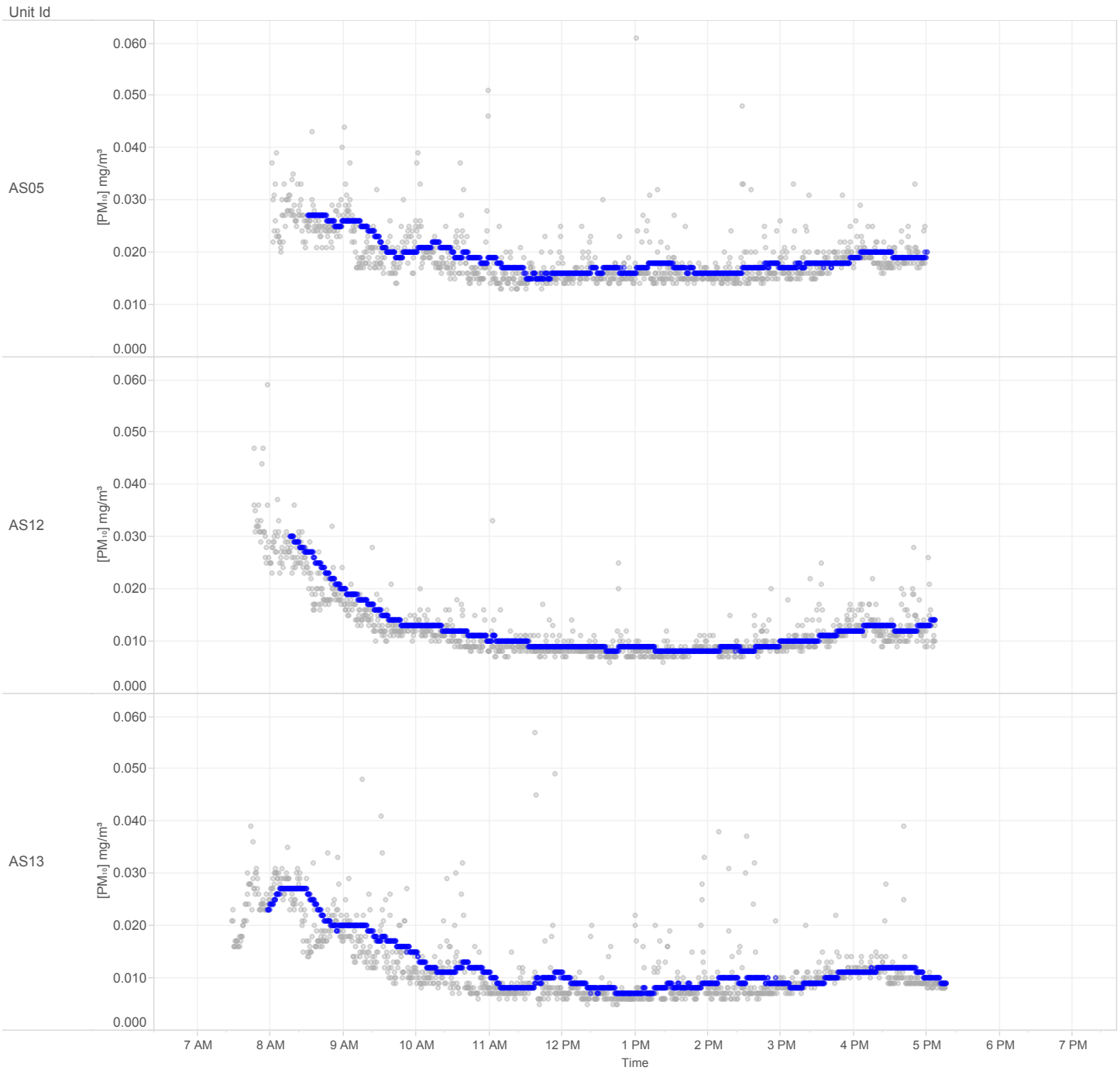
Particulate monitors were deployed around the facility perimeter to monitor 10 µm airborne dust concentrations.

30min Rolling Avg

Instantaneous Reading

Datalogged PM_{10} Concentrations in Air

Houston Wood Preserving Work Site - February 16, 2016



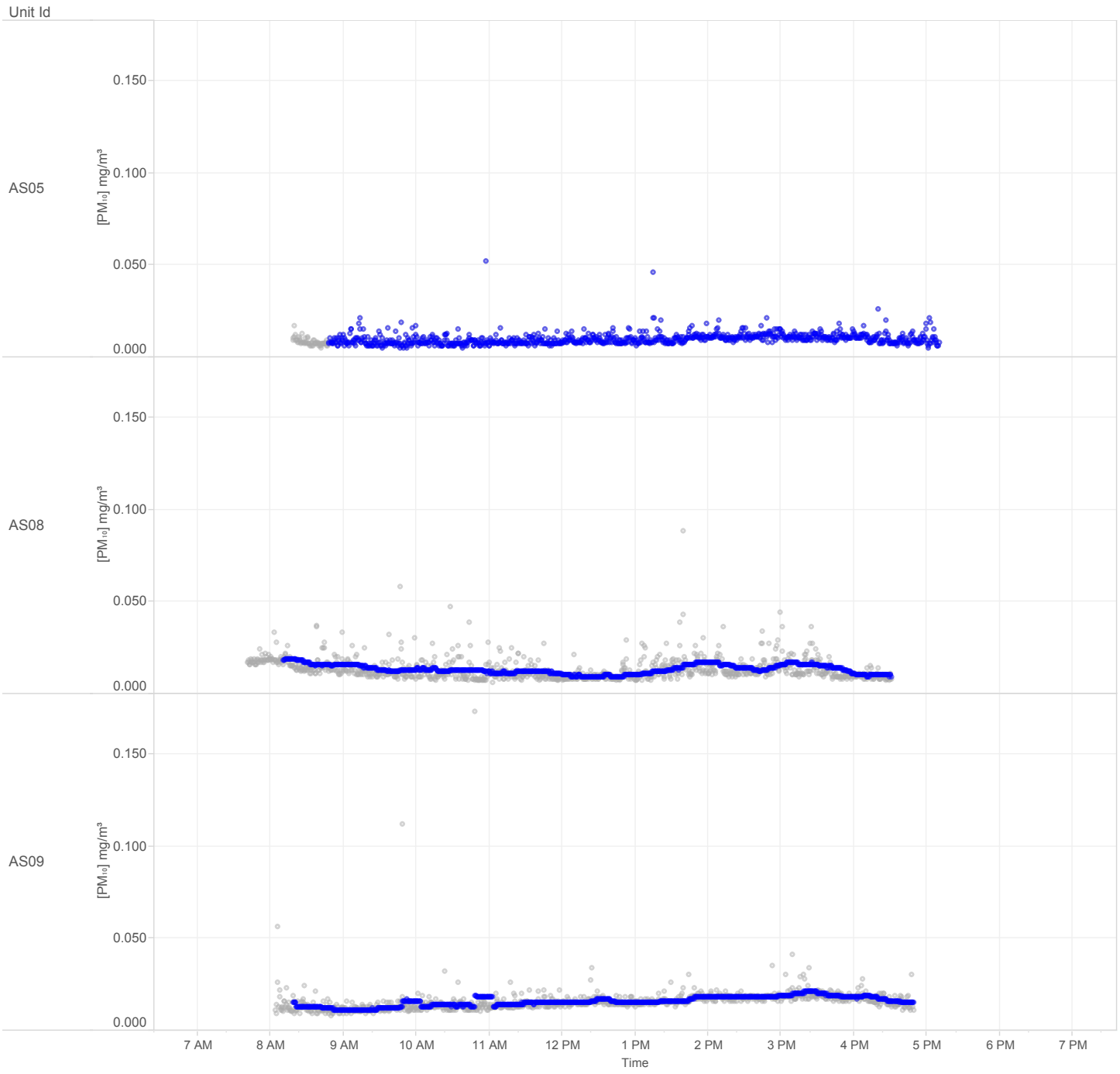
Particulate monitors were deployed around the facility perimeter to monitor 10 µm airborne dust concentrations.

30min Rolling Avg

Instantaneous Reading

Datalogged PM_{10} Concentrations in Air

Houston Wood Preserving Work Site - February 17, 2016



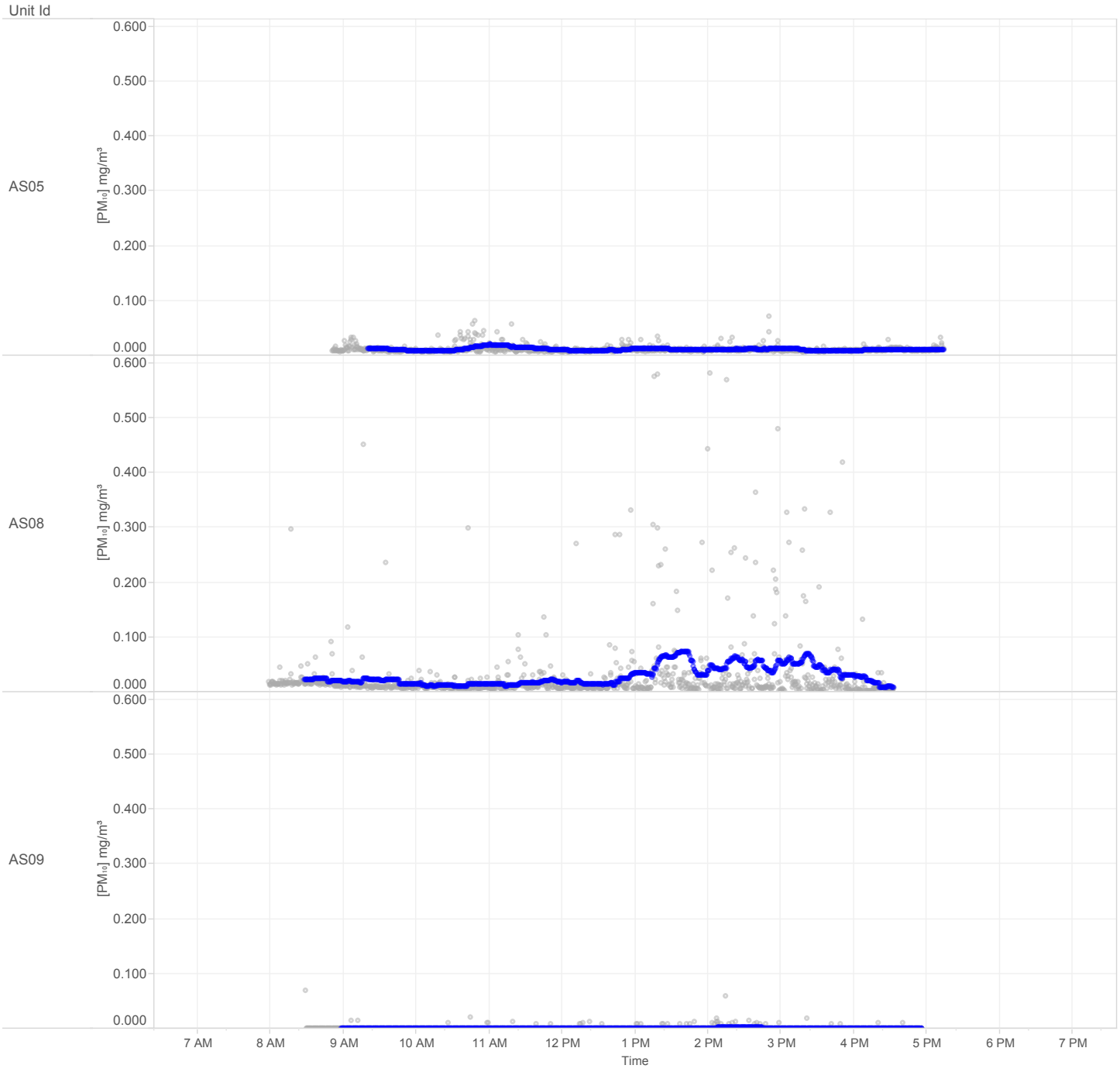
Particulate monitors were deployed around the facility perimeter to monitor 10 µm airborne dust concentrations.

30min Rolling Avg

Instantaneous Reading

Datalogged PM_{10} Concentrations in Air

Houston Wood Preserving Work Site - February 18, 2016



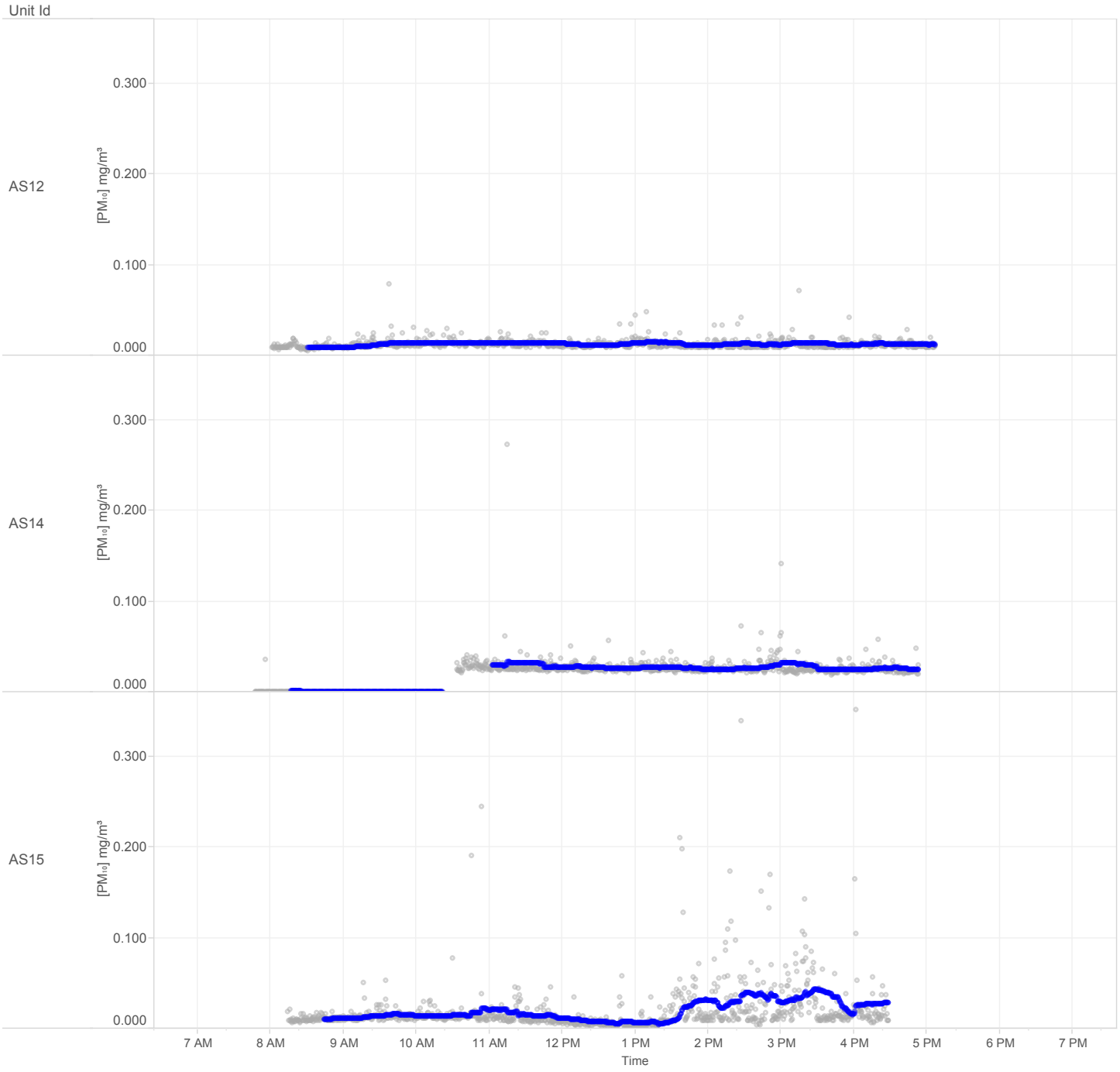
Particulate monitors were deployed around the facility perimeter to monitor 10 µm airborne dust concentrations.

30min Rolling Avg

Instantaneous Reading

Datalogged PM_{10} Concentrations in Air

Houston Wood Preserving Work Site - February 19, 2016



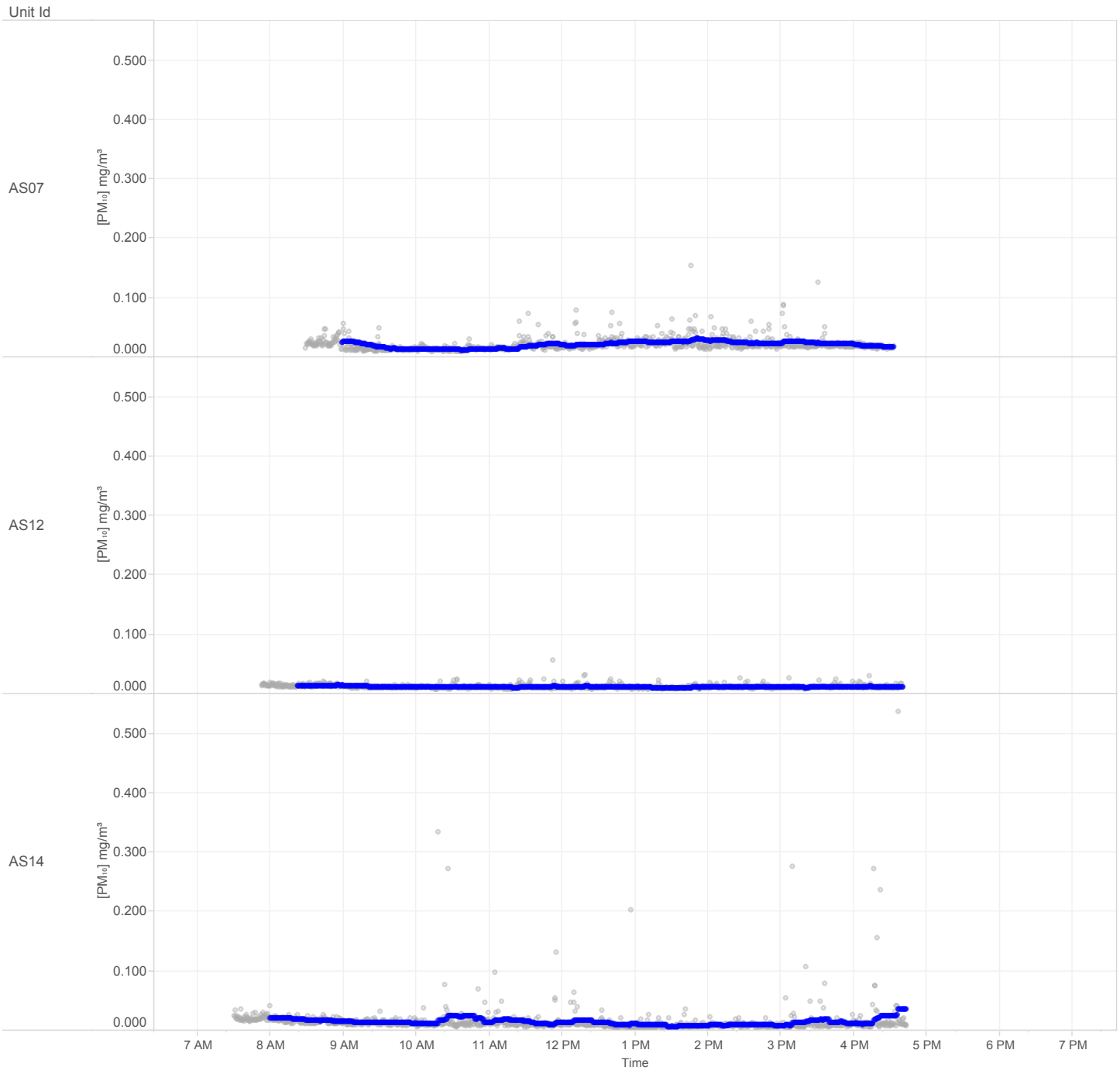
Particulate monitors were deployed around the facility perimeter to monitor 10 µm airborne dust concentrations.

30min Rolling Avg

Instantaneous Reading

Datalogged PM_{10} Concentrations in Air

Houston Wood Preserving Work Site - February 20, 2016



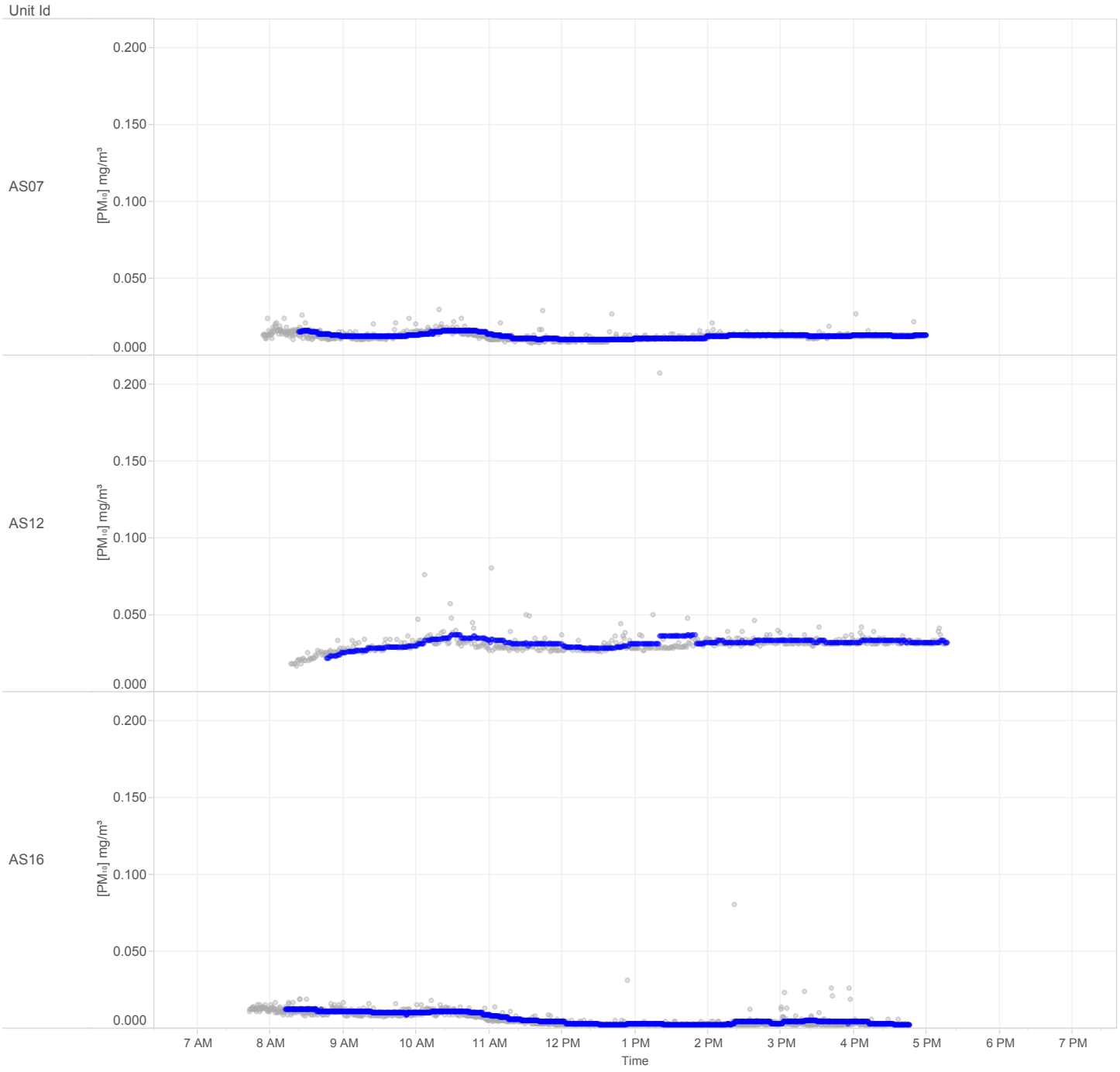
Particulate monitors were deployed around the facility perimeter to monitor 10 µm airborne dust concentrations.

30min Rolling Avg

Instantaneous Reading

Datalogged PM_{10} Concentrations in Air

Houston Wood Preserving Work Site - February 24, 2016



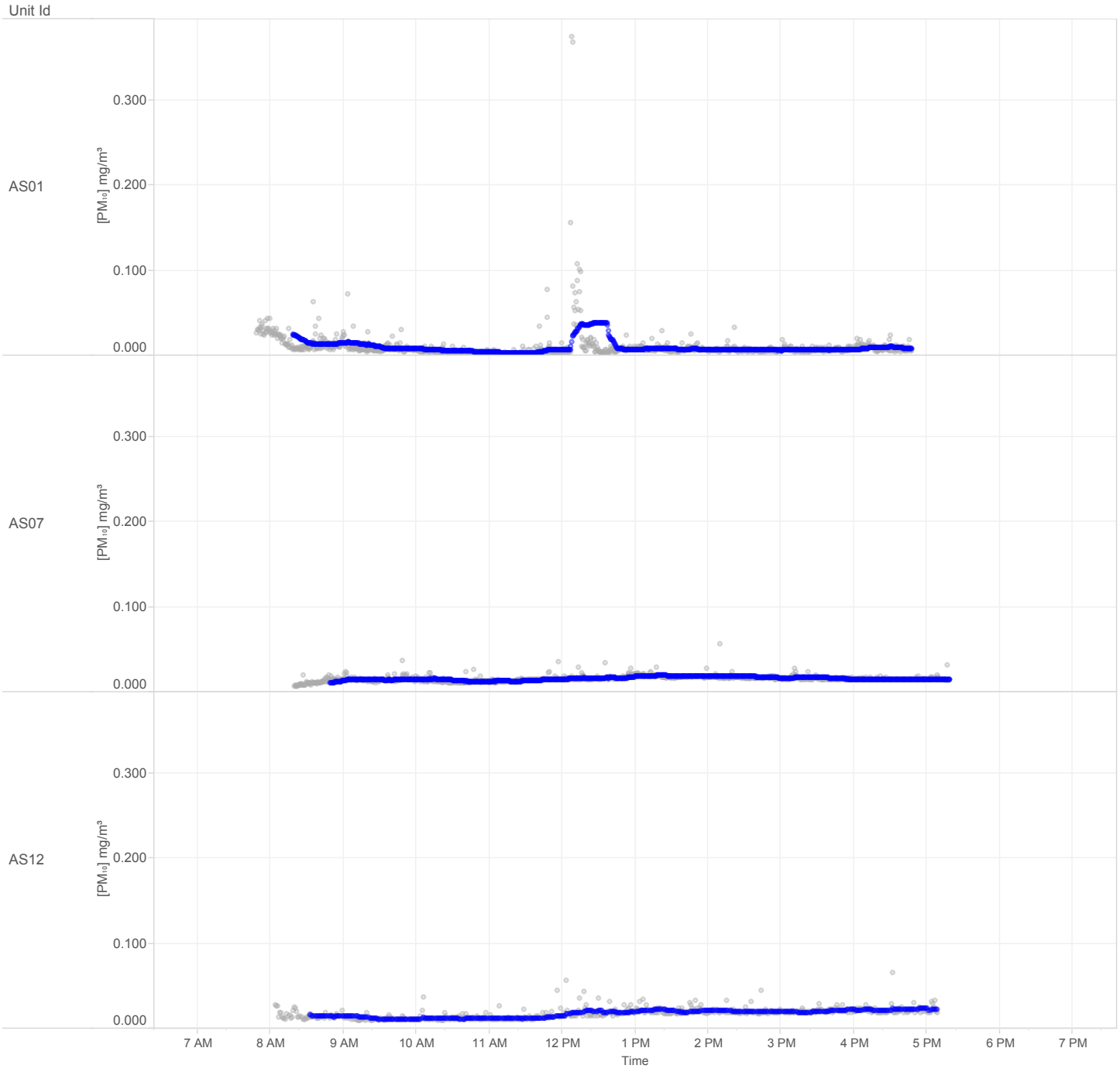
Particulate monitors were deployed around the facility perimeter to monitor 10 µm airborne dust concentrations.

30min Rolling Avg

Instantaneous Reading

Datalogged PM_{10} Concentrations in Air

Houston Wood Preserving Work Site - February 25, 2016



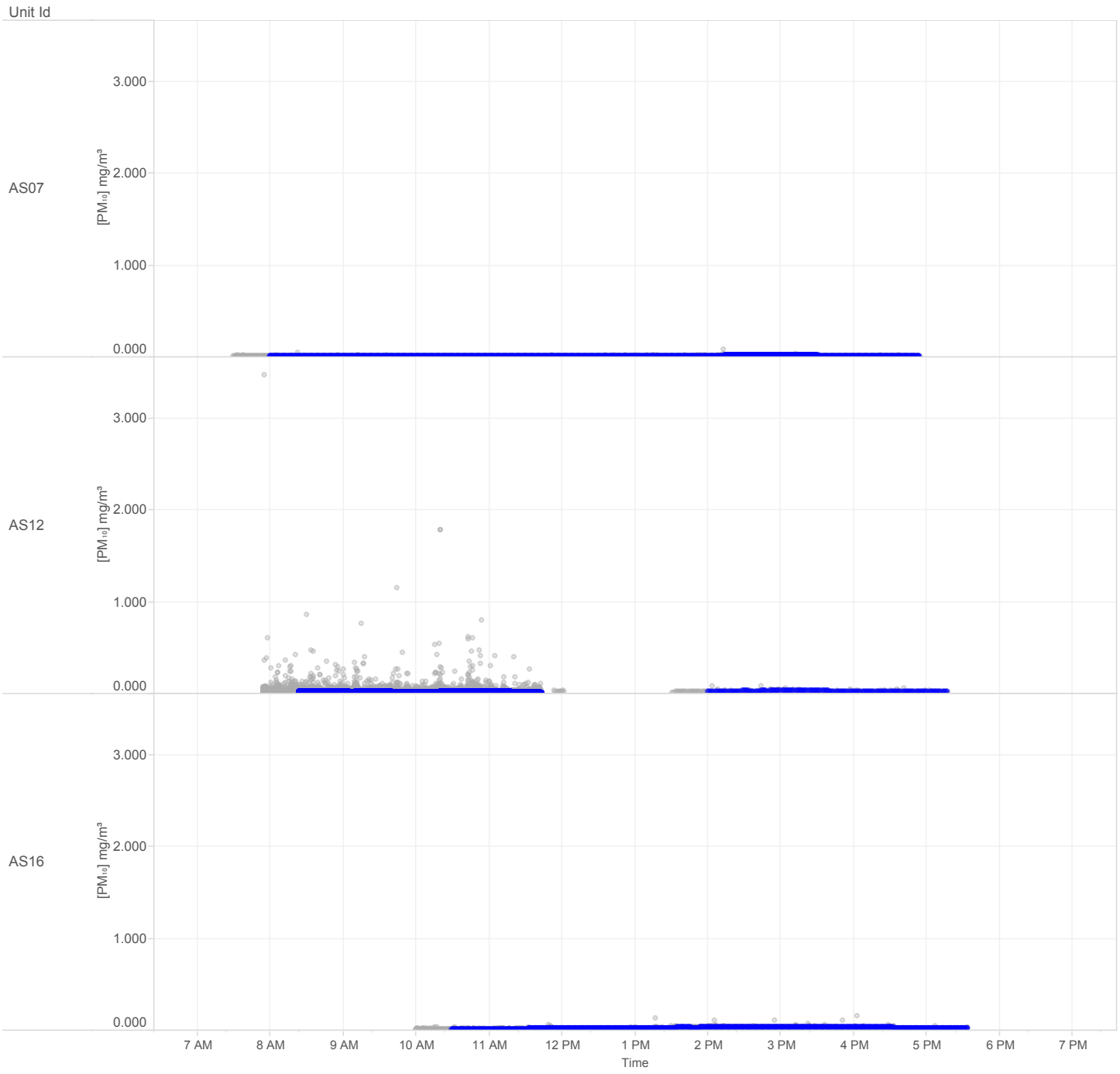
Particulate monitors were deployed around the facility perimeter to monitor 10 µm airborne dust concentrations.

30min Rolling Avg

Instantaneous Reading

Datalogged PM_{10} Concentrations in Air

Houston Wood Preserving Work Site - February 26, 2016



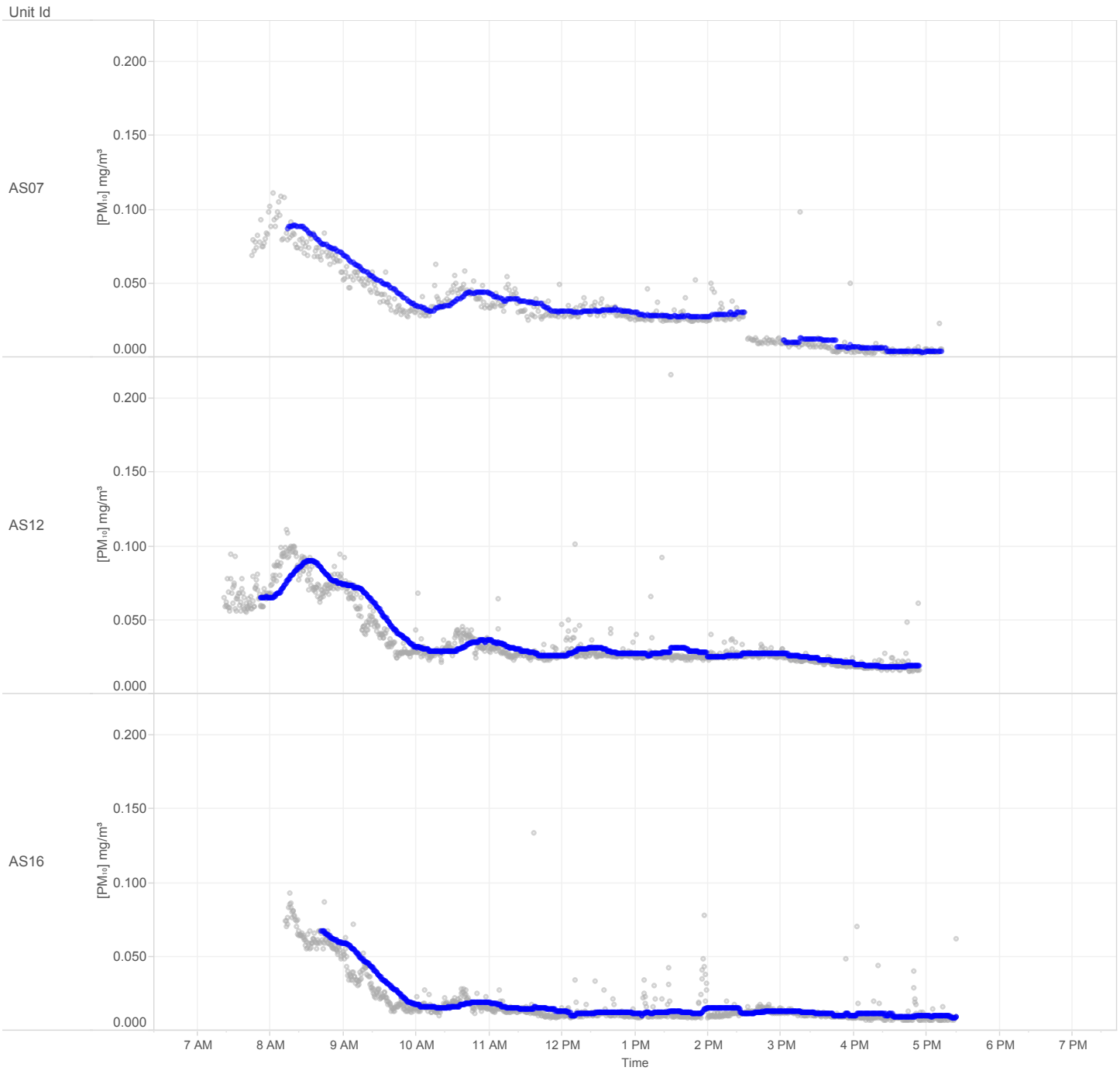
Particulate monitors were deployed around the facility perimeter to monitor 10 µm airborne dust concentrations.

30min Rolling Avg

Instantaneous Reading

Datalogged PM_{10} Concentrations in Air

Houston Wood Preserving Work Site - February 27, 2016



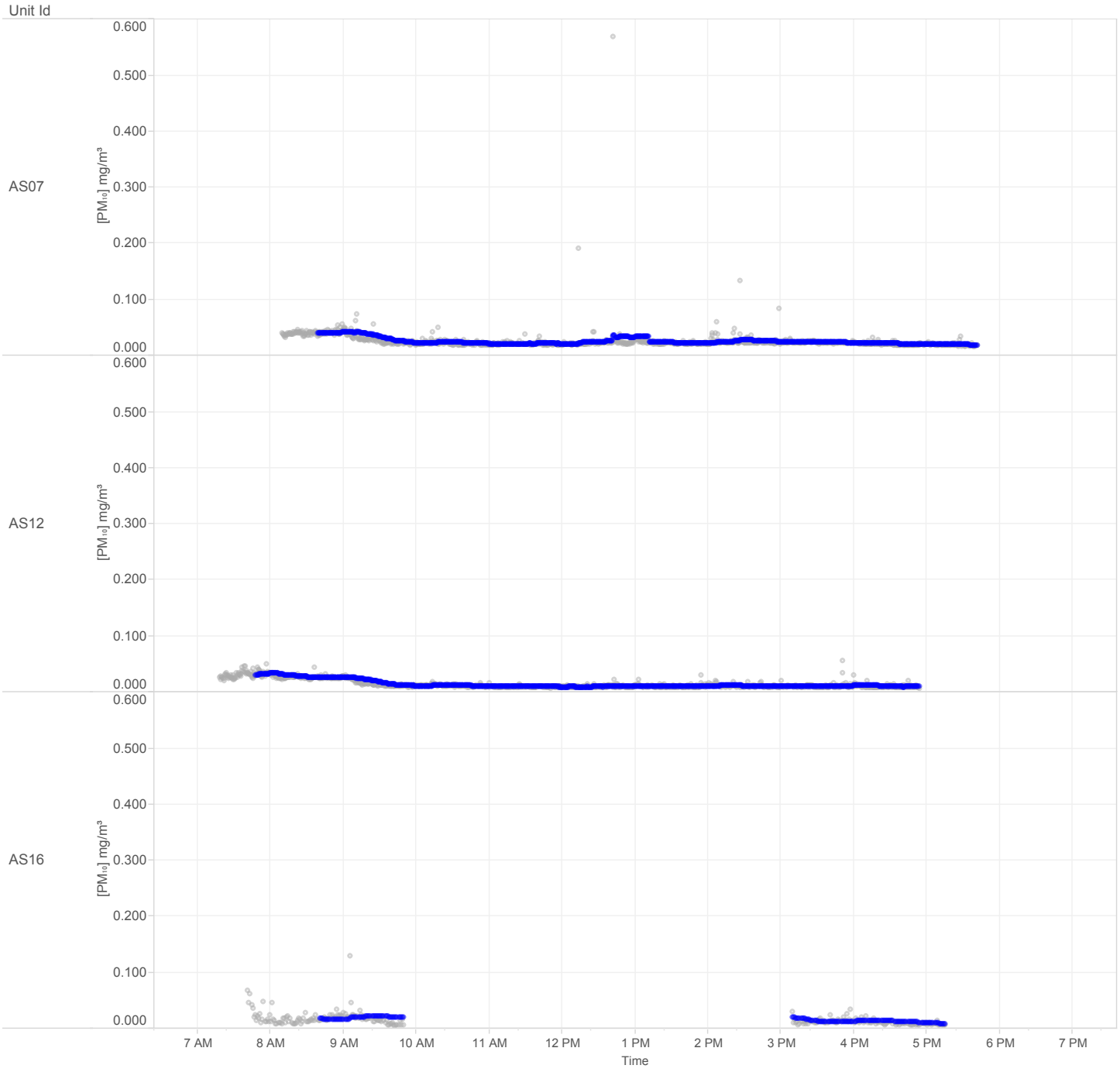
Particulate monitors were deployed around the facility perimeter to monitor 10 µm airborne dust concentrations.

30min Rolling Avg

Instantaneous Reading

Datalogged PM_{10} Concentrations in Air

Houston Wood Preserving Work Site - February 29, 2016



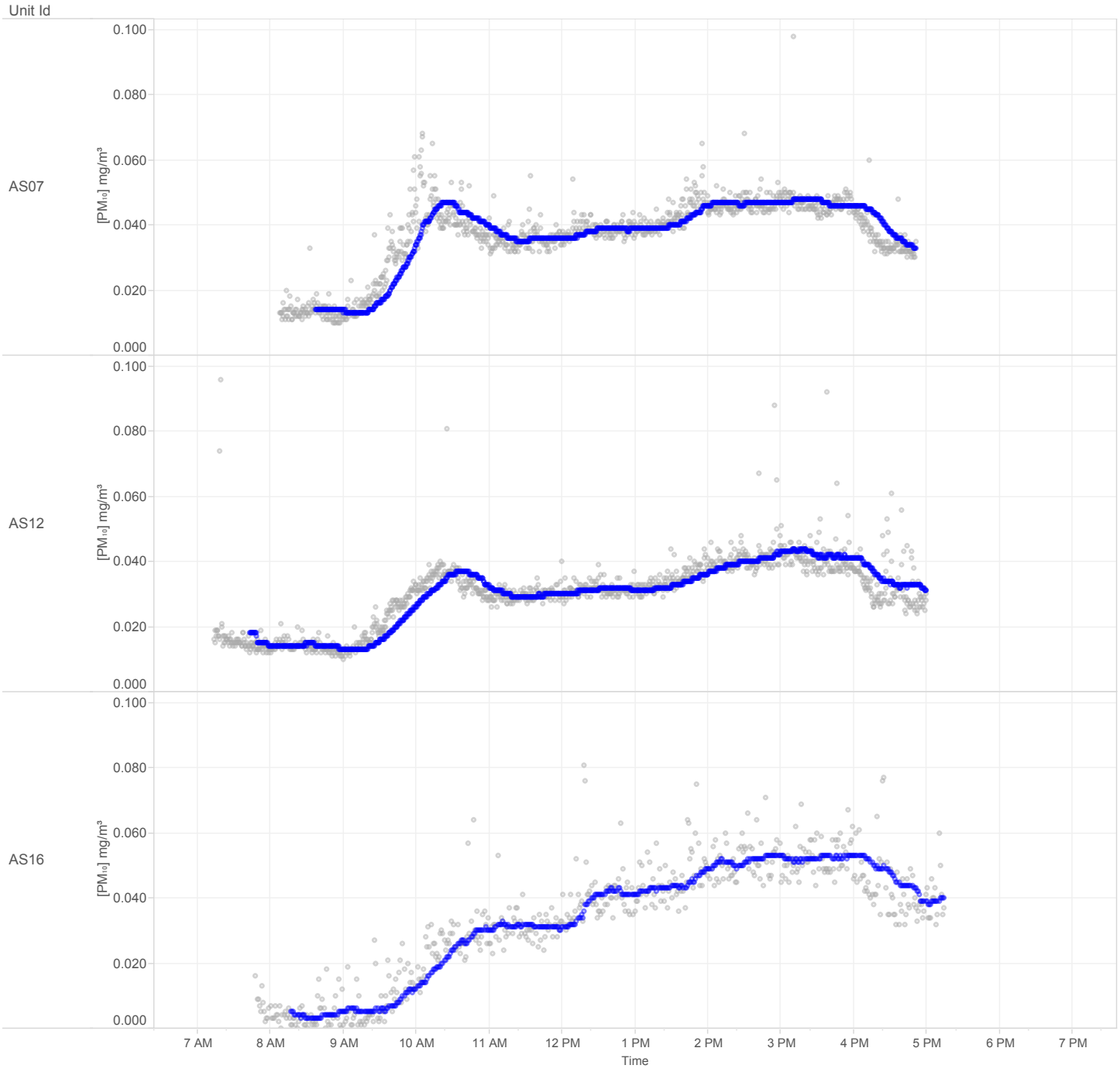
Particulate monitors were deployed around the facility perimeter to monitor 10 µm airborne dust concentrations.

30min Rolling Avg

Instantaneous Reading

Datalogged PM_{10} Concentrations in Air

Houston Wood Preserving Work Site - March 1, 2016



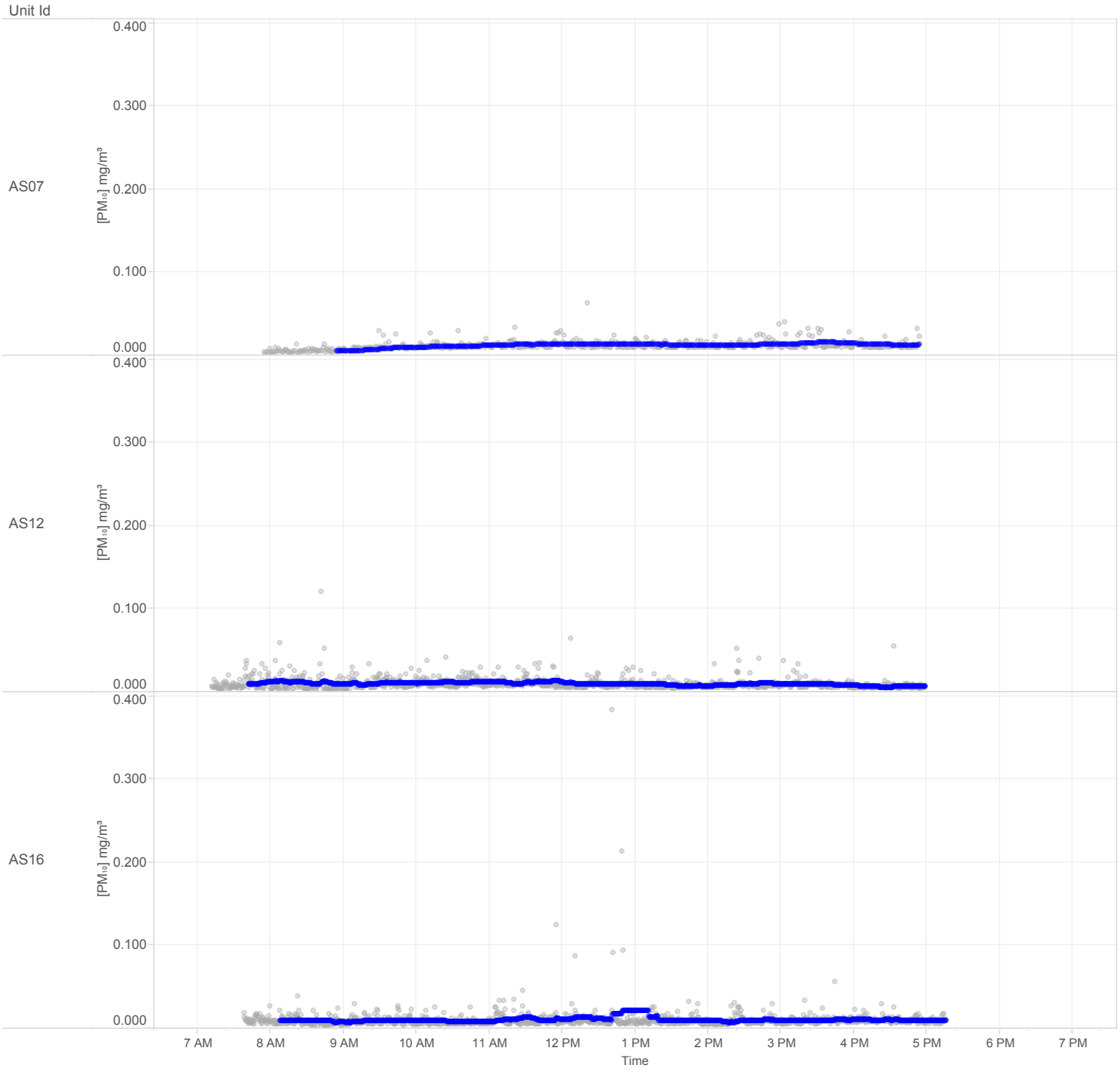
Particulate monitors were deployed around the facility perimeter to monitor 10 µm airborne dust concentrations.

30min Rolling Avg

Instantaneous Reading

Datalogged PM_{10} Concentrations in Air

Houston Wood Preserving Work Site - March 2, 2016



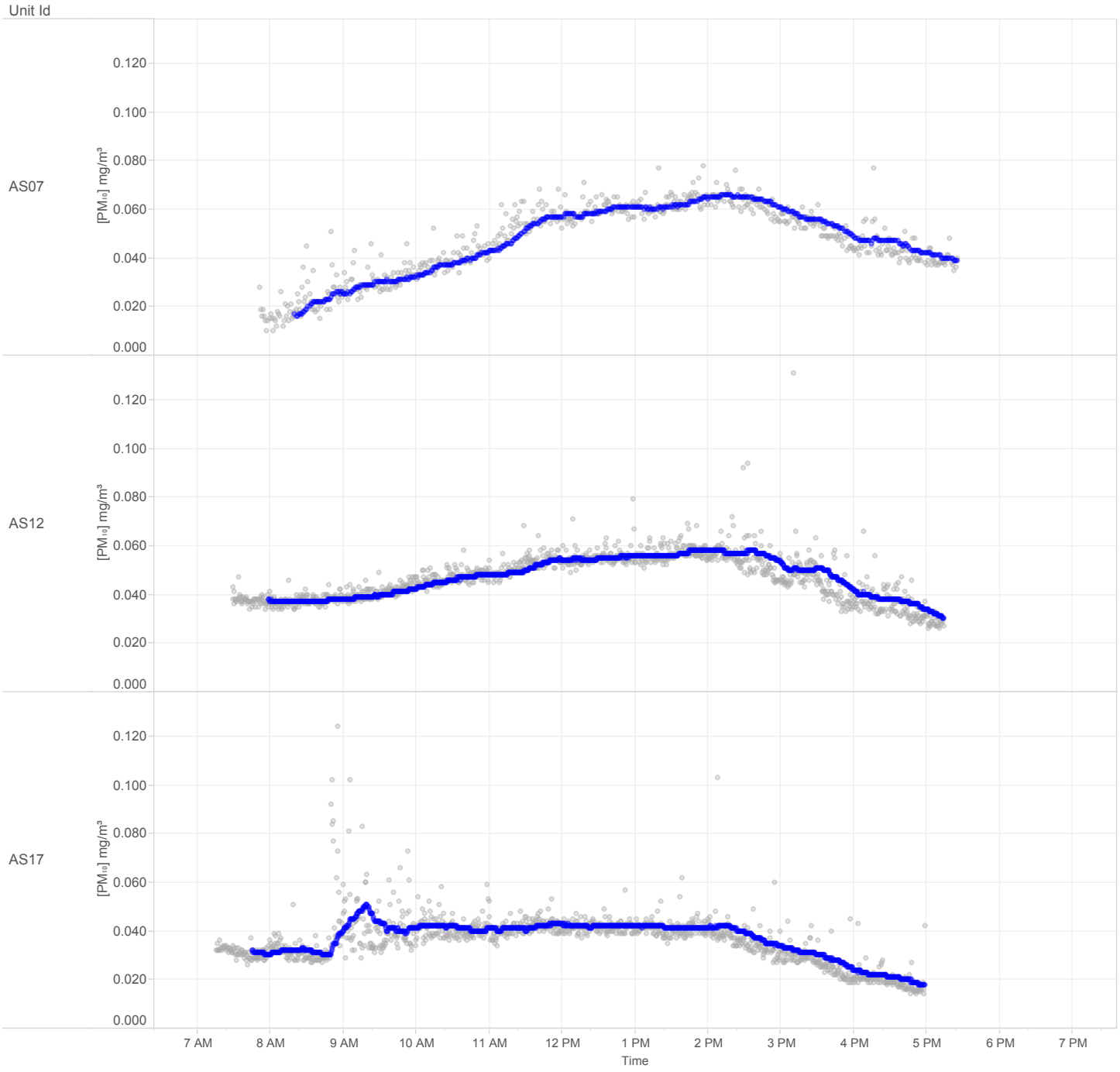
Particulate monitors were deployed around the facility perimeter to monitor 10 µm airborne dust concentrations.

30min Rolling Avg

Instantaneous Reading

Datalogged PM_{10} Concentrations in Air

Houston Wood Preserving Work Site - March 3, 2016



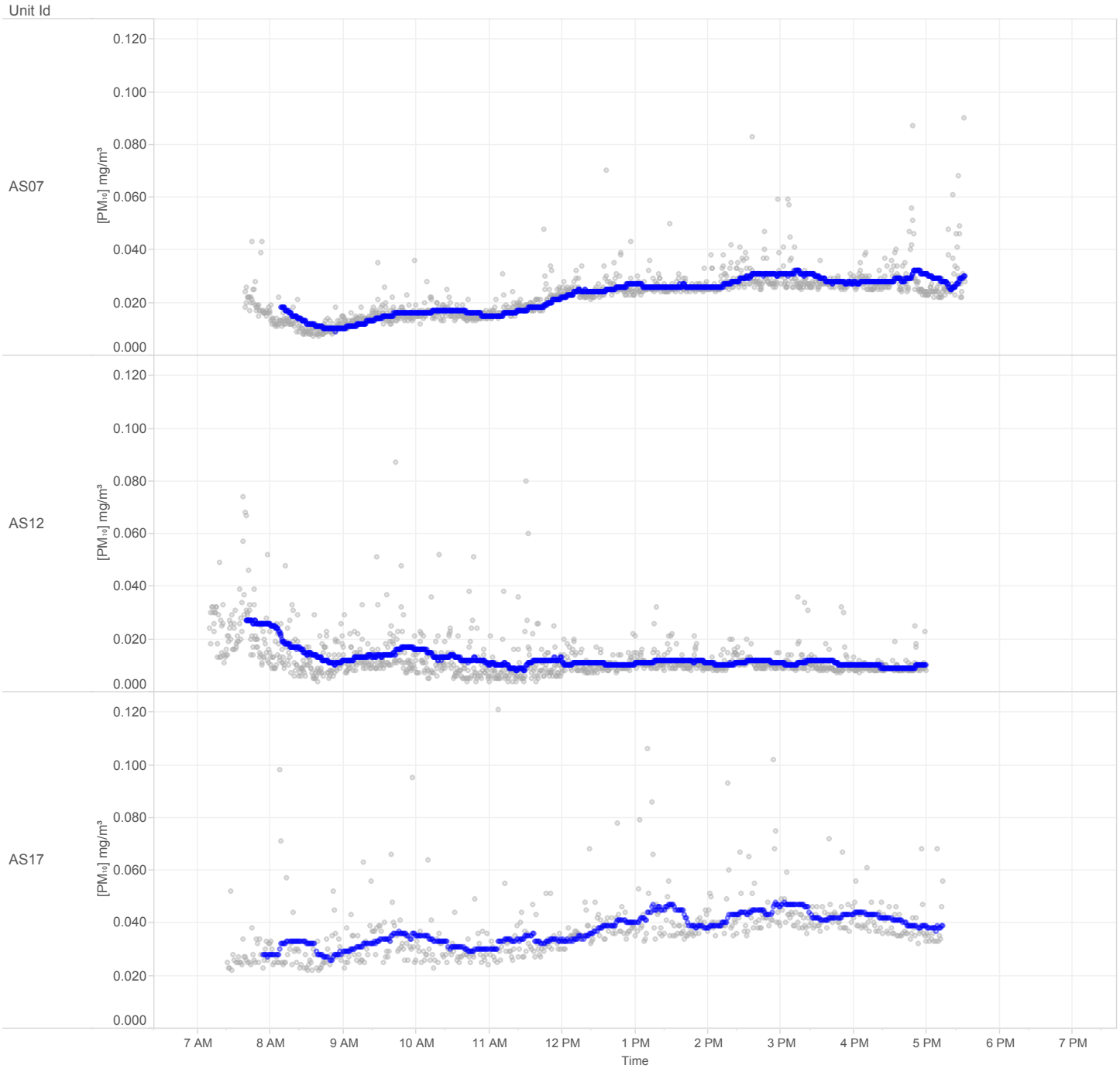
Particulate monitors were deployed around the facility perimeter to monitor 10 µm airborne dust concentrations.

30min Rolling Avg

Instantaneous Reading

Datalogged PM_{10} Concentrations in Air

Houston Wood Preserving Work Site - March 4, 2016



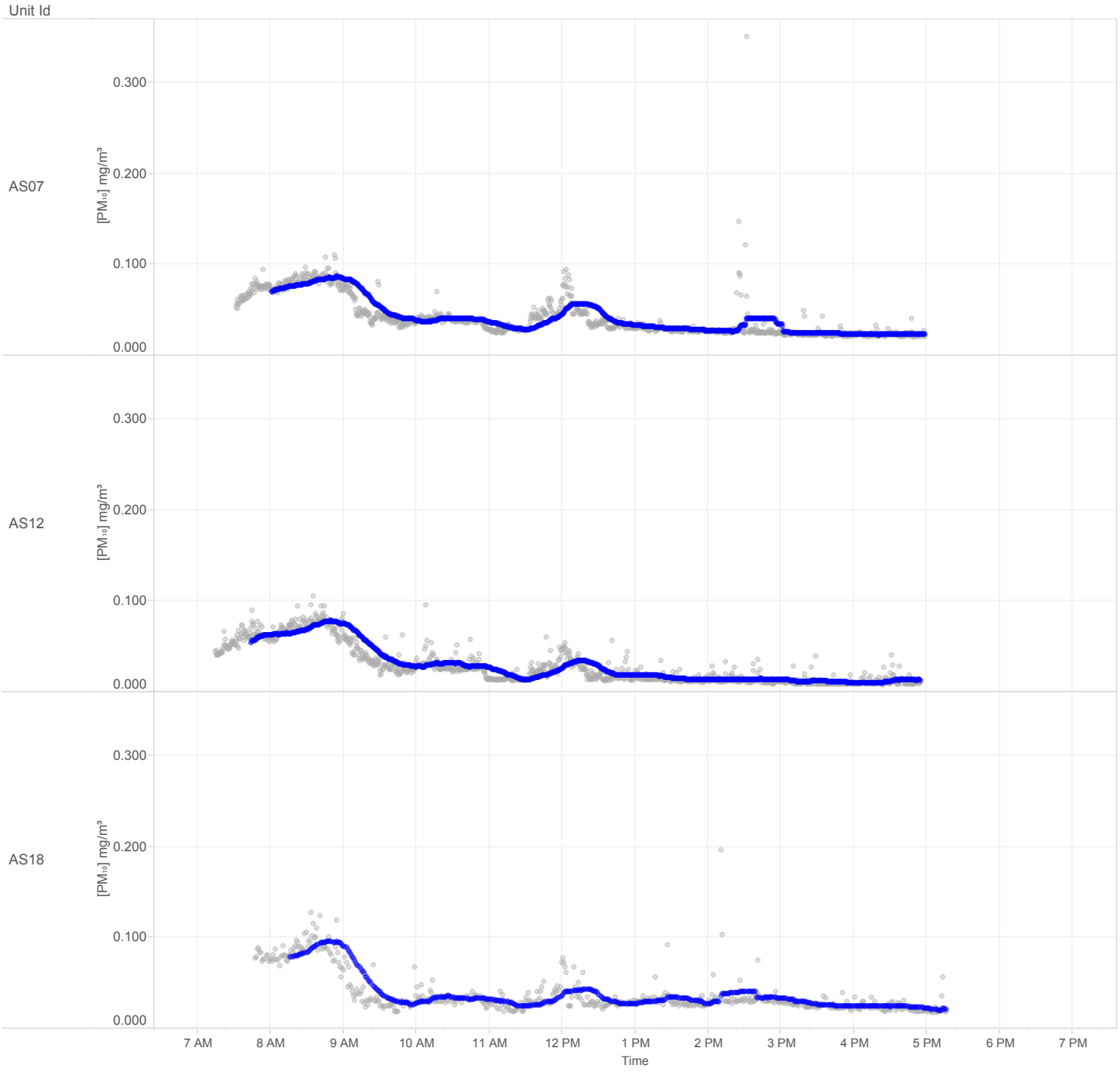
Particulate monitors were deployed around the facility perimeter to monitor 10 µm airborne dust concentrations.

30min Rolling Avg

Instantaneous Reading

Datalogged PM_{10} Concentrations in Air

Houston Wood Preserving Work Site - March 5, 2016



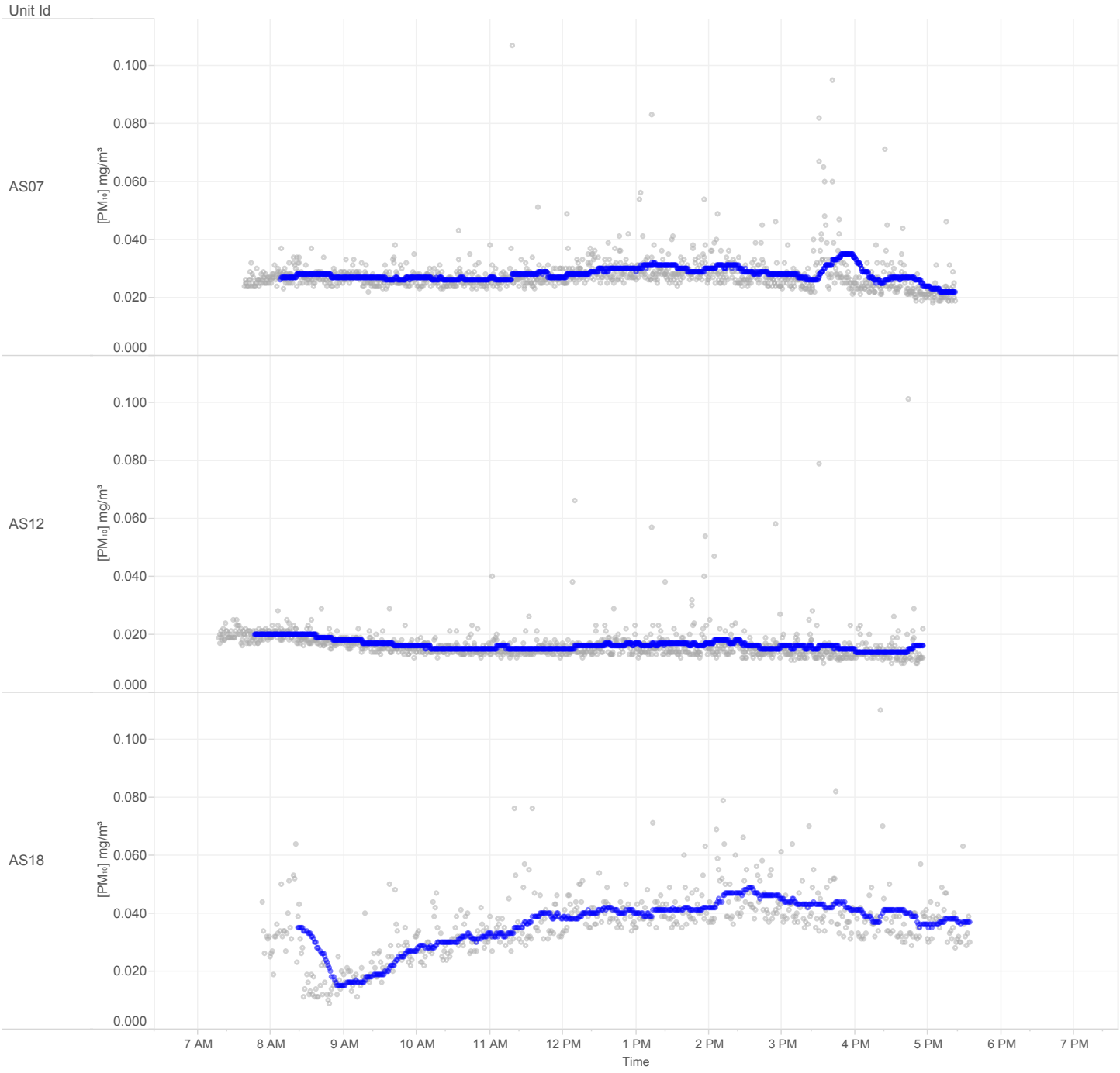
Particulate monitors were deployed around the facility perimeter to monitor 10 µm airborne dust concentrations.

30min Rolling Avg

Instantaneous Reading

Datalogged PM_{10} Concentrations in Air

Houston Wood Preserving Work Site - March 7, 2016



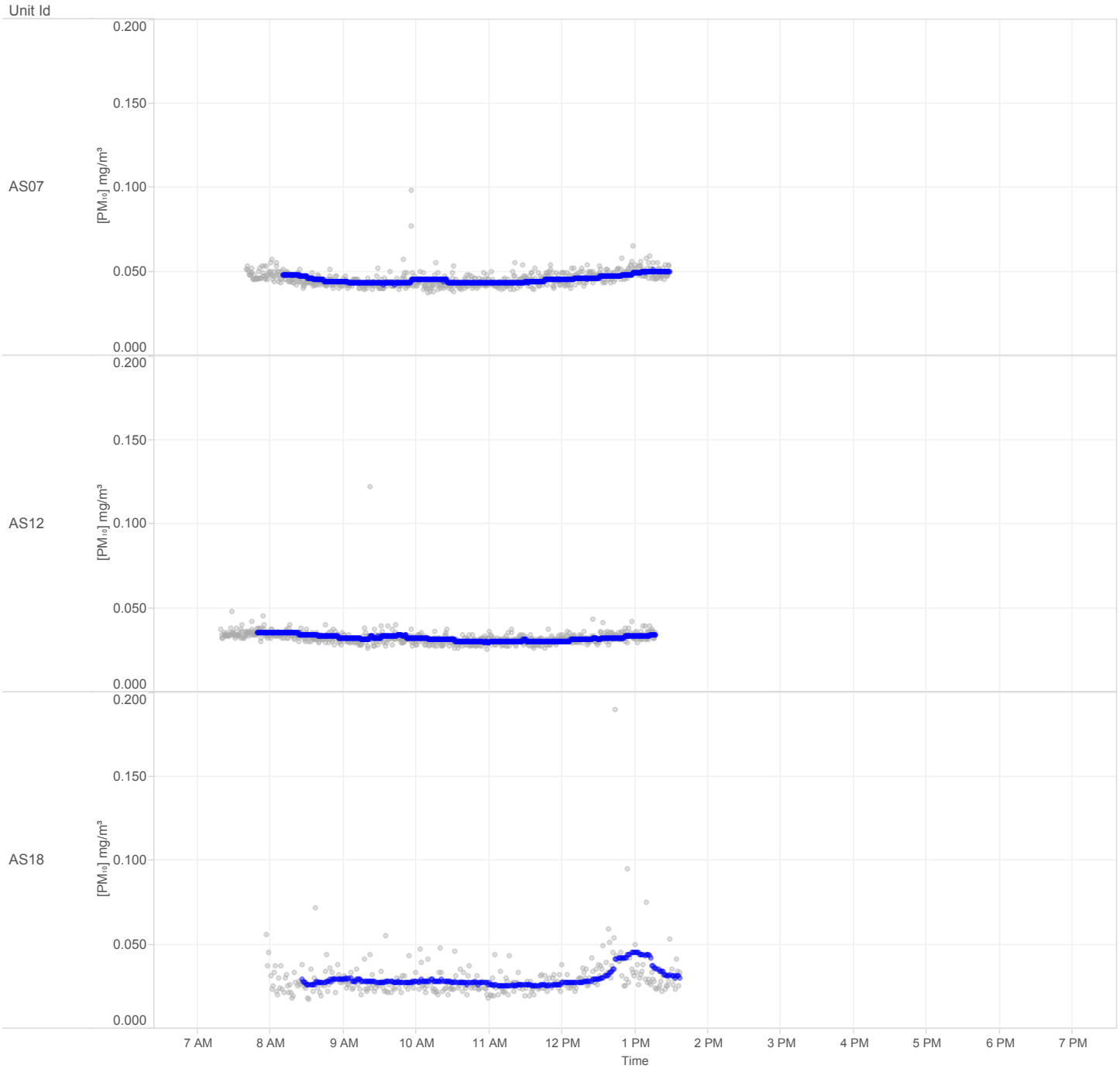
Particulate monitors were deployed around the facility perimeter to monitor 10 µm airborne dust concentrations.

30min Rolling Avg

Instantaneous Reading

Datalogged PM_{10} Concentrations in Air

Houston Wood Preserving Work Site - March 8, 2016



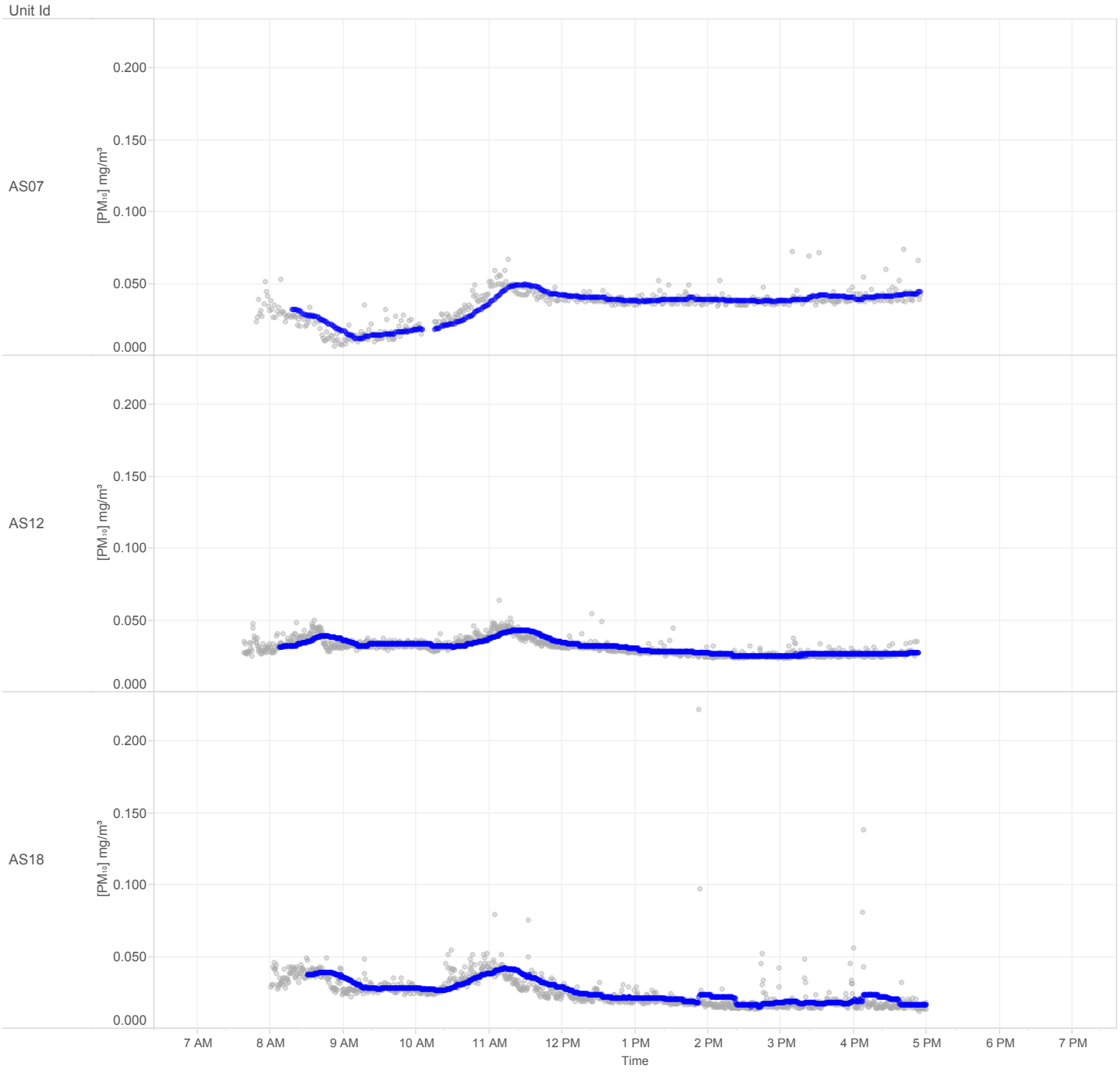
Particulate monitors were deployed around the facility perimeter to monitor 10 µm airborne dust concentrations.

30min Rolling Avg

Instantaneous Reading

Datalogged PM_{10} Concentrations in Air

Houston Wood Preserving Work Site - March 14, 2016



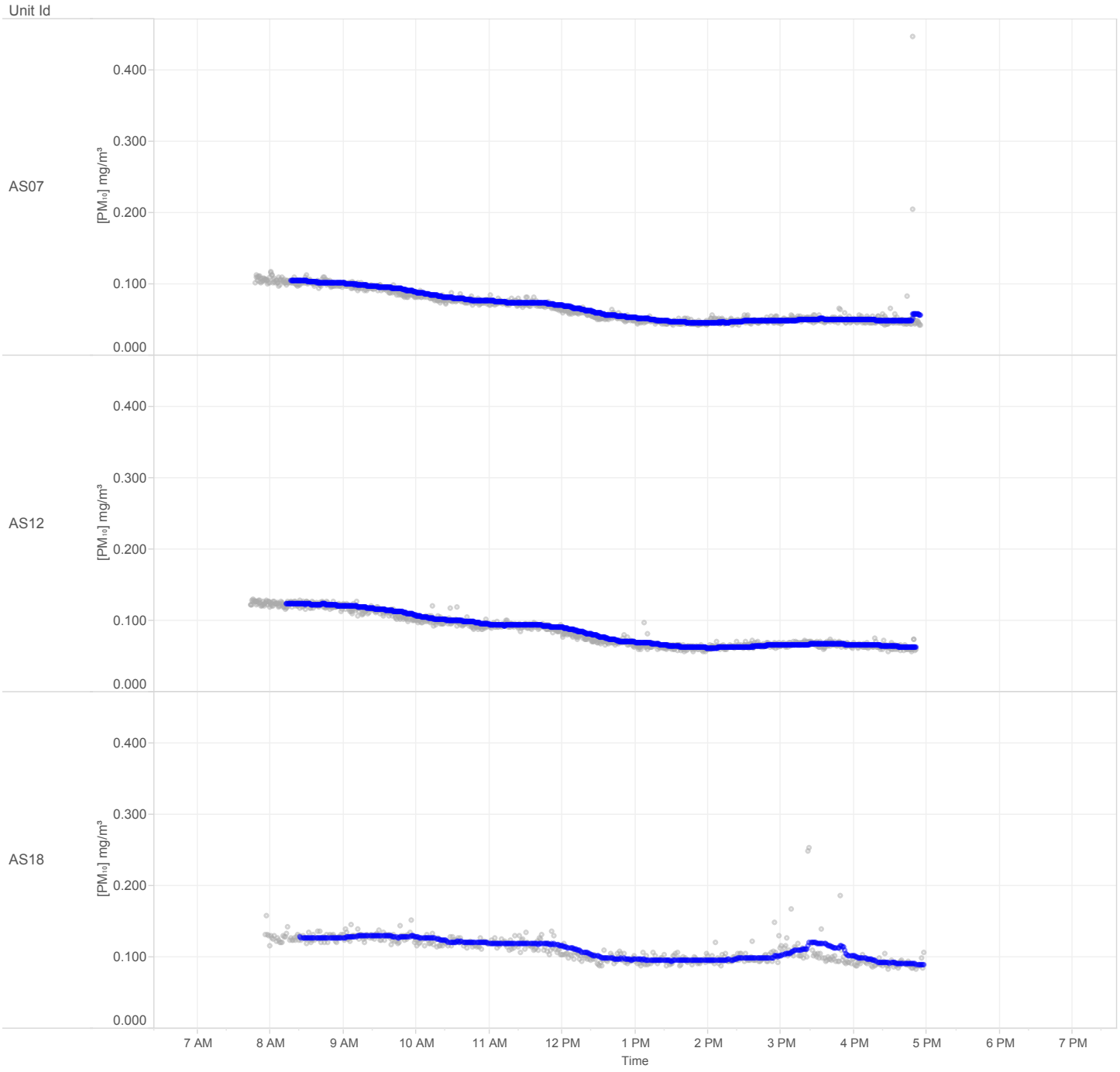
Particulate monitors were deployed around the facility perimeter to monitor 10 µm airborne dust concentrations.

30min Rolling Avg

Instantaneous Reading

Datalogged PM_{10} Concentrations in Air

Houston Wood Preserving Work Site - March 15, 2016



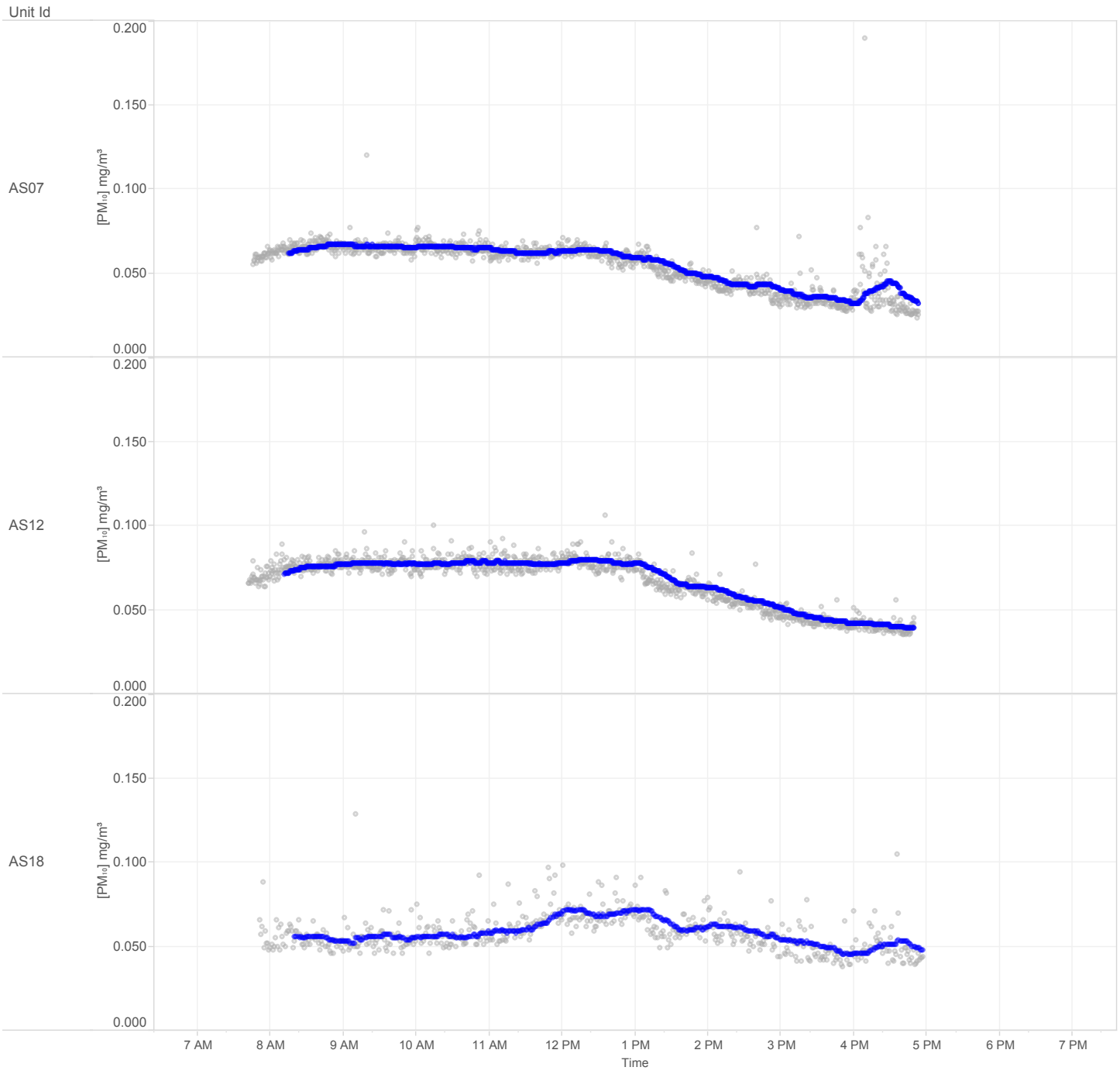
Particulate monitors were deployed around the facility perimeter to monitor 10 µm airborne dust concentrations.

30min Rolling Avg

Instantaneous Reading

Datalogged PM_{10} Concentrations in Air

Houston Wood Preserving Work Site - March 16, 2016



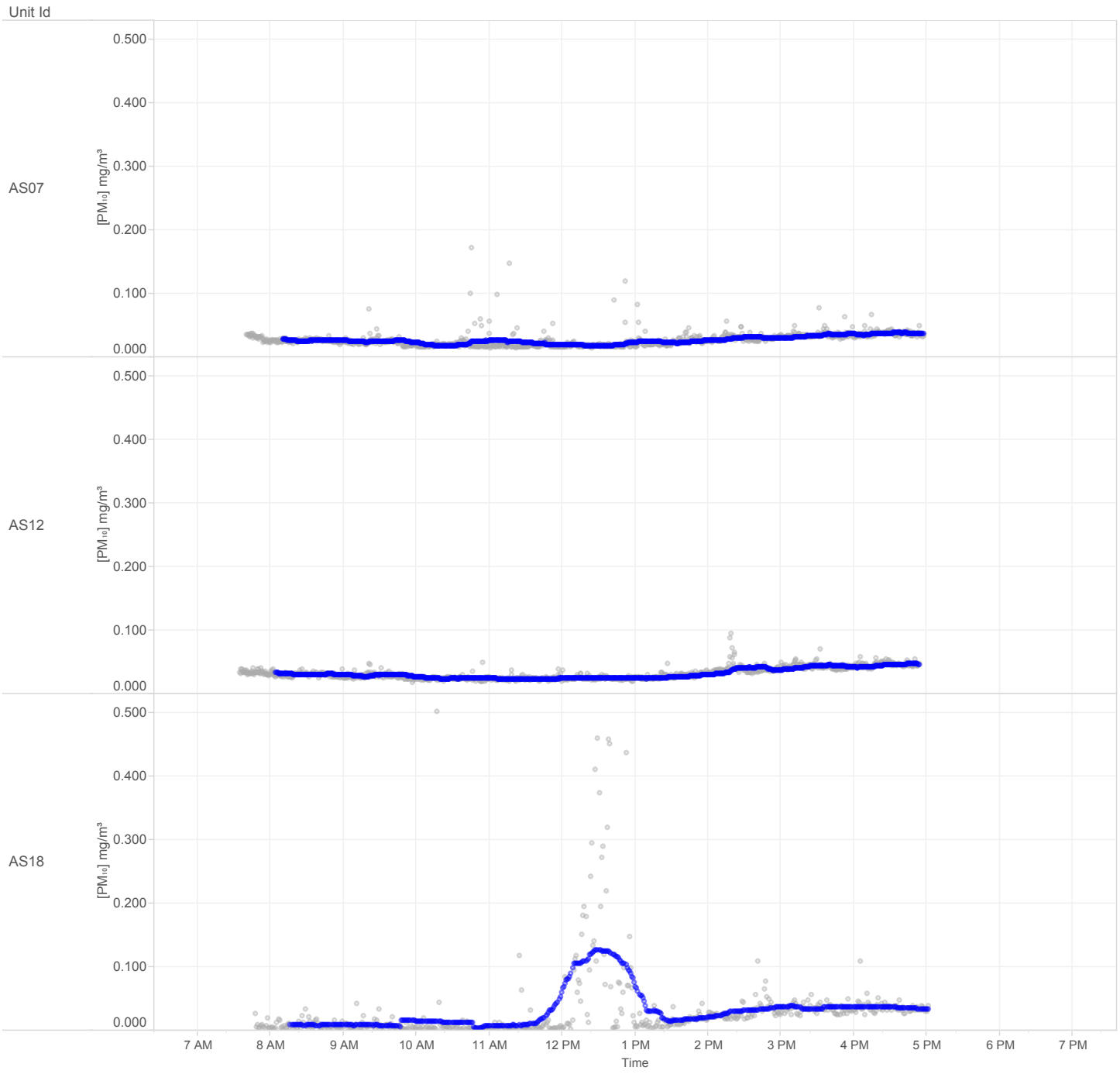
Particulate monitors were deployed around the facility perimeter to monitor 10 µm airborne dust concentrations.

30min Rolling Avg

Instantaneous Reading

Datalogged PM_{10} Concentrations in Air

Houston Wood Preserving Work Site - March 17, 2016



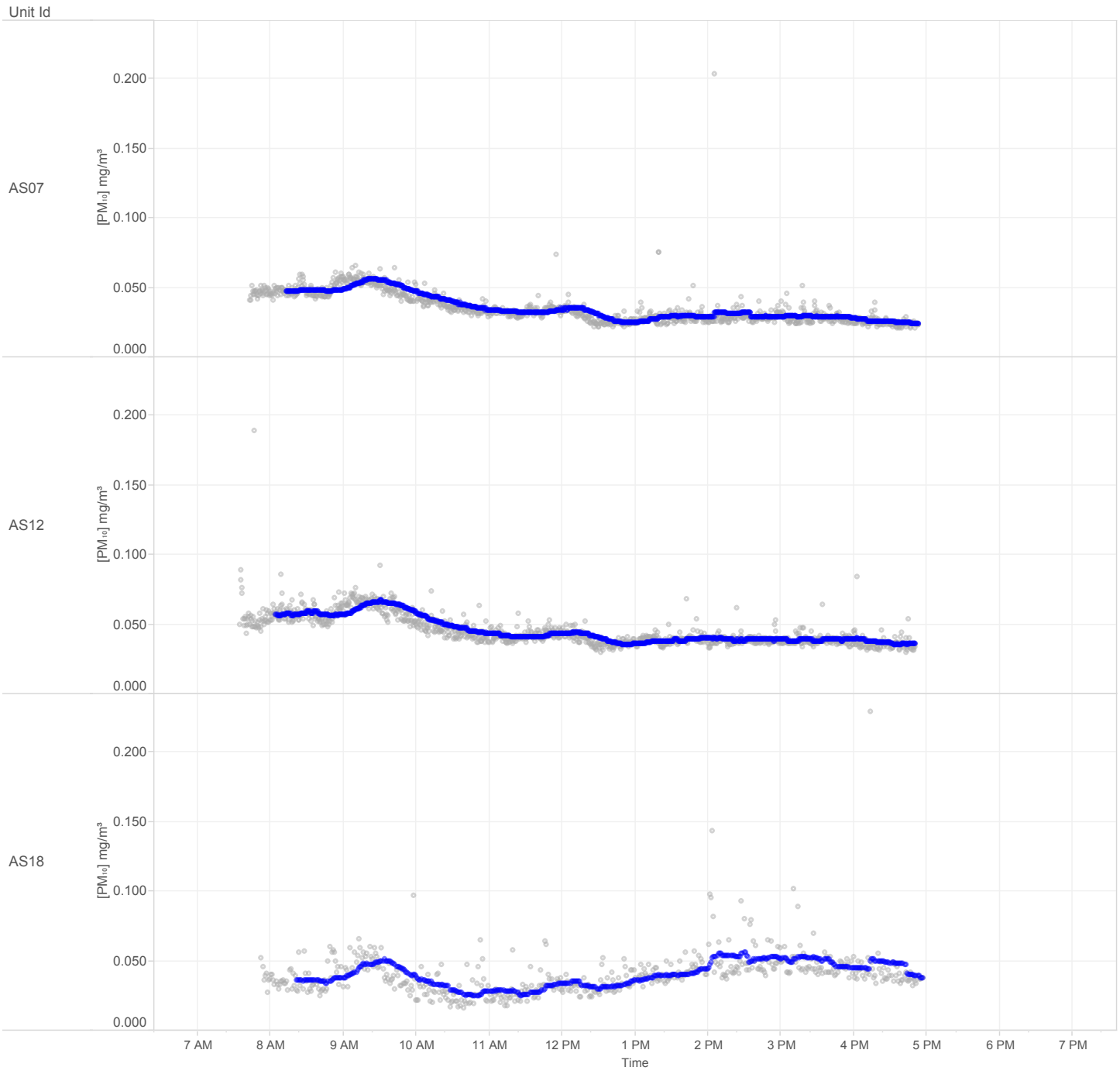
Particulate monitors were deployed around the facility perimeter to monitor 10 µm airborne dust concentrations.

30min Rolling Avg

Instantaneous Reading

Datalogged PM_{10} Concentrations in Air

Houston Wood Preserving Work Site - March 18, 2016



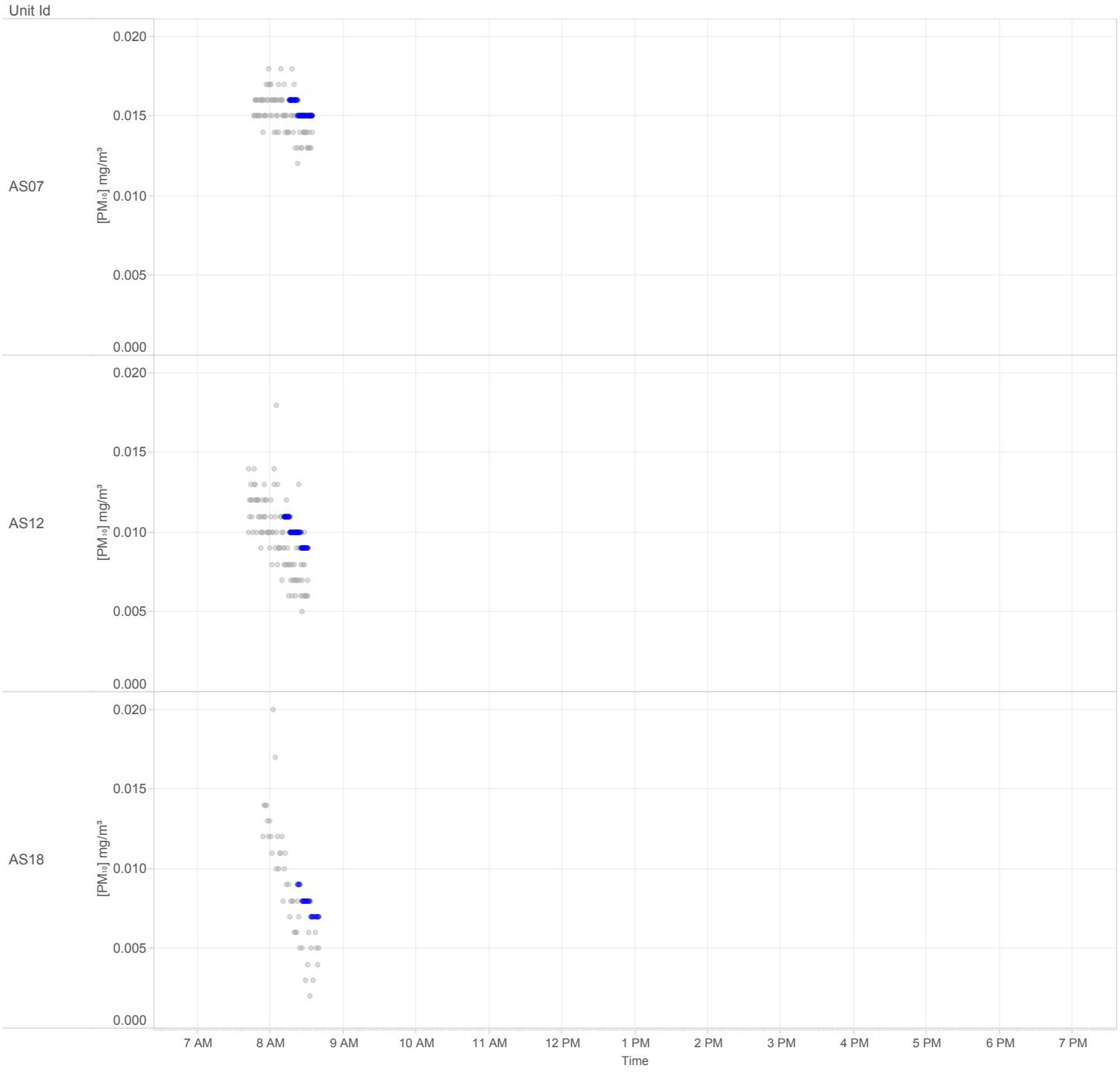
Particulate monitors were deployed around the facility perimeter to monitor 10 µm airborne dust concentrations.

30min Rolling Avg

Instantaneous Reading

Datalogged PM_{10} Concentrations in Air

Houston Wood Preserving Work Site - March 19, 2016



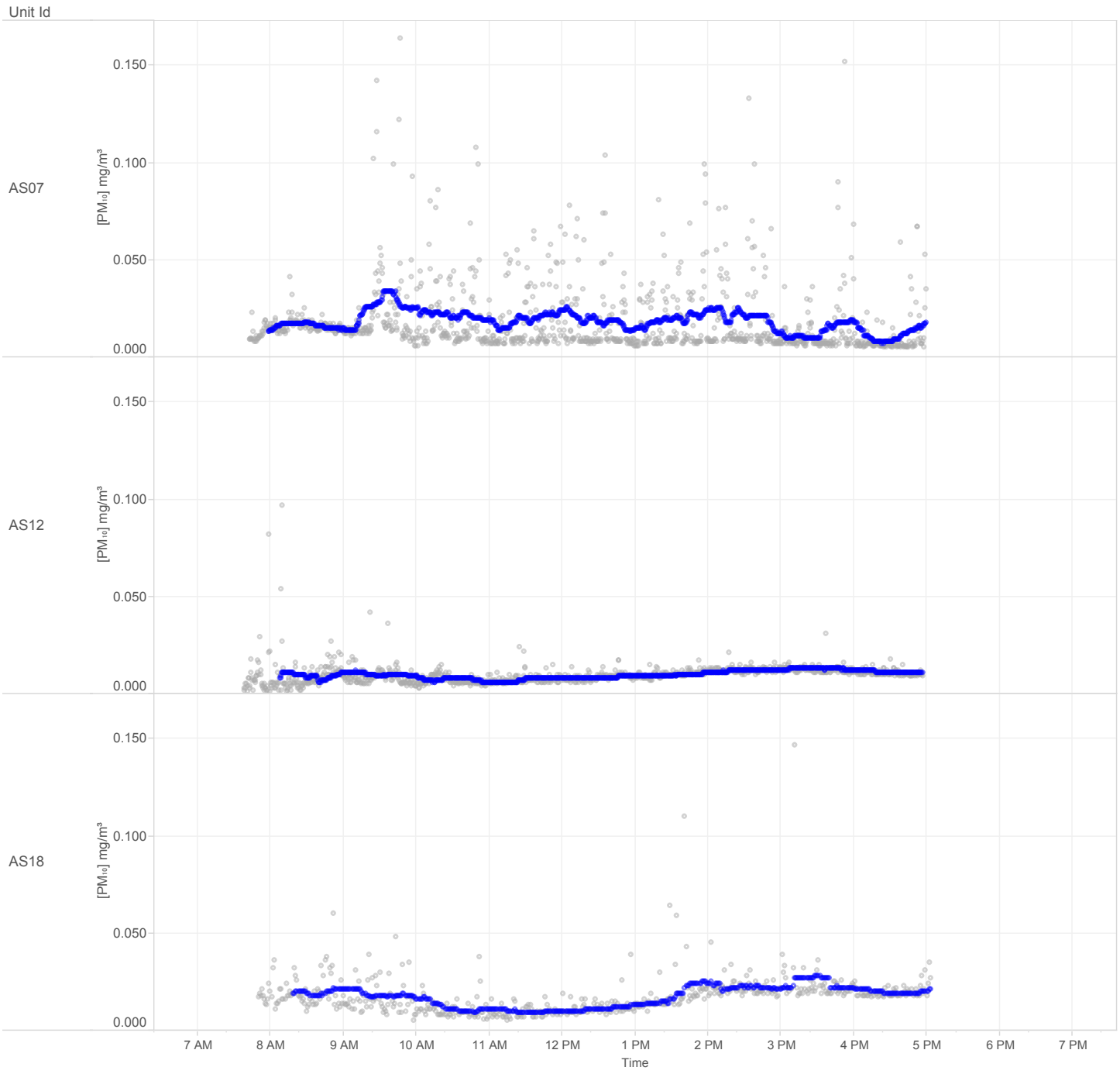
Particulate monitors were deployed around the facility perimeter to monitor 10 µm airborne dust concentrations.
Due to meteorological conditions resulting in standing water, work operations were postponed after 08:45.

30min Rolling Avg

Instantaneous Reading

Datalogged PM_{10} Concentrations in Air

Houston Wood Preserving Work Site - March 21, 2016



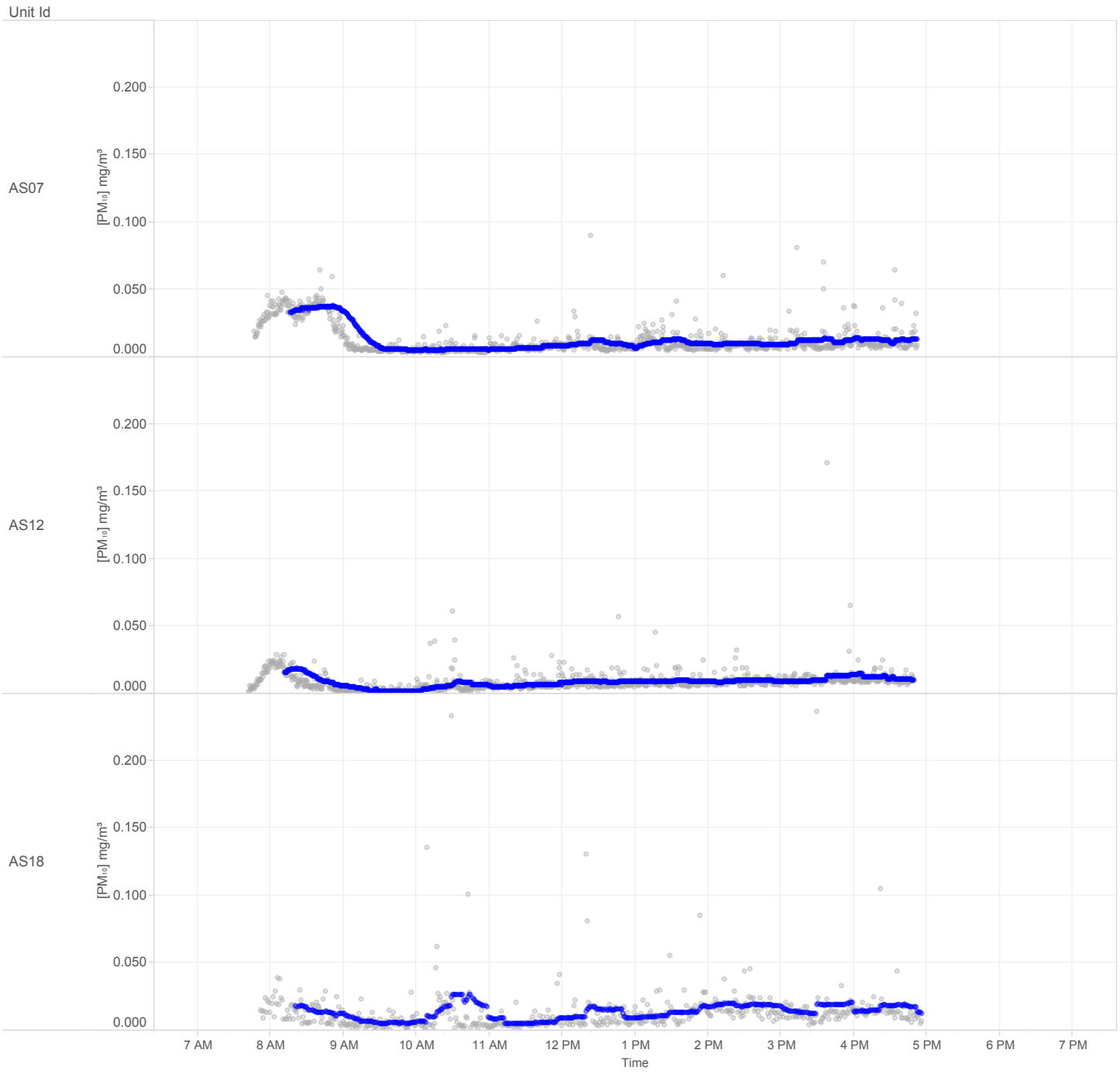
Particulate monitors were deployed around the facility perimeter to monitor 10 µm airborne dust concentrations.

30min Rolling Avg

Instantaneous Reading

Datalogged PM_{10} Concentrations in Air

Houston Wood Preserving Work Site - March 22, 2016



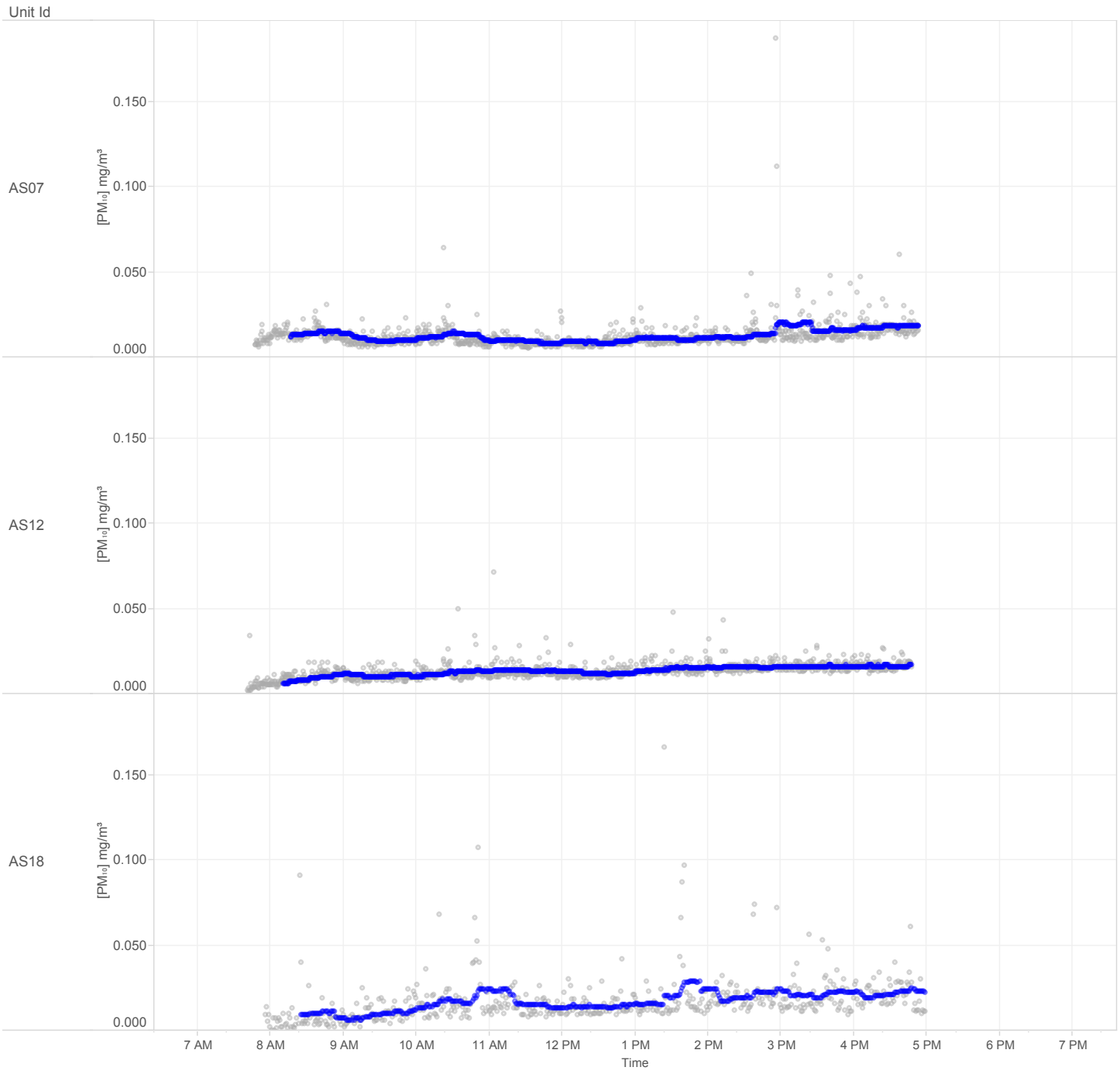
Particulate monitors were deployed around the facility perimeter to monitor 10 µm airborne dust concentrations.

30min Rolling Avg

Instantaneous Reading

Datalogged PM_{10} Concentrations in Air

Houston Wood Preserving Work Site - March 23, 2016



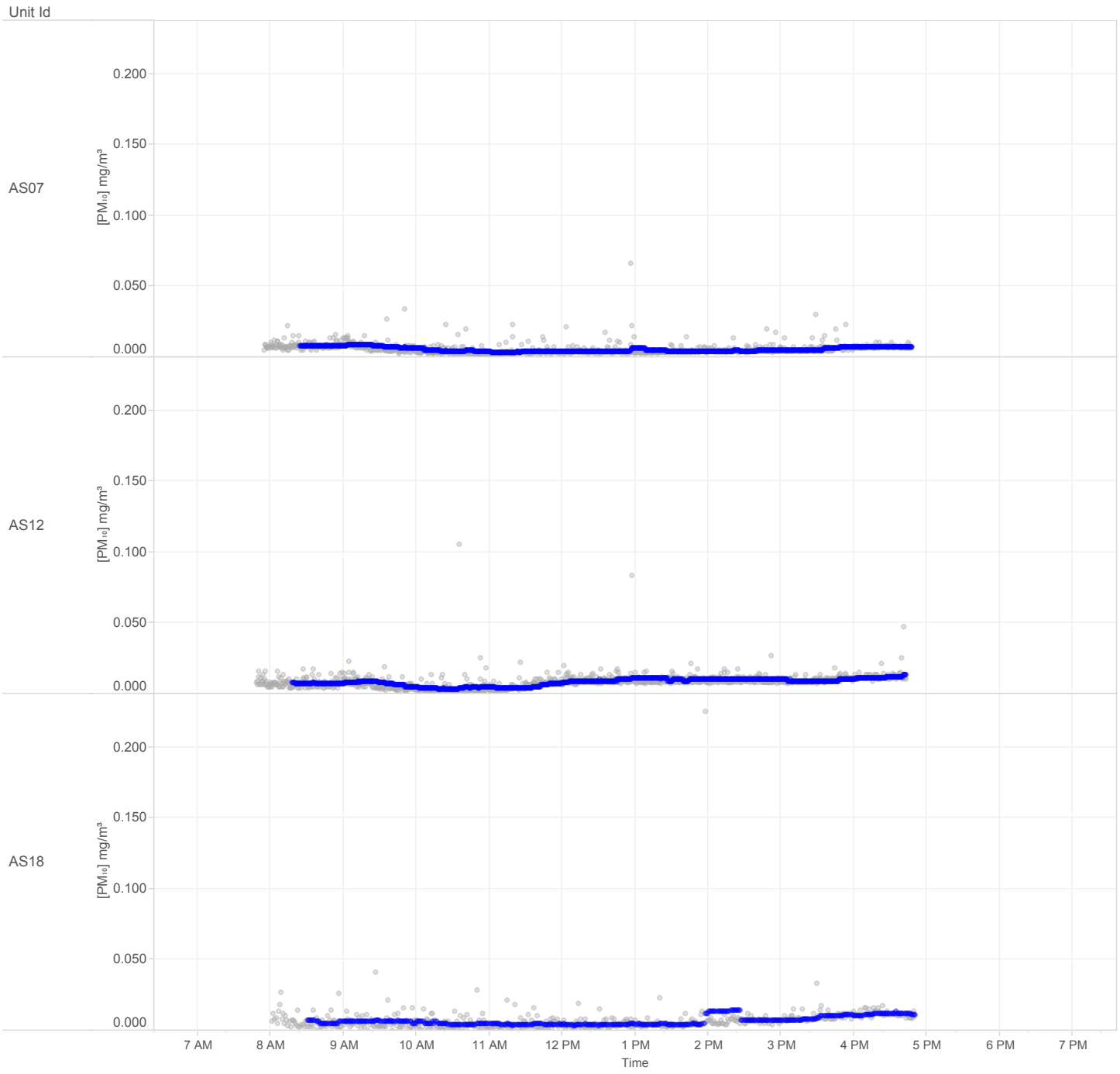
Particulate monitors were deployed around the facility perimeter to monitor 10 µm airborne dust concentrations.

30min Rolling Avg

Instantaneous Reading

Datalogged PM_{10} Concentrations in Air

Houston Wood Preserving Work Site - March 24, 2016



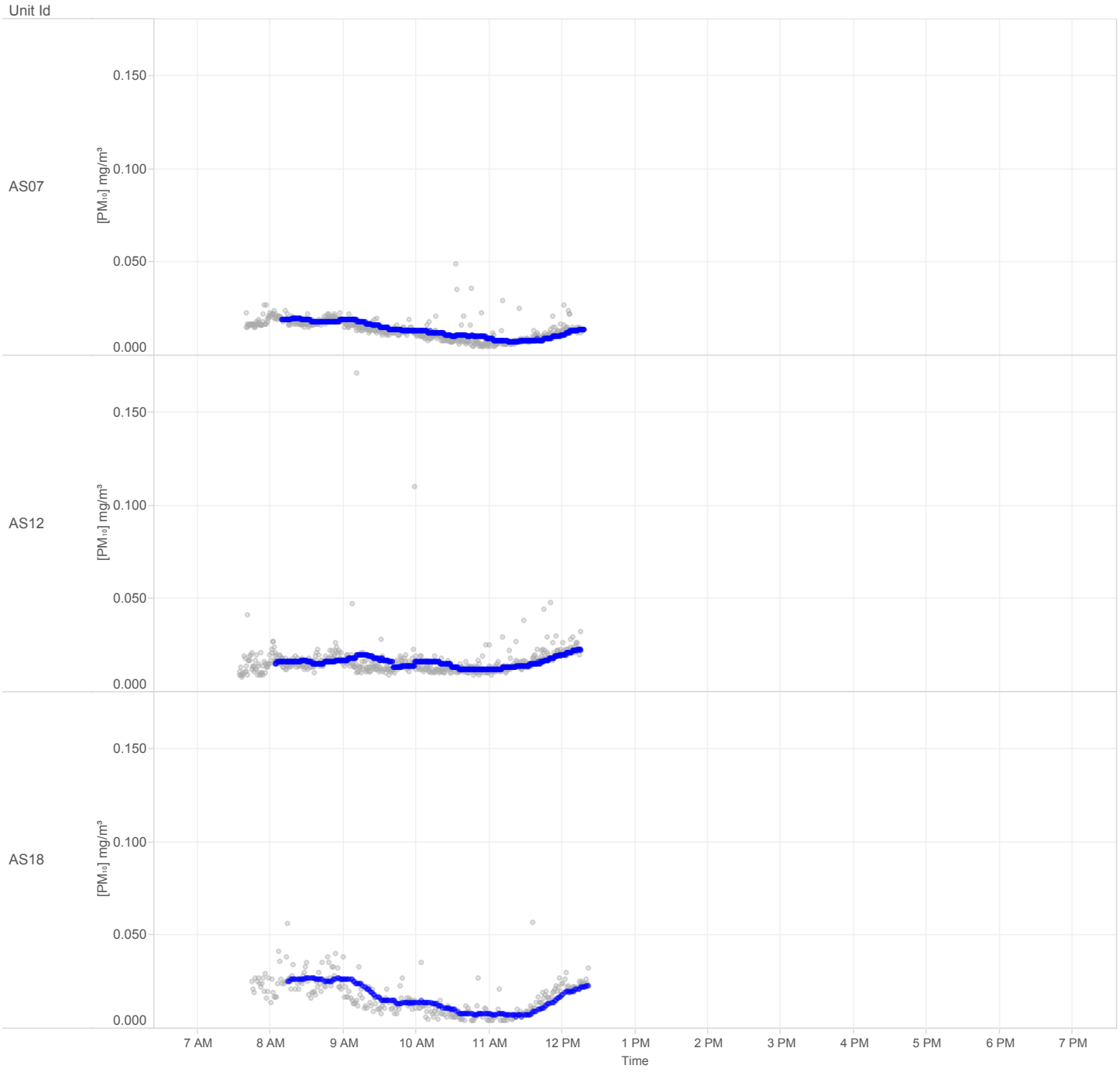
Particulate monitors were deployed around the facility perimeter to monitor 10 µm airborne dust concentrations.

30min Rolling Avg

Instantaneous Reading

Datalogged PM_{10} Concentrations in Air

Houston Wood Preserving Work Site - March 25, 2016



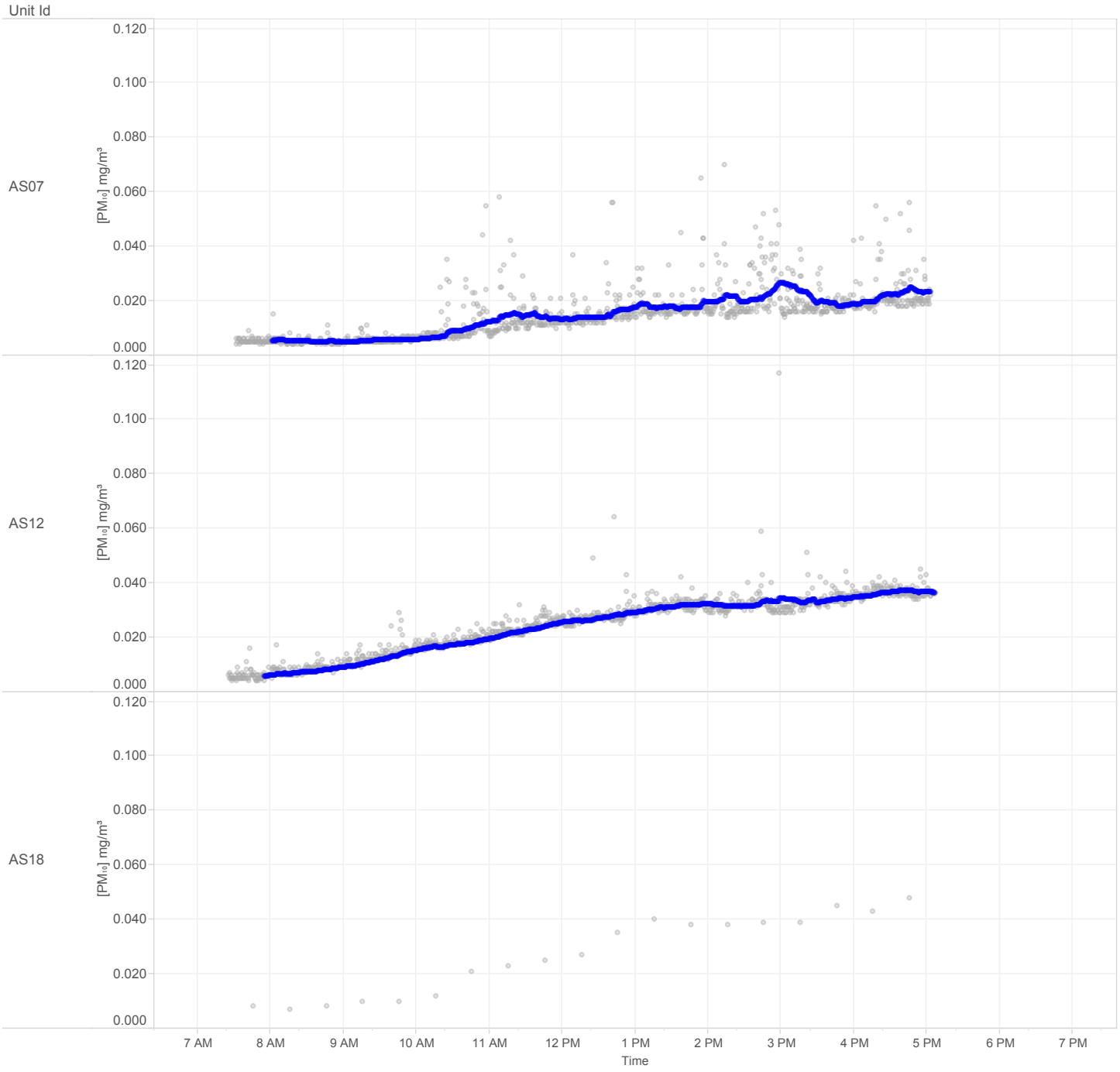
Particulate monitors were deployed around the facility perimeter to monitor 10 µm airborne dust concentrations.

30min Rolling Avg

Instantaneous Reading

Datalogged PM_{10} Concentrations in Air

Houston Wood Preserving Work Site - March 28, 2016



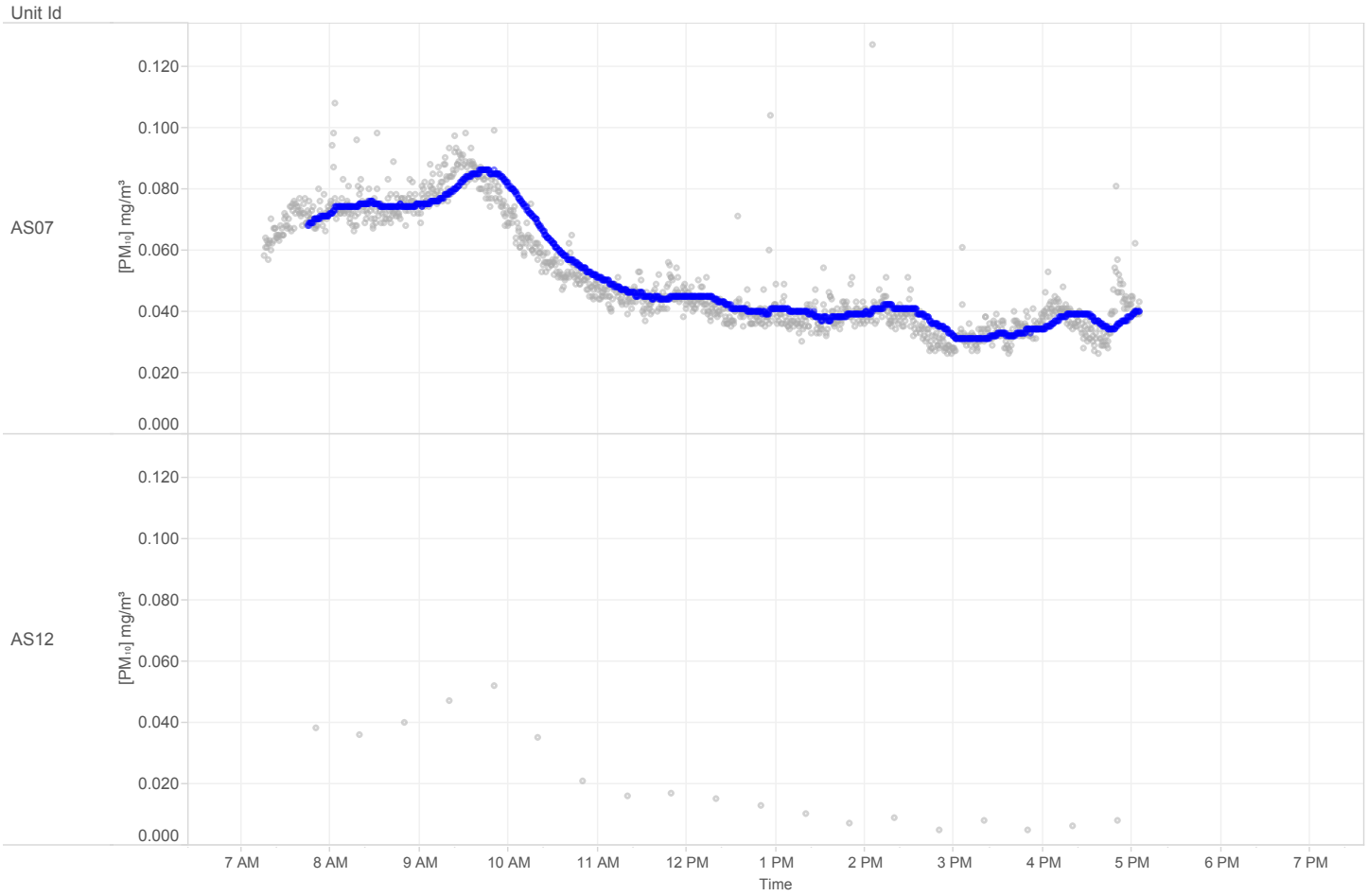
Particulate monitors were deployed around the facility perimeter to monitor 10 µm airborne dust concentrations.
Datalog interval at Station AS18 was set at 30 minutes, so no rolling average is presented.

30min Rolling Avg

Instantaneous Reading

Datalogged PM_{10} Concentrations in Air

Houston Wood Preserving Work Site - March 29, 2016



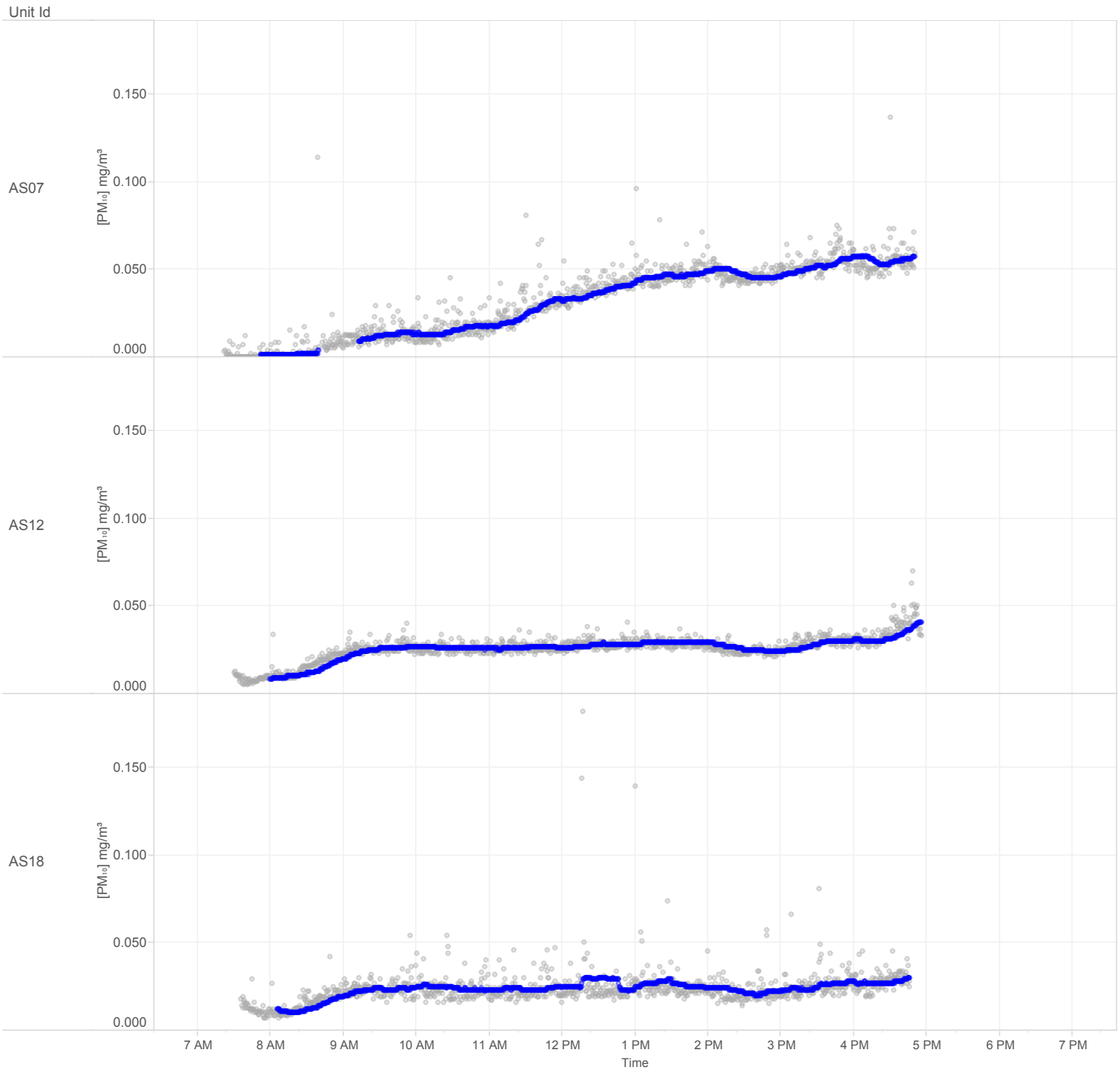
Particulate monitors were deployed around the facility perimeter to monitor 10 µm airborne dust concentrations.
Datalog interval at Station AS12 was set at 30 minutes, so no rolling average is presented.

30min Rolling Avg

Instantaneous Reading

Datalogged PM_{10} Concentrations in Air

Houston Wood Preserving Work Site - March 30, 2016



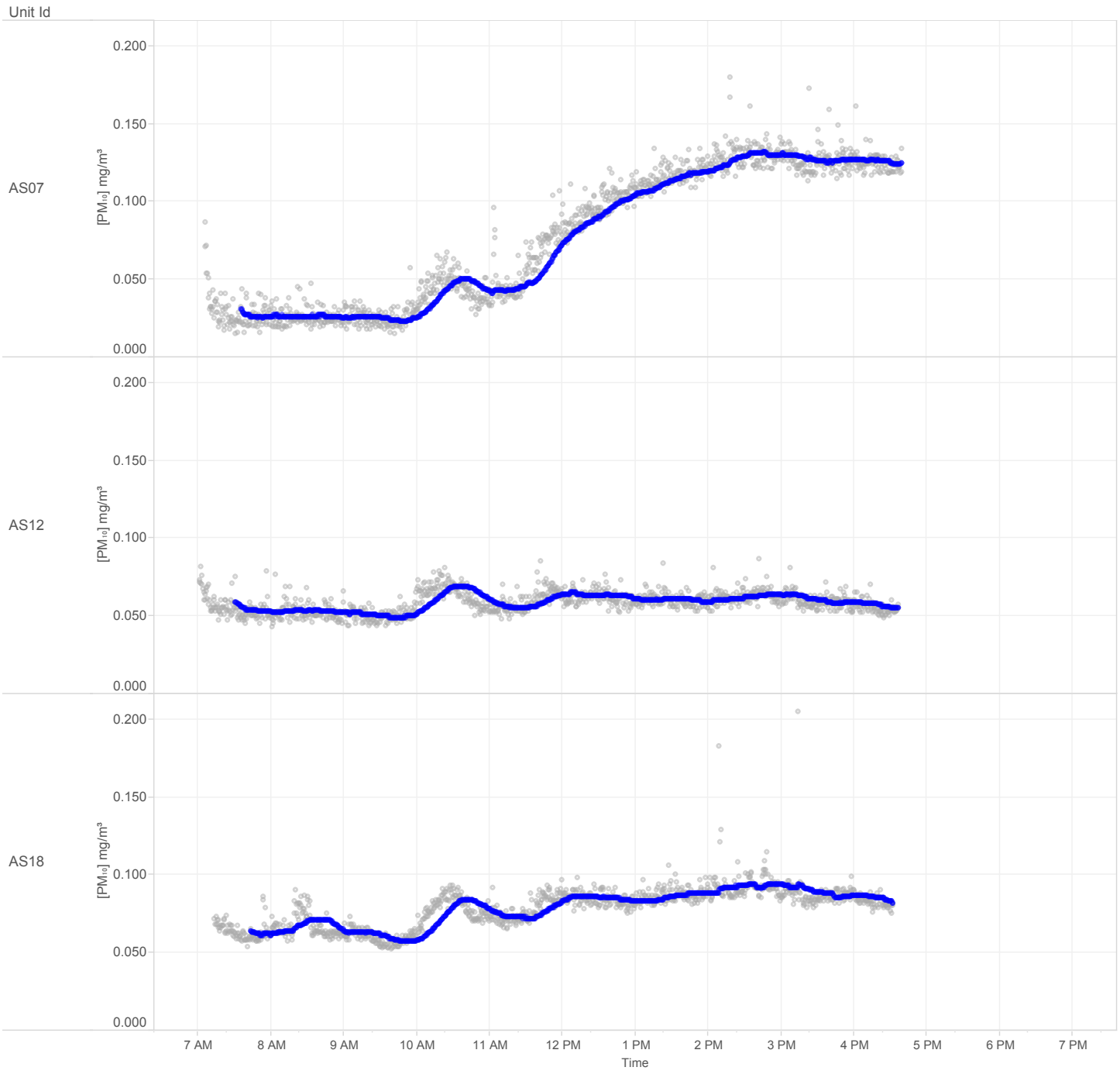
Particulate monitors were deployed around the facility perimeter to monitor 10 µm airborne dust concentrations.

30min Rolling Avg

Instantaneous Reading

Datalogged PM_{10} Concentrations in Air

Houston Wood Preserving Work Site - March 31, 2016



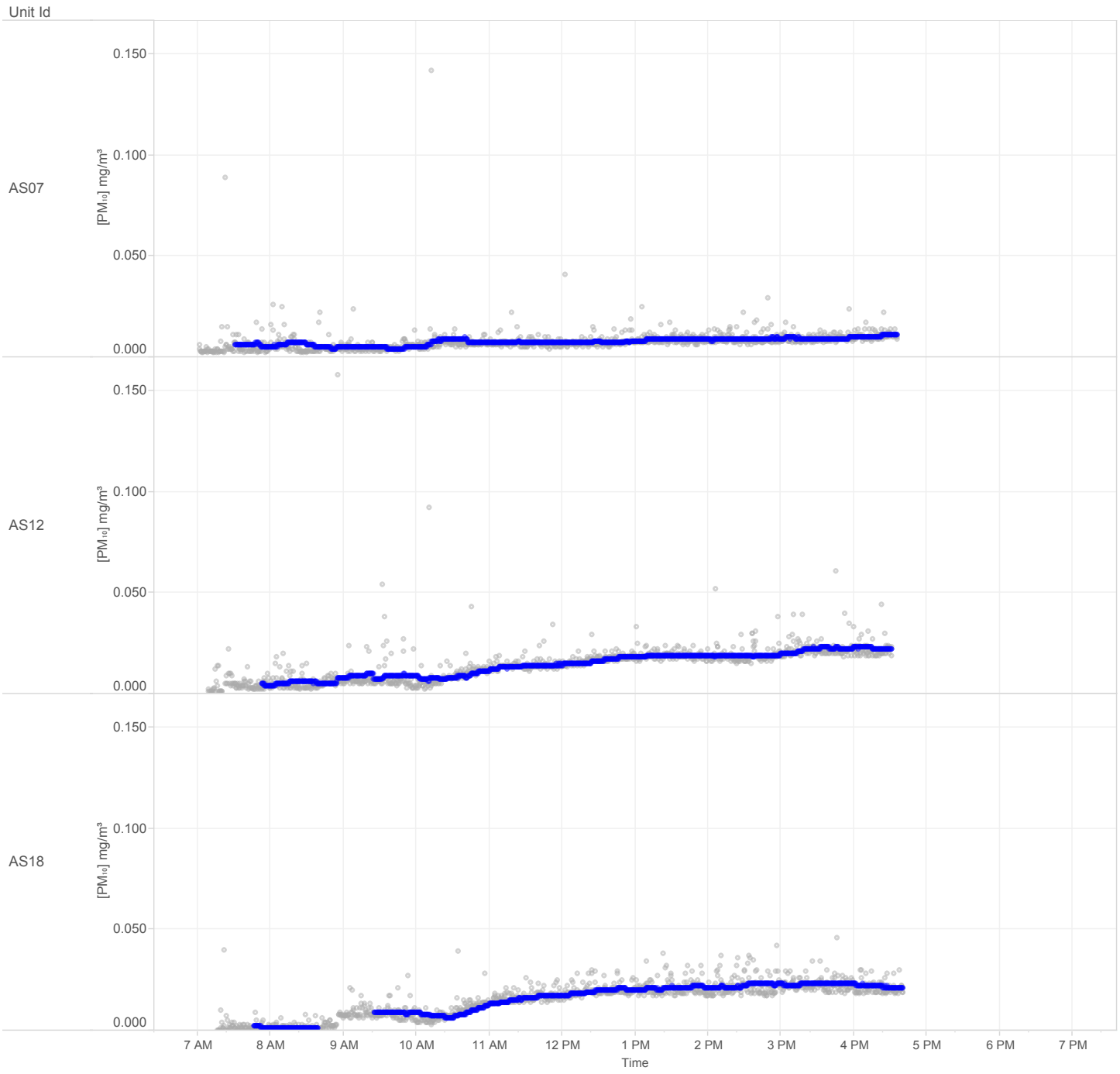
Particulate monitors were deployed around the facility perimeter to monitor 10 µm airborne dust concentrations.

30min Rolling Avg

Instantaneous Reading

Datalogged PM_{10} Concentrations in Air

Houston Wood Preserving Work Site - April 1, 2016



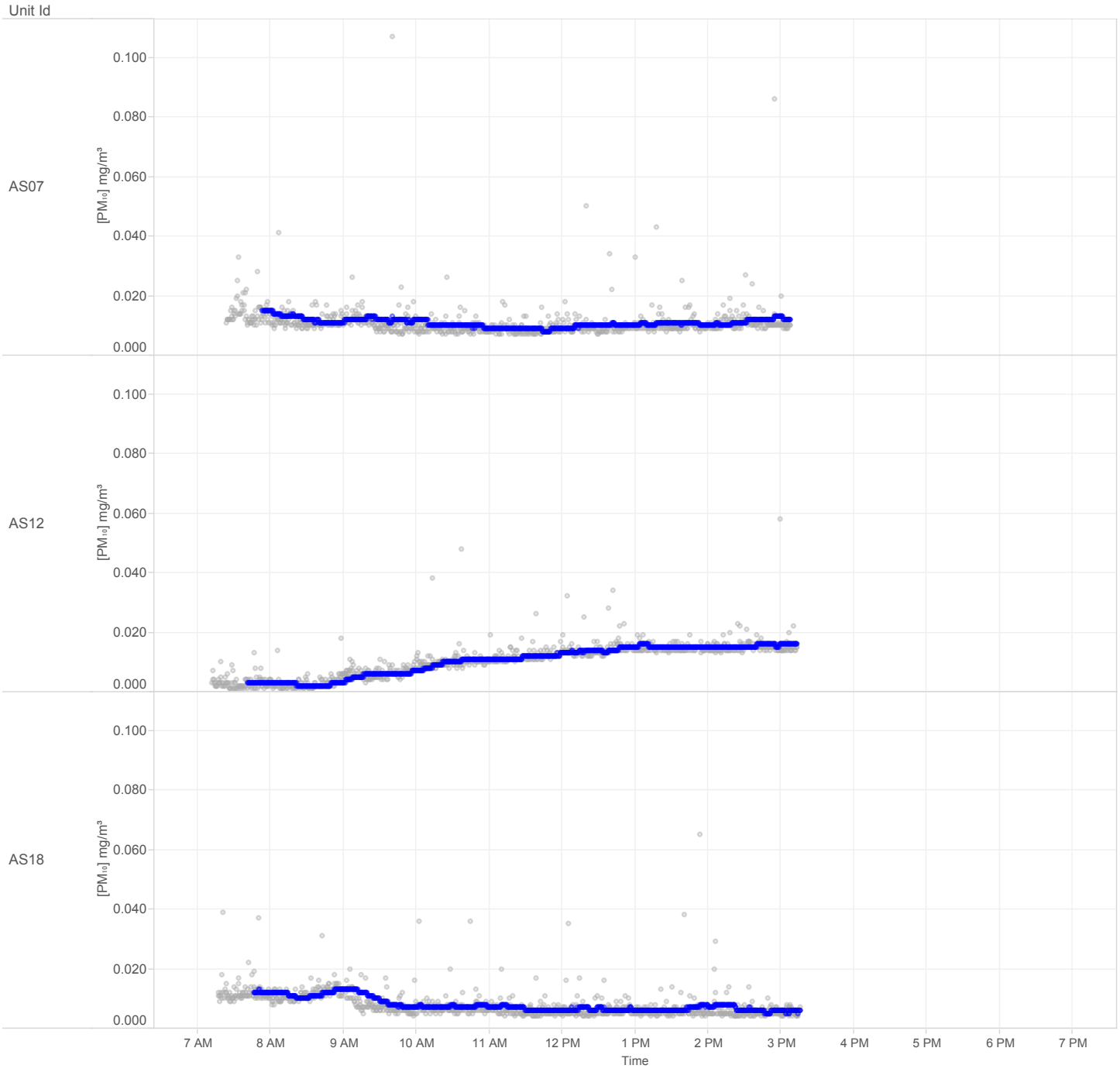
Particulate monitors were deployed around the facility perimeter to monitor 10 µm airborne dust concentrations.

30min Rolling Avg

Instantaneous Reading

Datalogged PM_{10} Concentrations in Air

Houston Wood Preserving Work Site - April 2, 2016



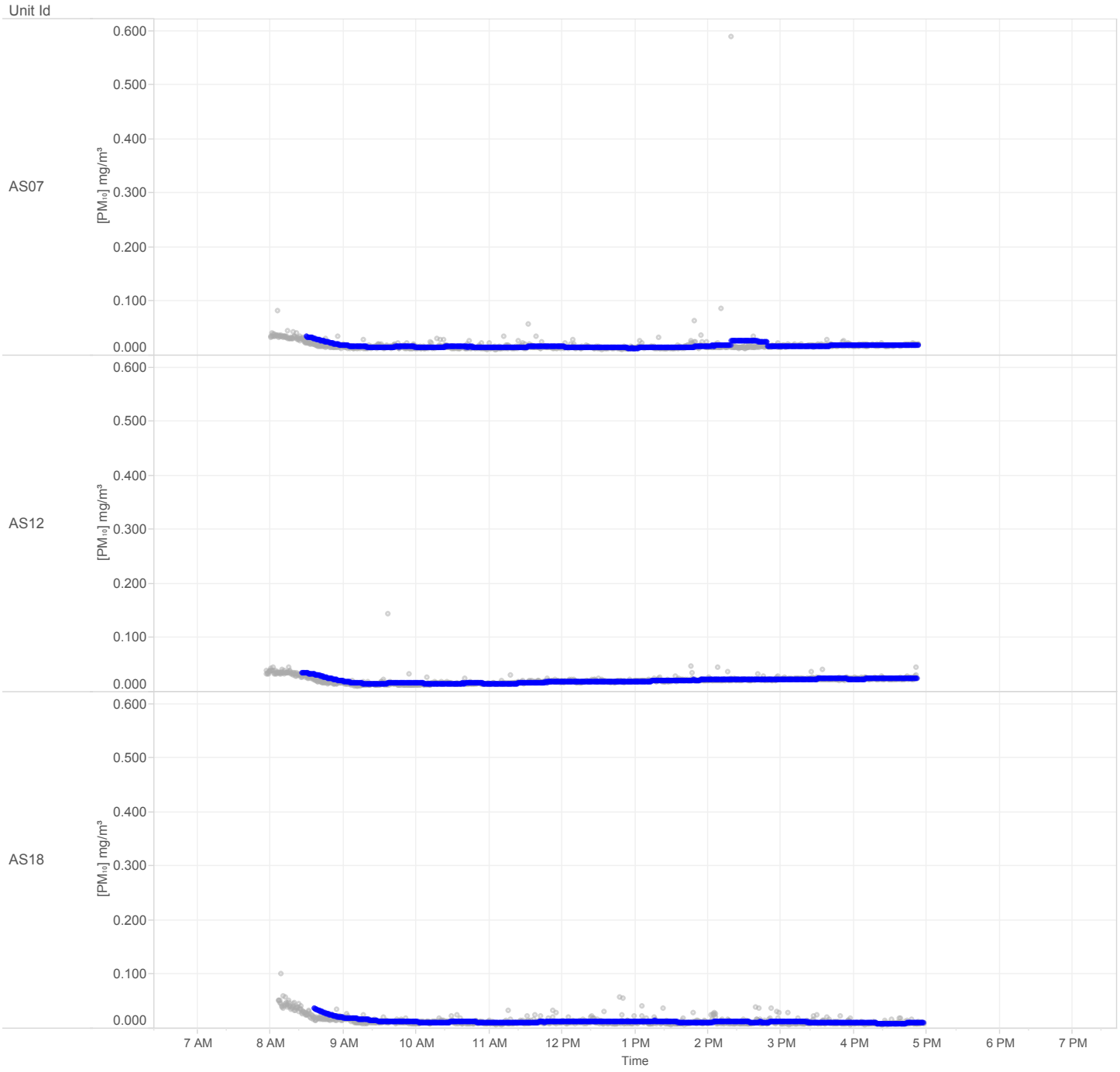
Particulate monitors were deployed around the facility perimeter to monitor 10 µm airborne dust concentrations.

30min Rolling Avg

Instantaneous Reading

Datalogged PM_{10} Concentrations in Air

Houston Wood Preserving Work Site - April 4, 2016



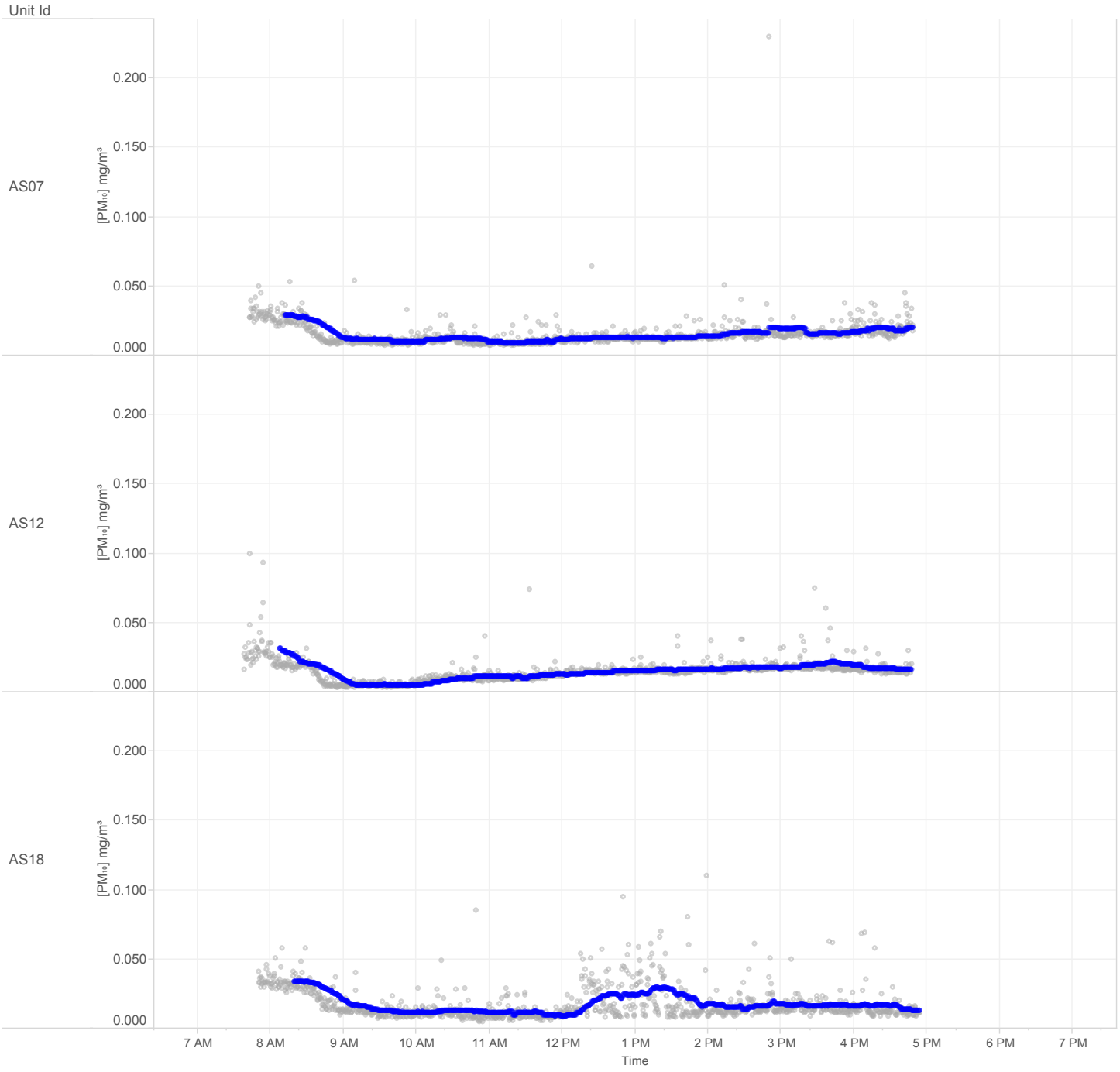
Particulate monitors were deployed around the facility perimeter to monitor 10 µm airborne dust concentrations.

30min Rolling Avg

Instantaneous Reading

Datalogged PM_{10} Concentrations in Air

Houston Wood Preserving Work Site - April 5, 2016



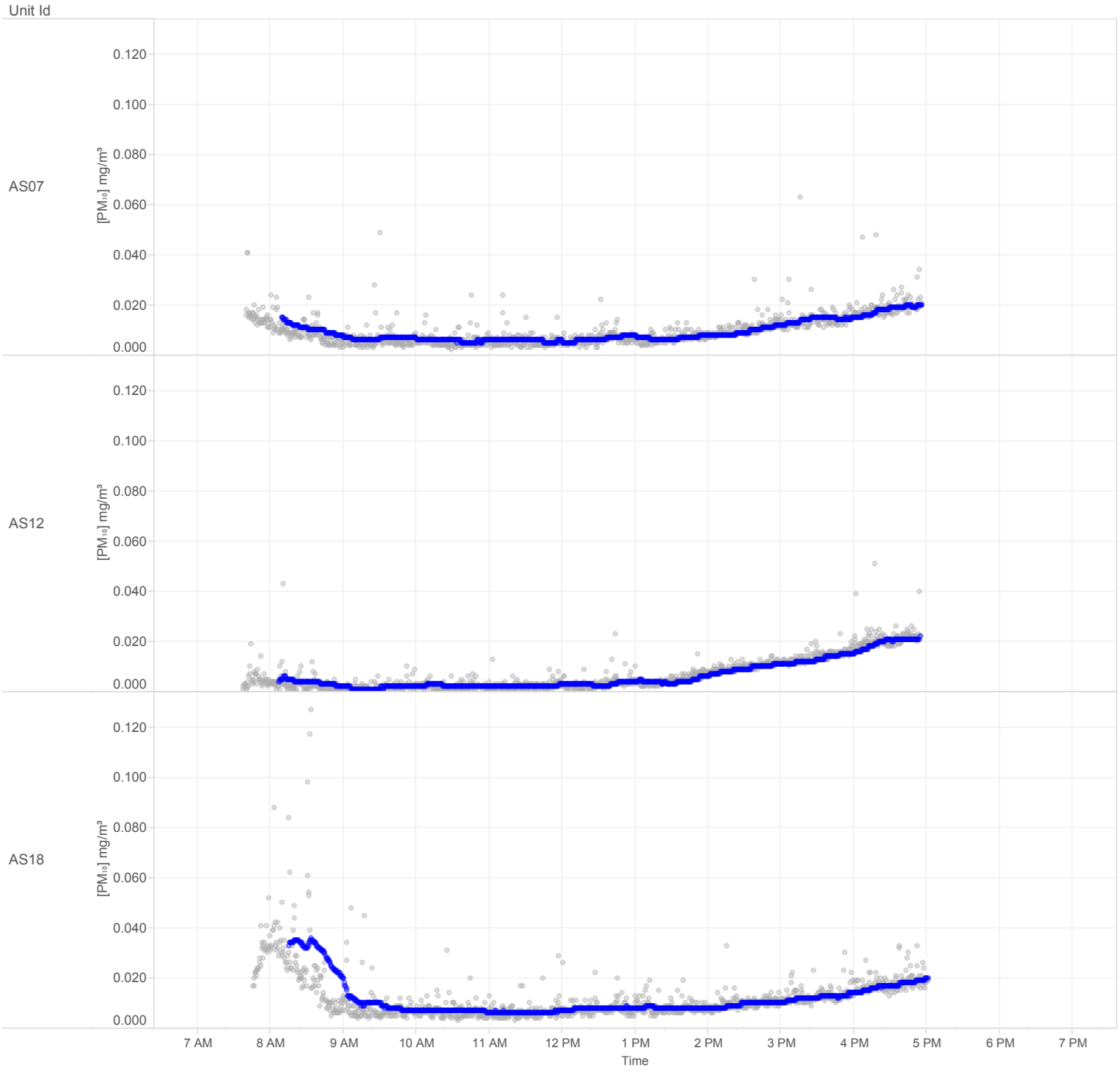
Particulate monitors were deployed around the facility perimeter to monitor 10 µm airborne dust concentrations.

30min Rolling Avg

Instantaneous Reading

Datalogged PM_{10} Concentrations in Air

Houston Wood Preserving Work Site - April 6, 2016



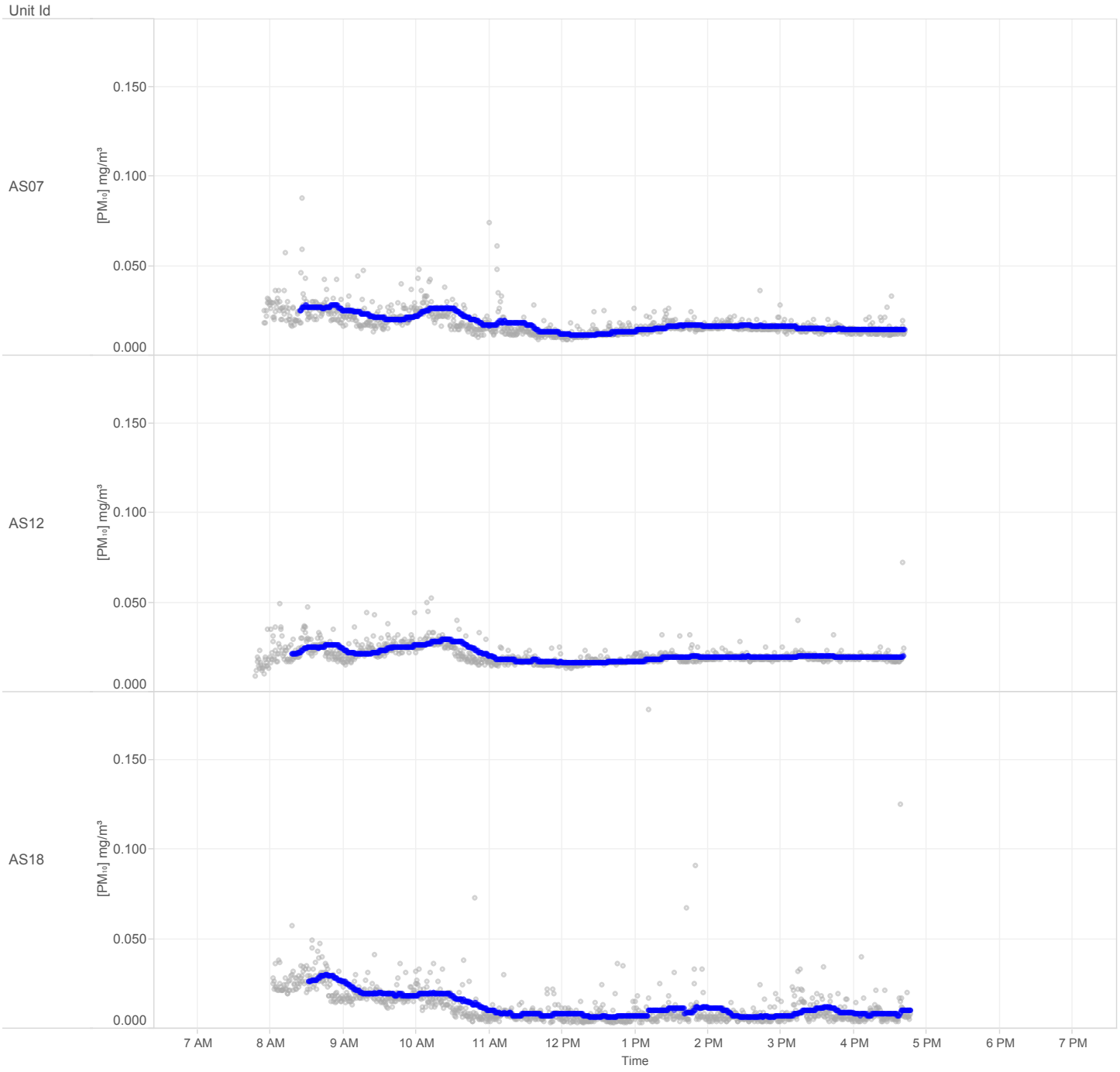
Particulate monitors were deployed around the facility perimeter to monitor 10 µm airborne dust concentrations.

30min Rolling Avg

Instantaneous Reading

Datalogged PM_{10} Concentrations in Air

Houston Wood Preserving Work Site - April 7, 2016



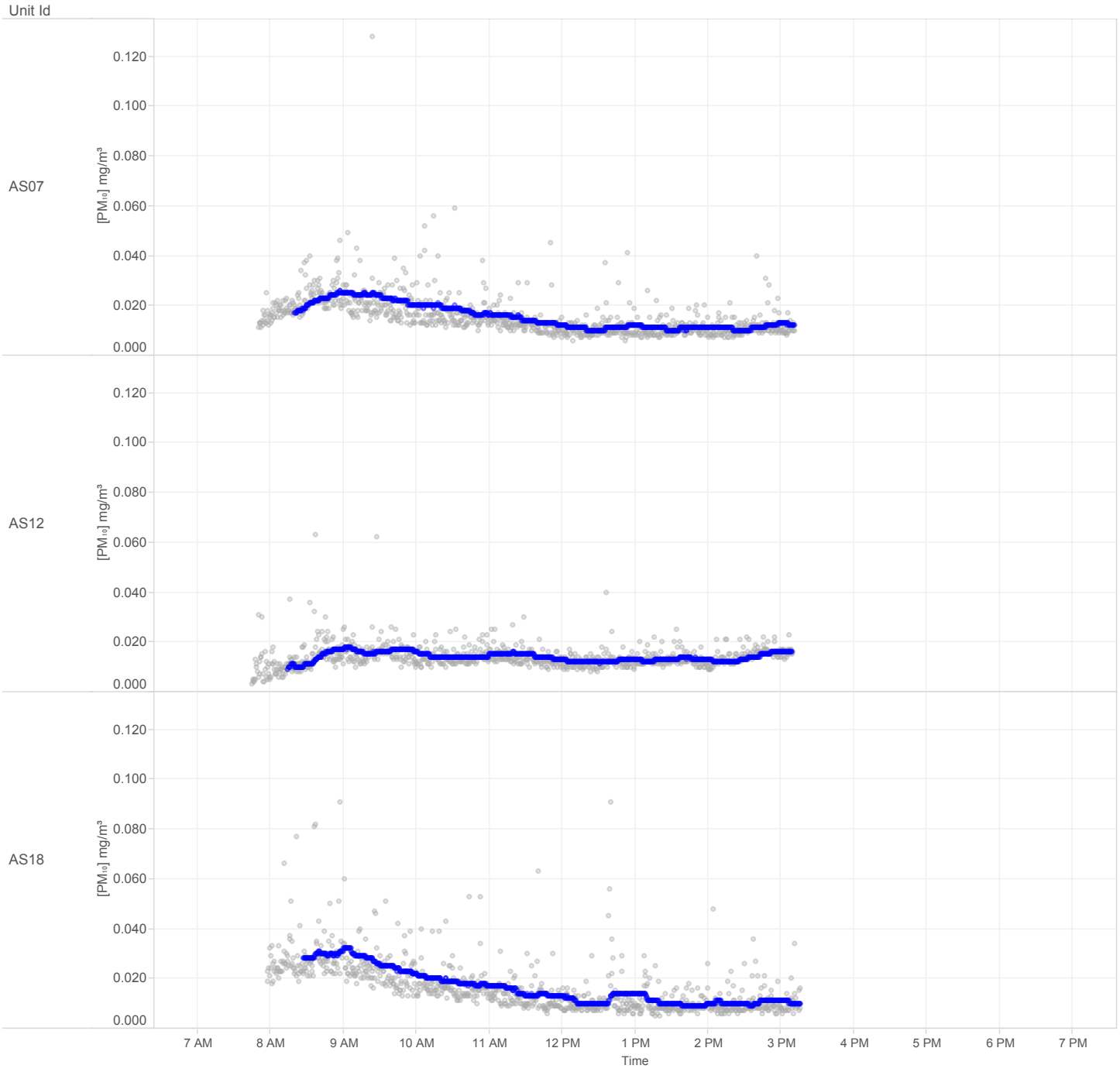
Particulate monitors were deployed around the facility perimeter to monitor 10 µm airborne dust concentrations.

30min Rolling Avg

Instantaneous Reading

Datalogged PM_{10} Concentrations in Air

Houston Wood Preserving Work Site - April 8, 2016



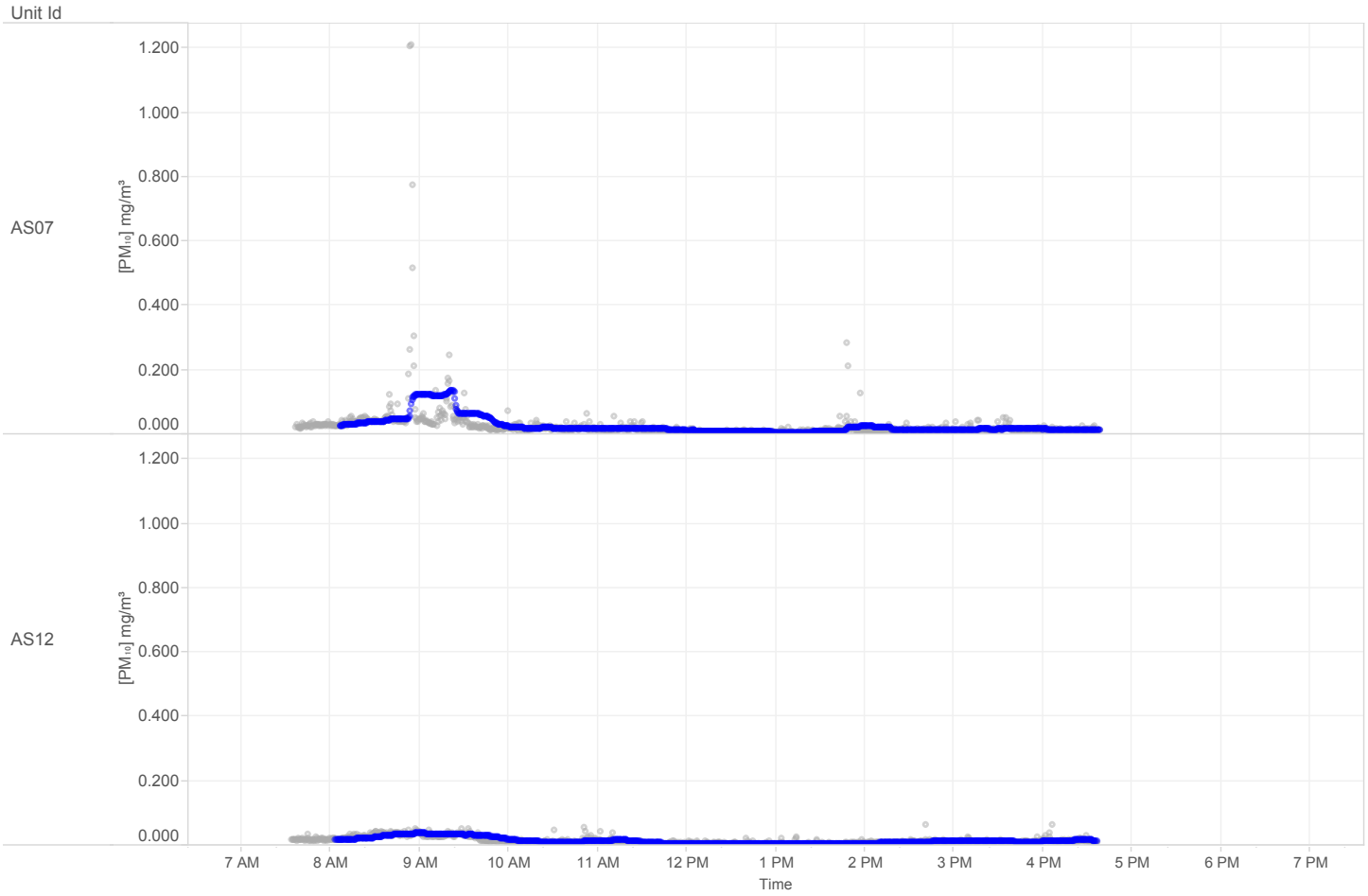
Particulate monitors were deployed around the facility perimeter to monitor 10 µm airborne dust concentrations.

30min Rolling Avg

Instantaneous Reading

Datalogged PM_{10} Concentrations in Air

Houston Wood Preserving Work Site - April 9, 2016



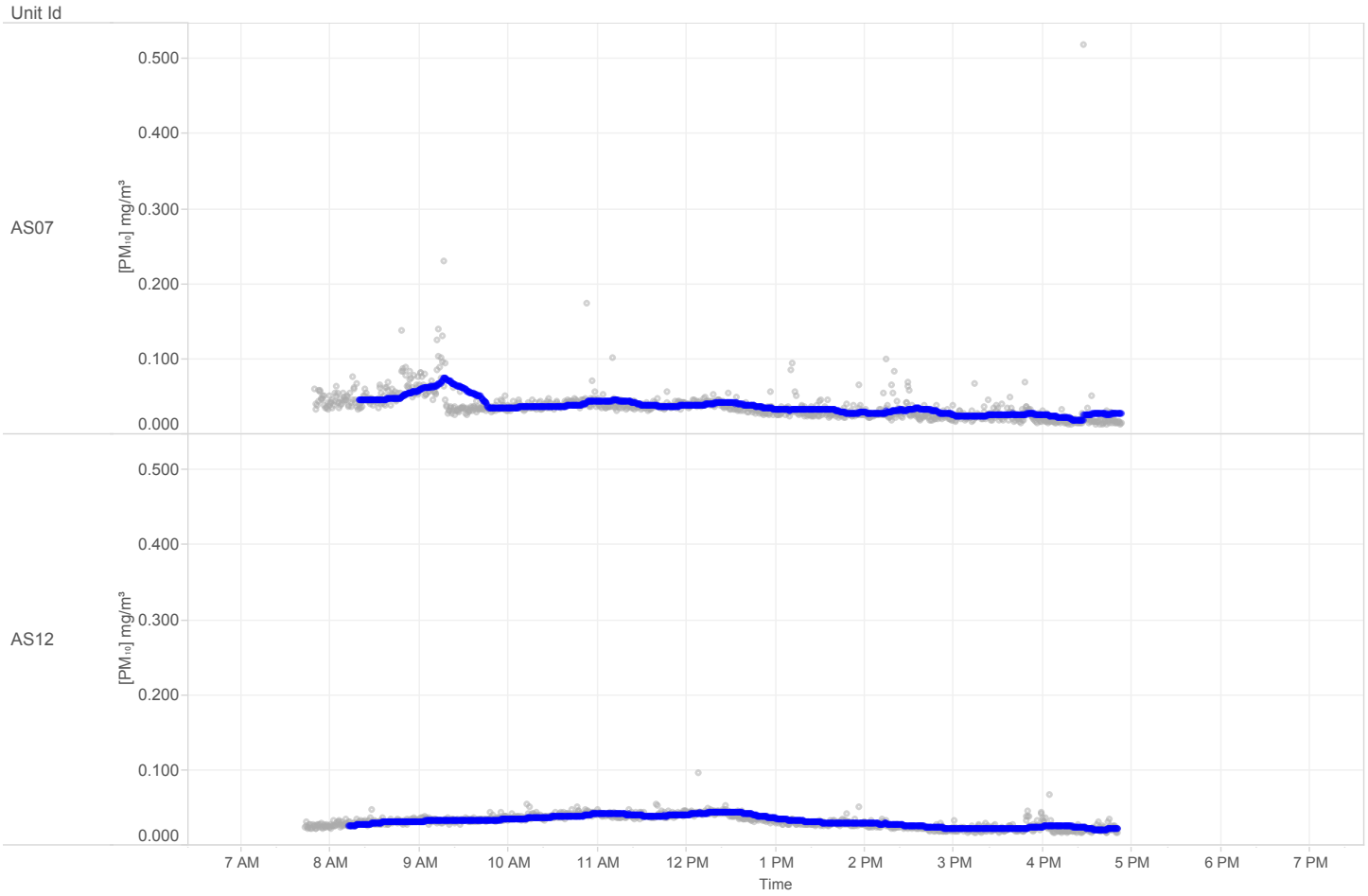
Particulate monitors were deployed around the facility perimeter to monitor 10 µm airborne dust concentrations.

30min Rolling Avg

Instantaneous Reading

Datalogged PM_{10} Concentrations in Air

Houston Wood Preserving Work Site - April 11, 2016



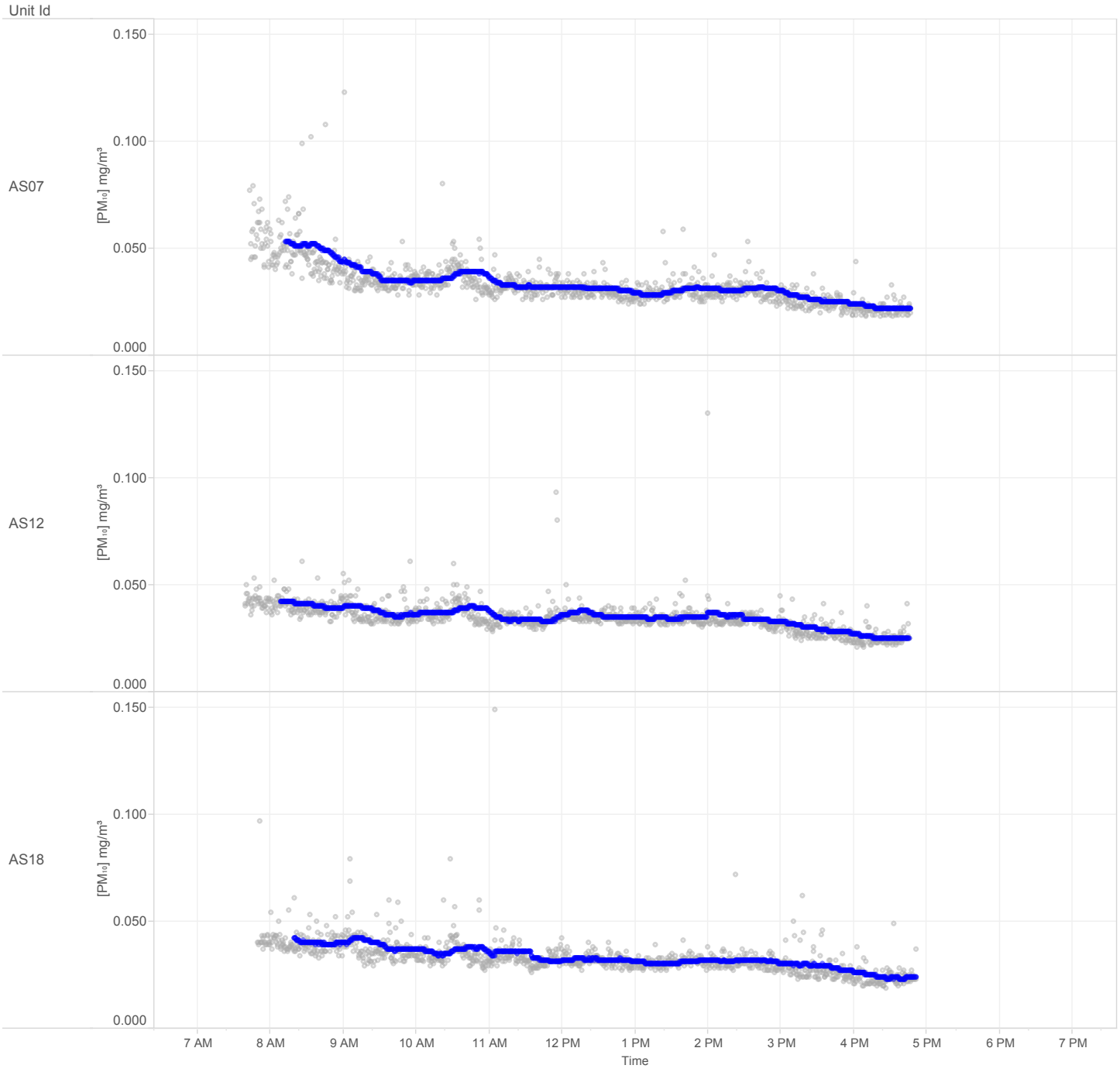
Particulate monitors were deployed around the facility perimeter to monitor 10 µm airborne dust concentrations.

30min Rolling Avg

Instantaneous Reading

Datalogged PM_{10} Concentrations in Air

Houston Wood Preserving Work Site - April 12, 2016



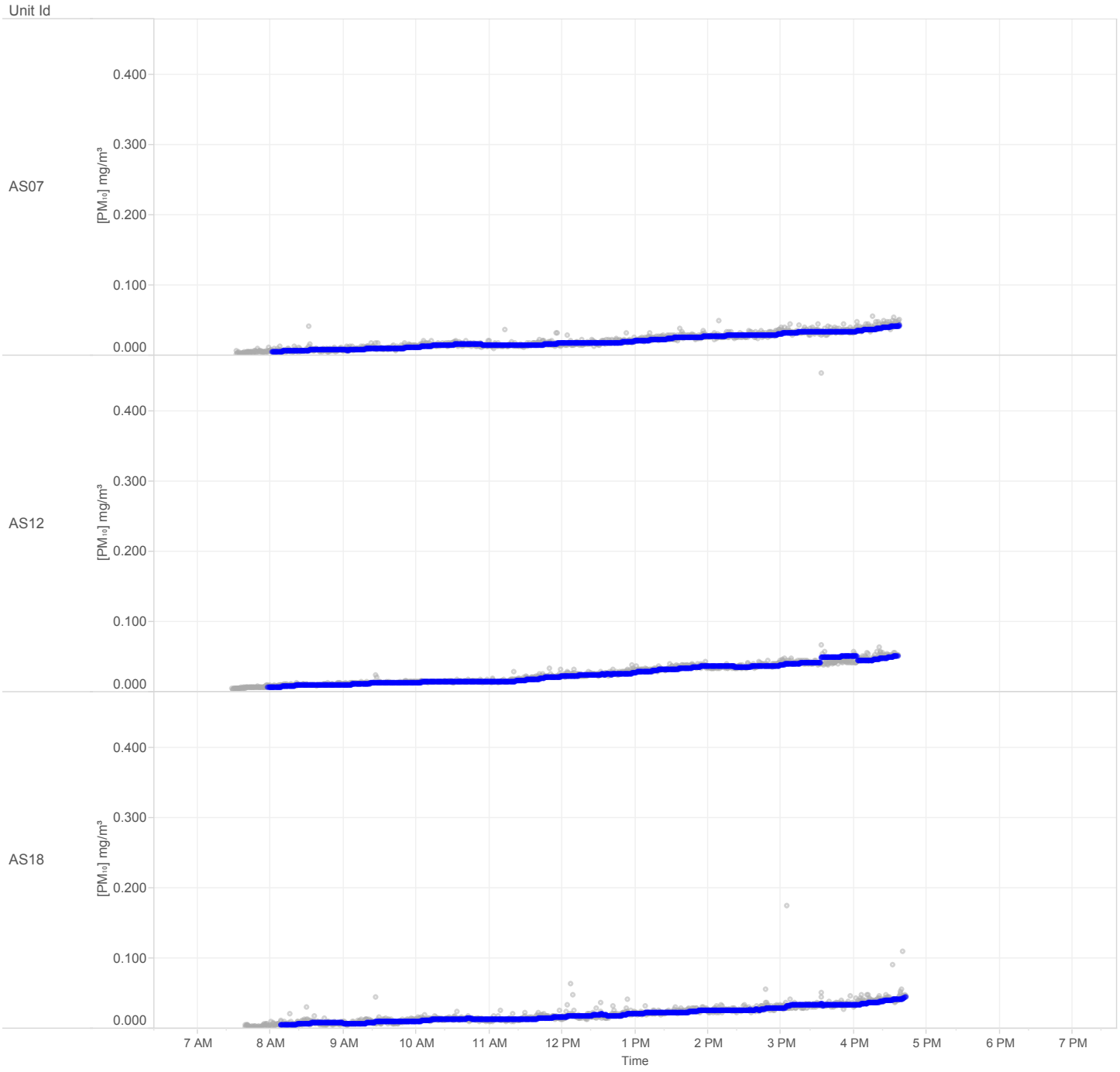
Particulate monitors were deployed around the facility perimeter to monitor 10 µm airborne dust concentrations.

30min Rolling Avg

Instantaneous Reading

Datalogged PM_{10} Concentrations in Air

Houston Wood Preserving Work Site - April 13, 2016



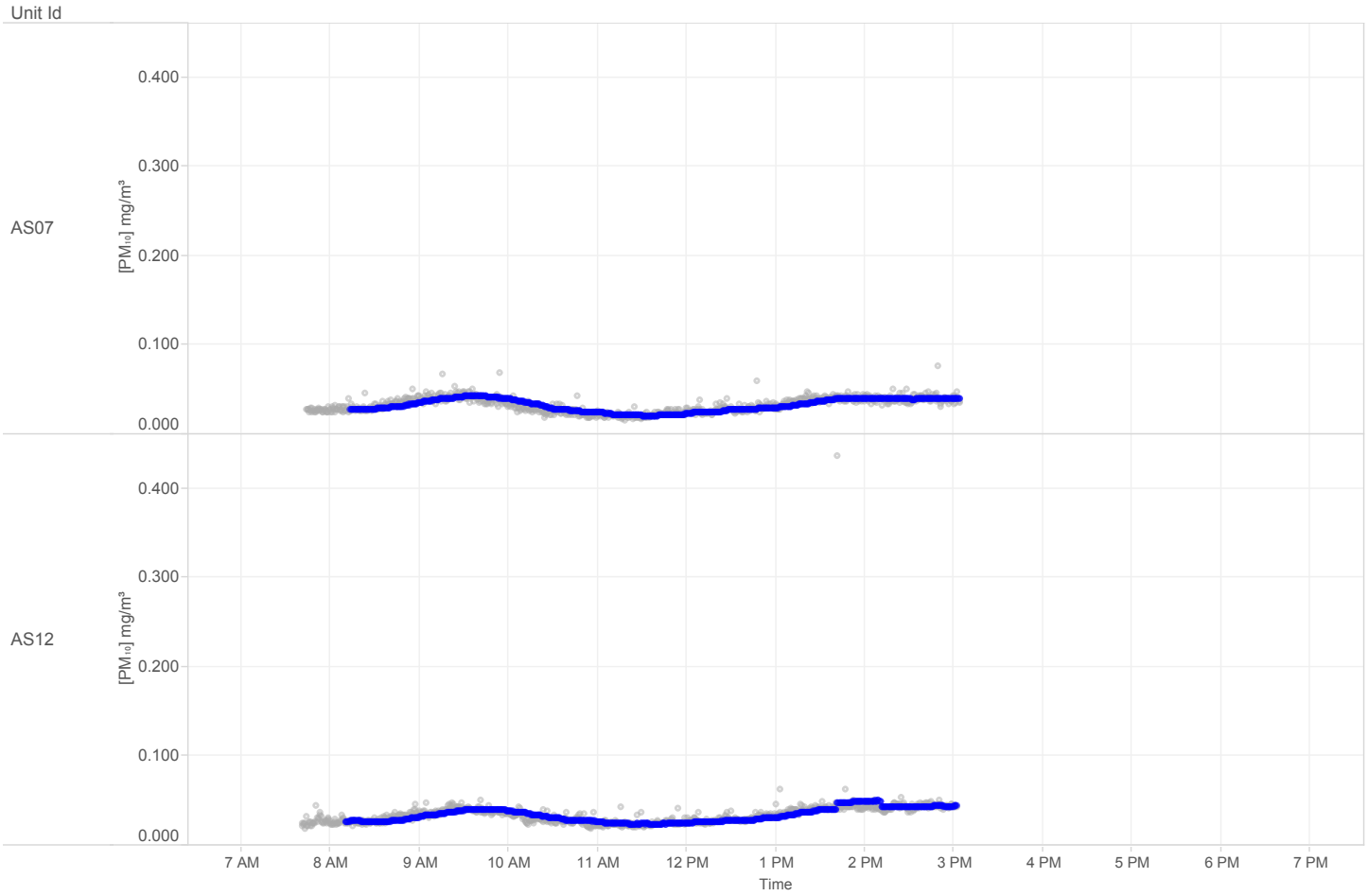
Particulate monitors were deployed around the facility perimeter to monitor 10 µm airborne dust concentrations.

30min Rolling Avg

Instantaneous Reading

Datalogged PM_{10} Concentrations in Air

Houston Wood Preserving Work Site - April 14, 2016



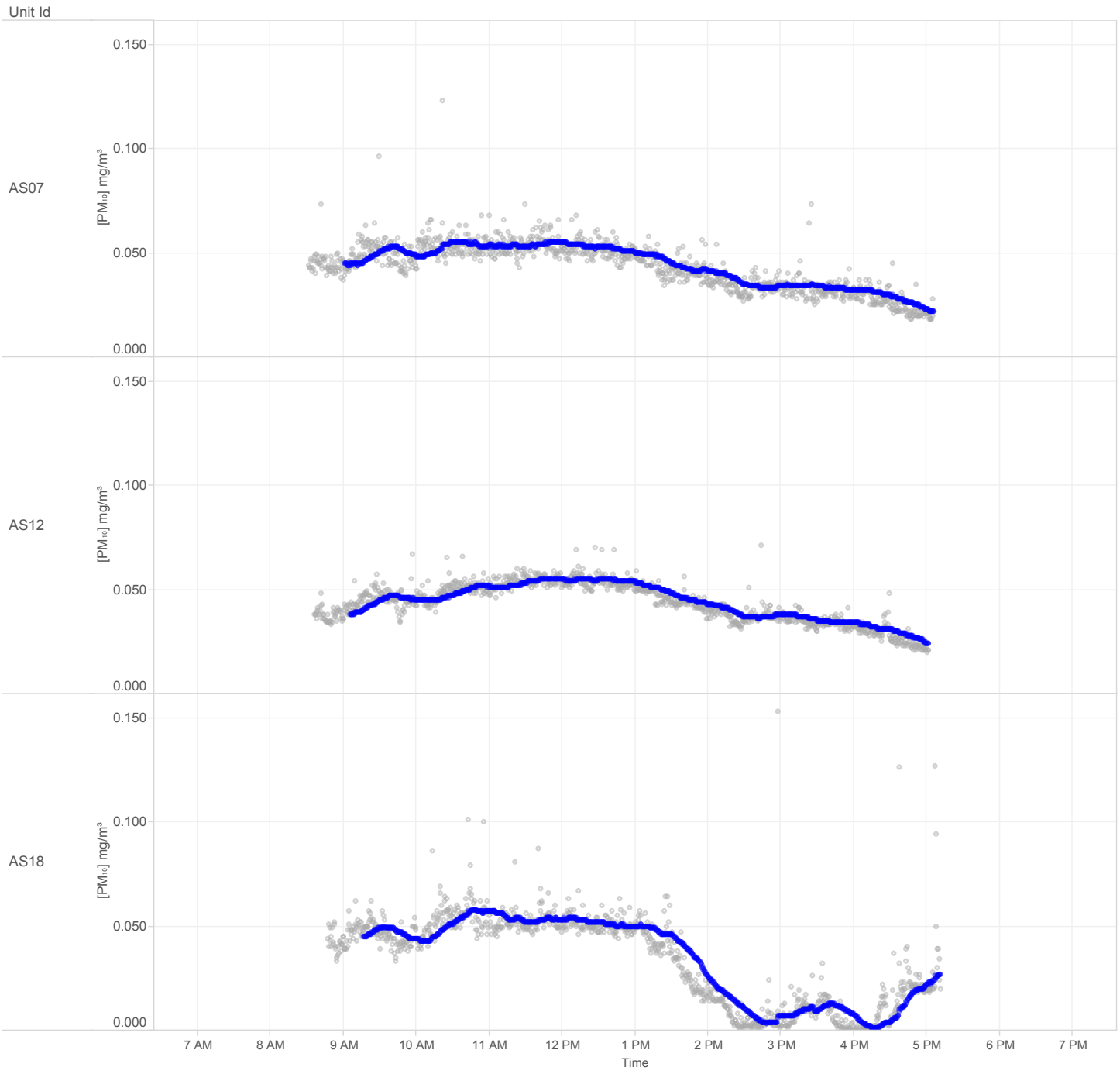
Particulate monitors were deployed around the facility perimeter to monitor 10 µm airborne dust concentrations.

30min Rolling Avg

Instantaneous Reading

Datalogged PM_{10} Concentrations in Air

Houston Wood Preserving Work Site - April 15, 2016



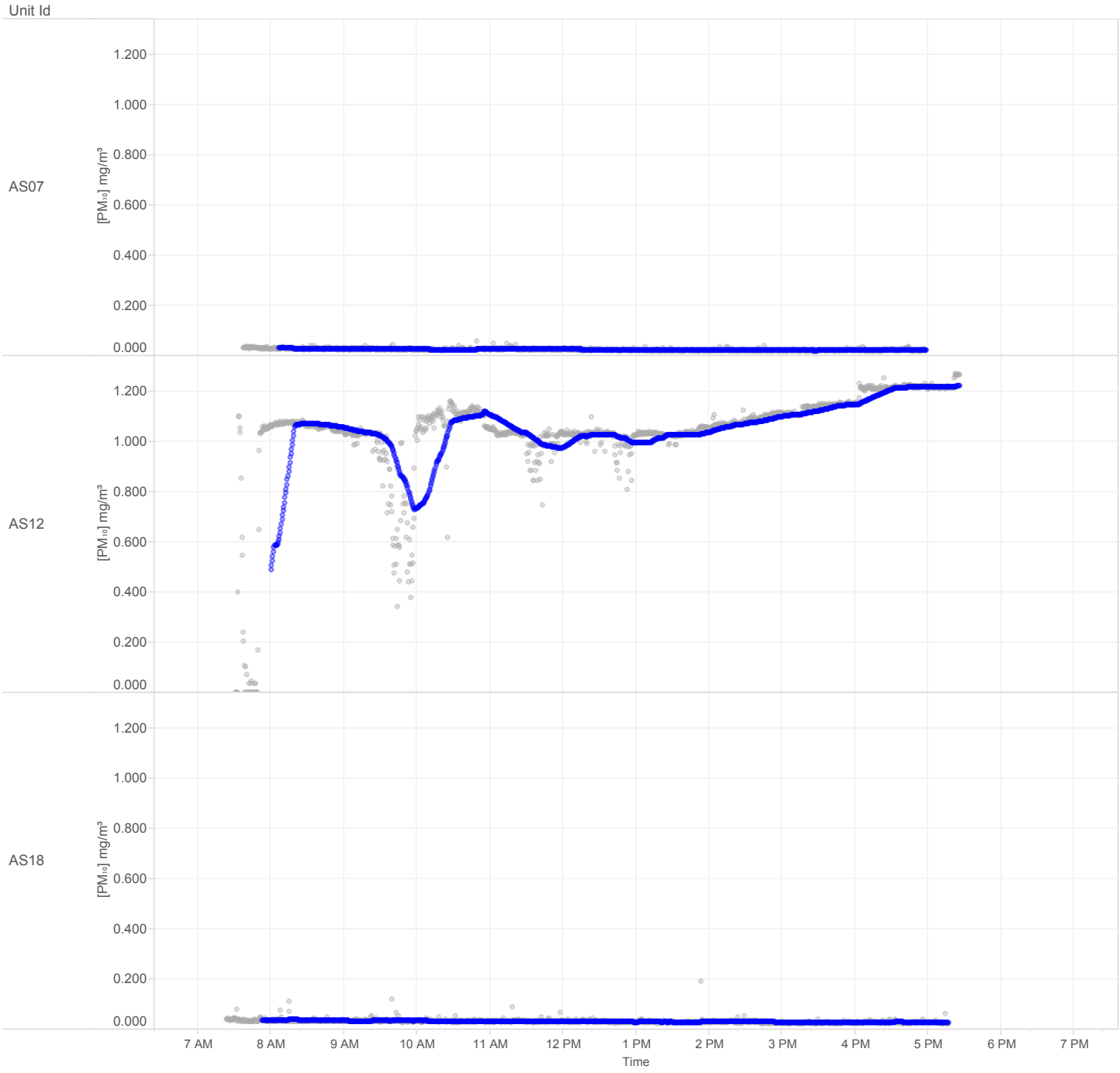
Particulate monitors were deployed around the facility perimeter to monitor 10 µm airborne dust concentrations.

30min Rolling Avg

Instantaneous Reading

Datalogged PM_{10} Concentrations in Air

Houston Wood Preserving Work Site - April 16, 2016



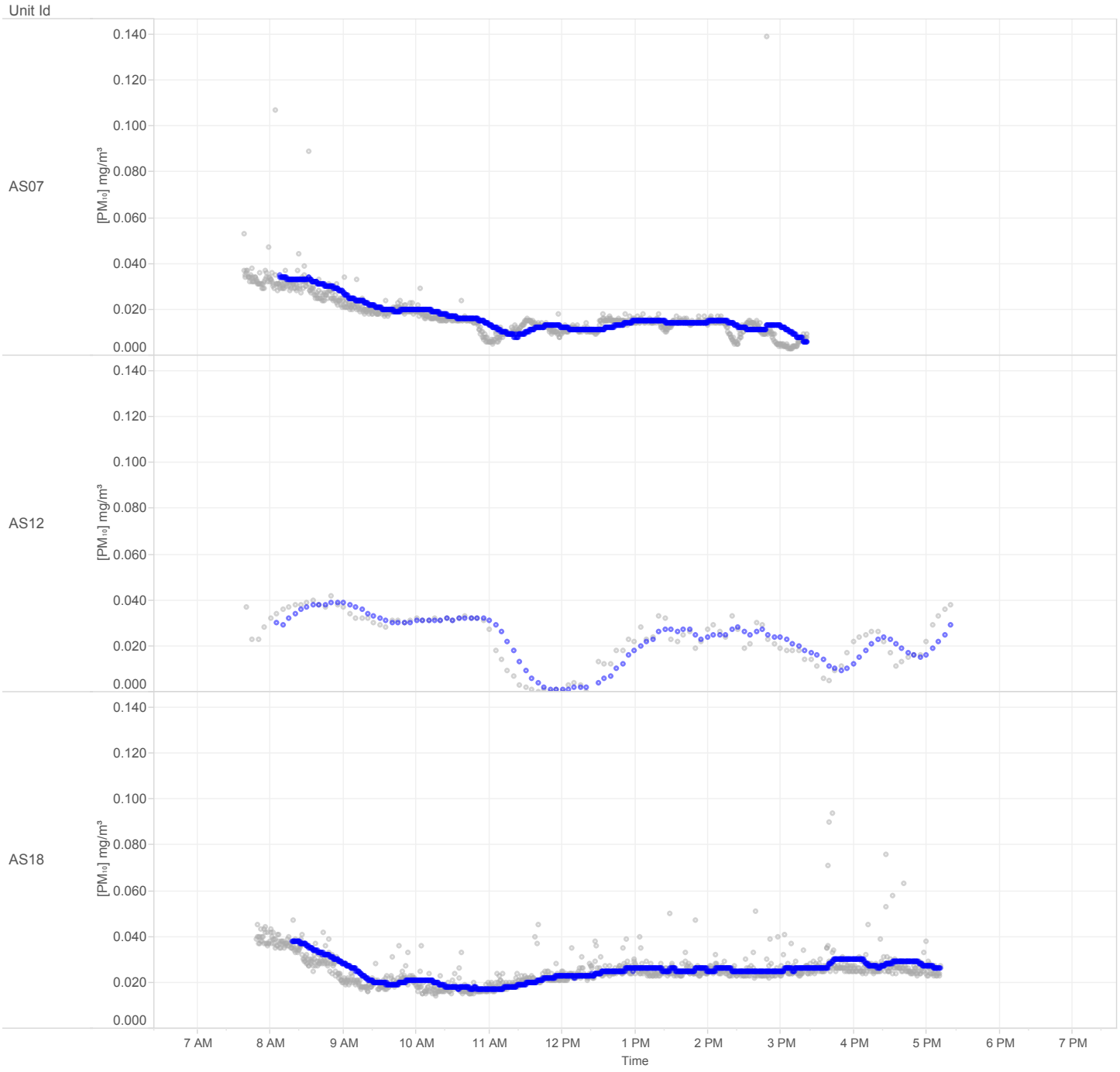
Particulate monitors were deployed around the facility perimeter to monitor 10 µm airborne dust concentrations.

30min Rolling Avg

Instantaneous Reading

Datalogged PM_{10} Concentrations in Air

Houston Wood Preserving Work Site - April 22, 2016



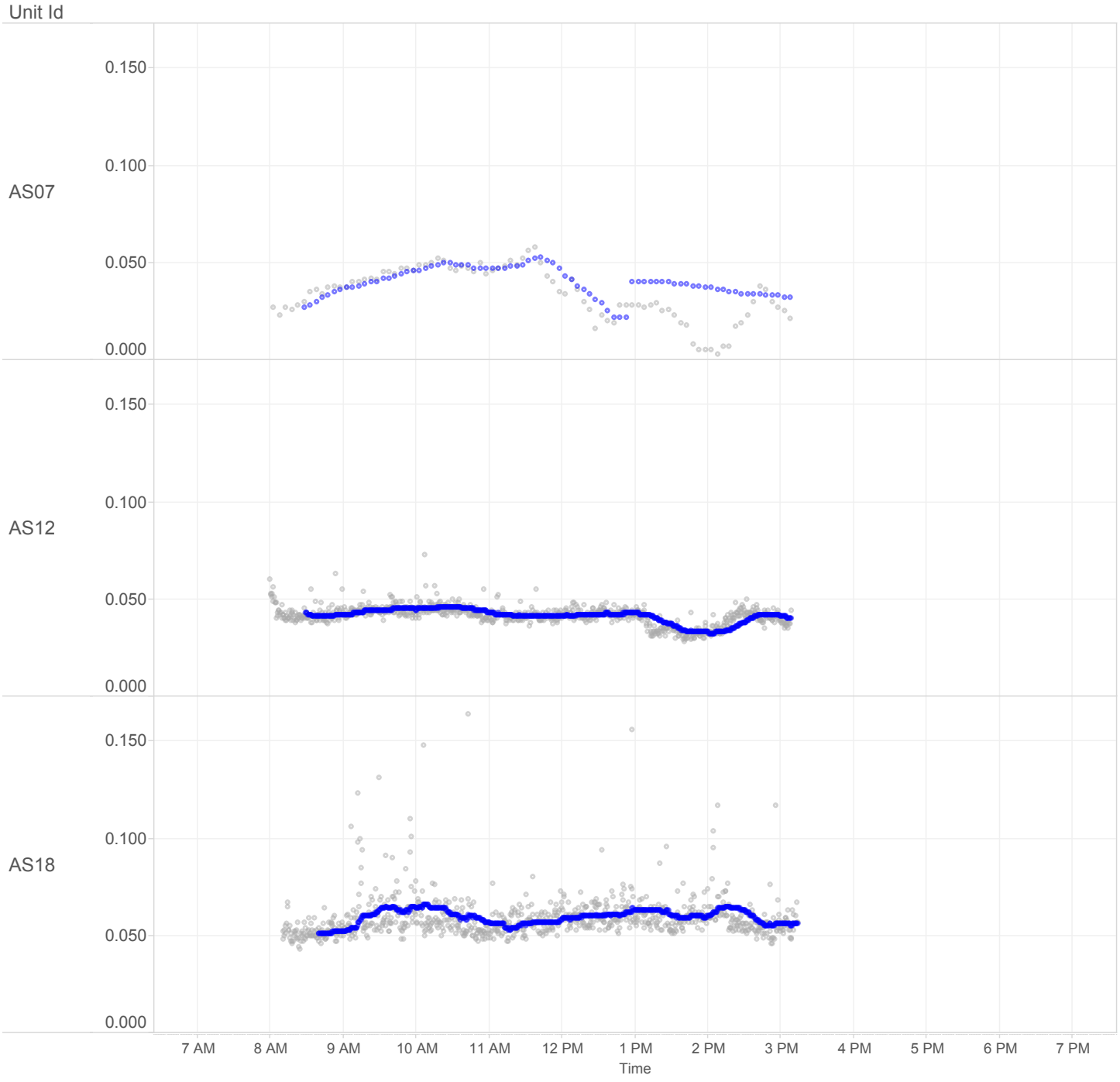
Particulate monitors were deployed around the facility perimeter to monitor 10 µm airborne dust concentrations.

30min Rolling Avg

Instantaneous Reading

Datalogged PM_{10} Concentrations in Air

Houston Wood Preserving Work Site - April 26, 2016

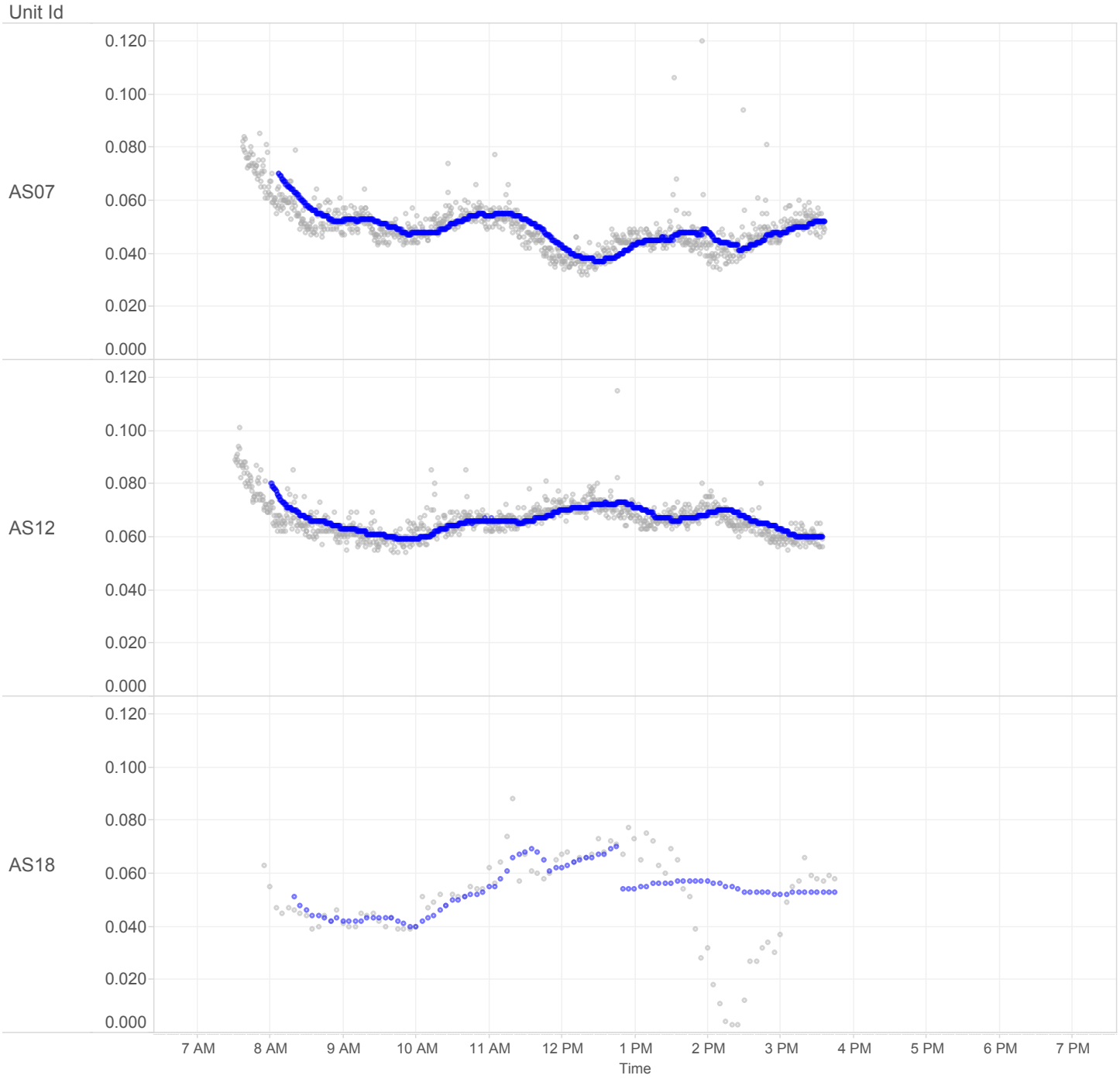


Particulate monitors were deployed around the facility perimeter to monitor 10 µm airborne dust concentrations.

30min Rolling Avg
Instantaneous Reading

Datalogged PM_{10} Concentrations in Air

Houston Wood Preserving Work Site - April 28, 2016



Particulate monitors were deployed around the facility perimeter to monitor 10 µm airborne dust concentrations.

30min Rolling Avg
Instantaneous Reading

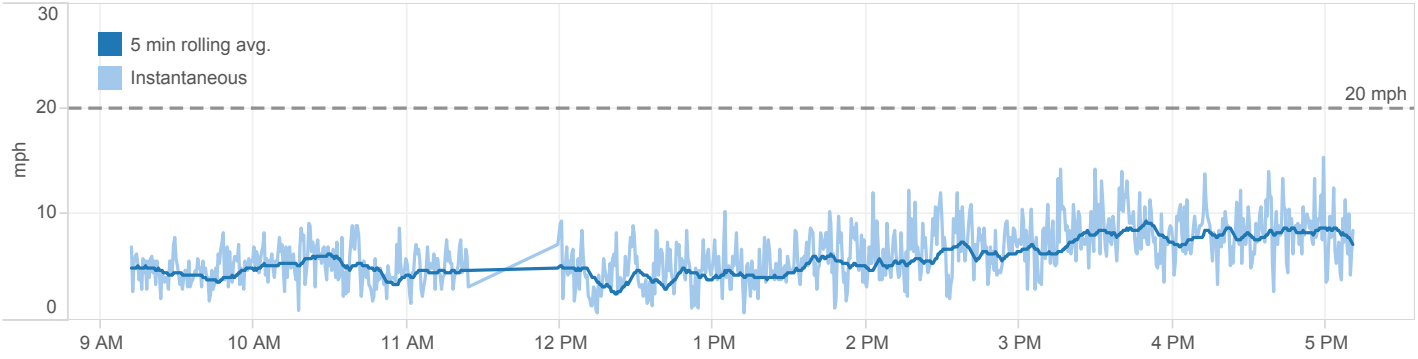
Attachment E

Meteorological Data

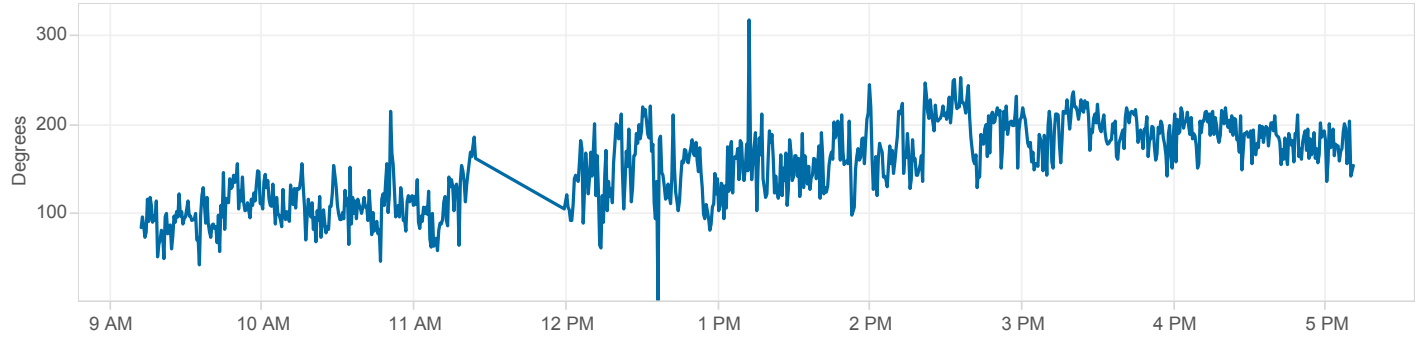
Houston, TX Meteorological Data

February 10, 2016

Wind Speed



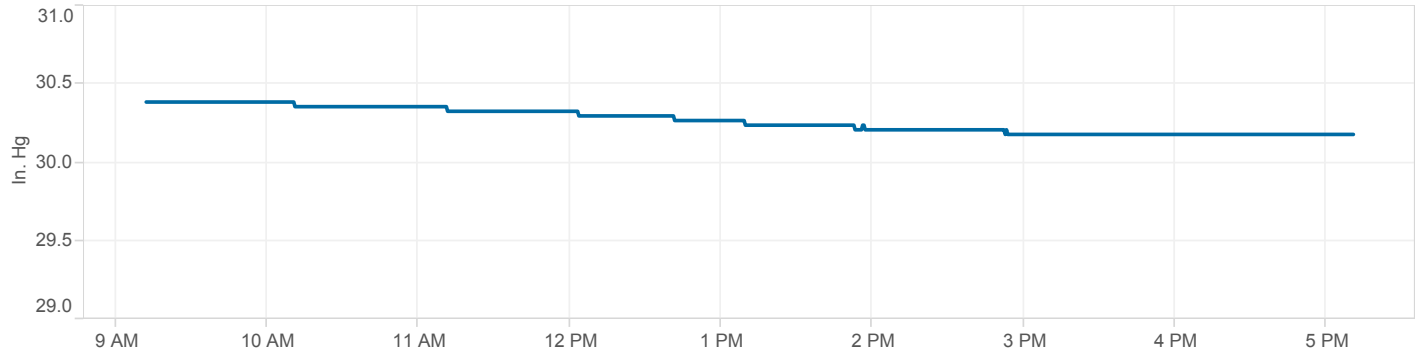
Wind Direction



Wind direction reported in degrees where 0 degrees is equivalent to a cardinal direction of North and 180 degrees is equivalent to South

Temperature

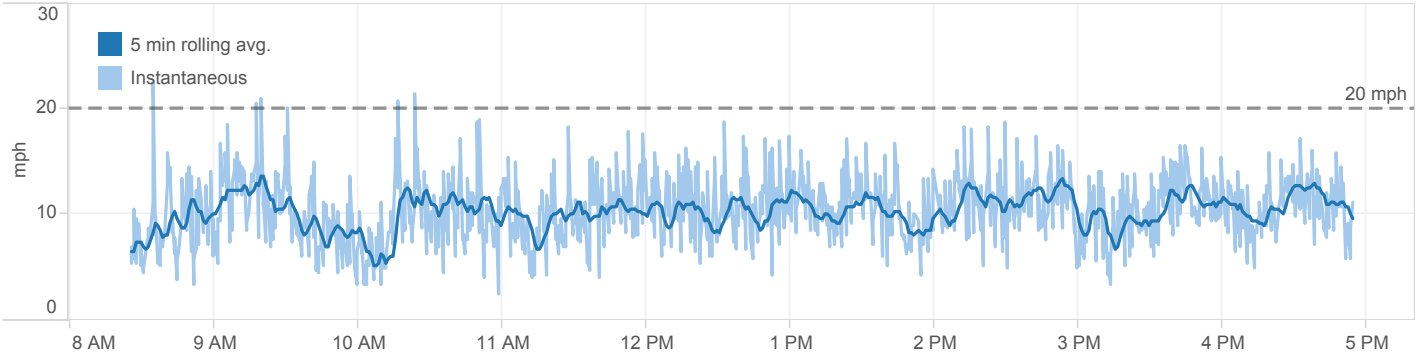
Barometric Pressure



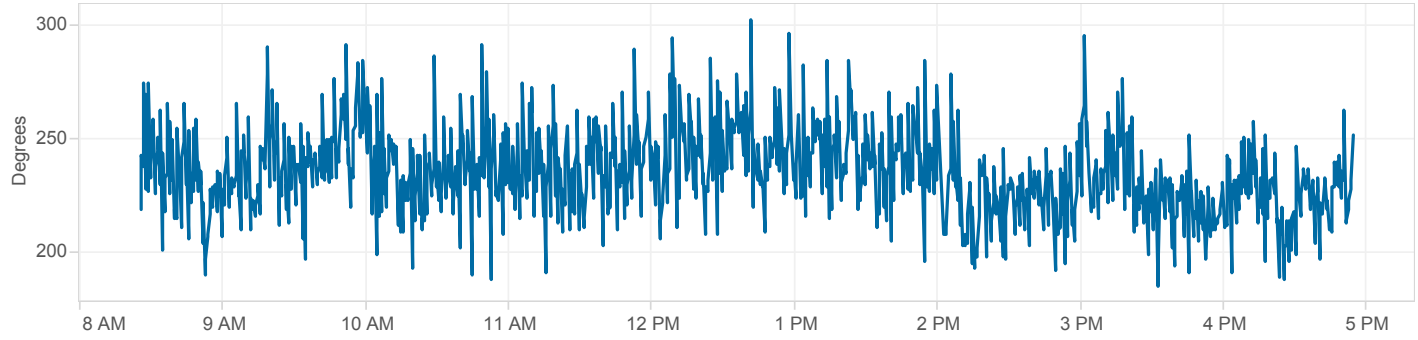
Houston, TX Meteorological Data

February 11, 2016

Wind Speed

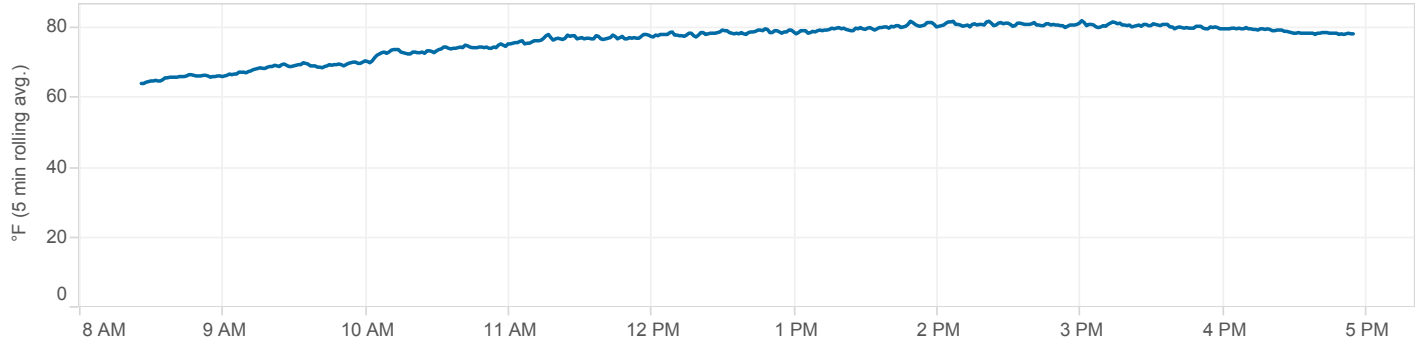


Wind Direction

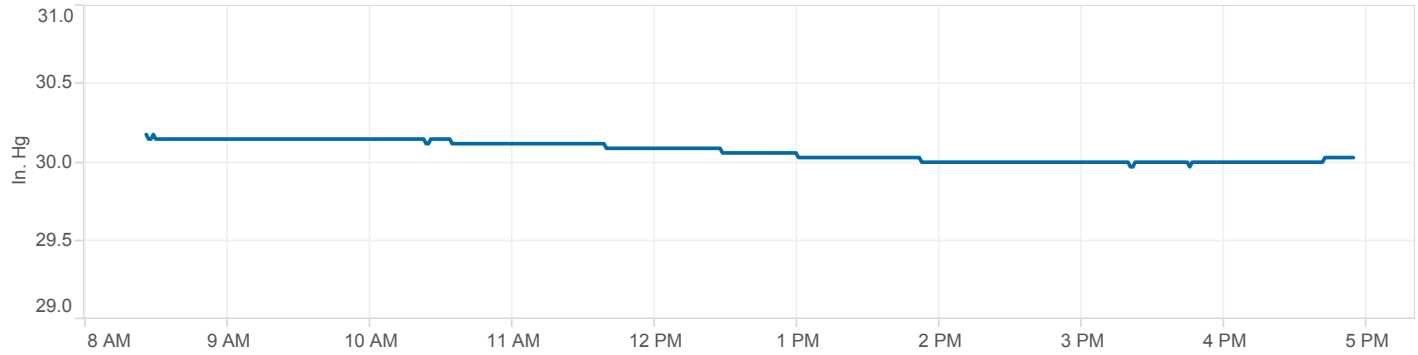


Wind direction reported in degrees where 0 degrees is equivalent to a cardinal direction of North and 180 degrees is equivalent to South

Temperature



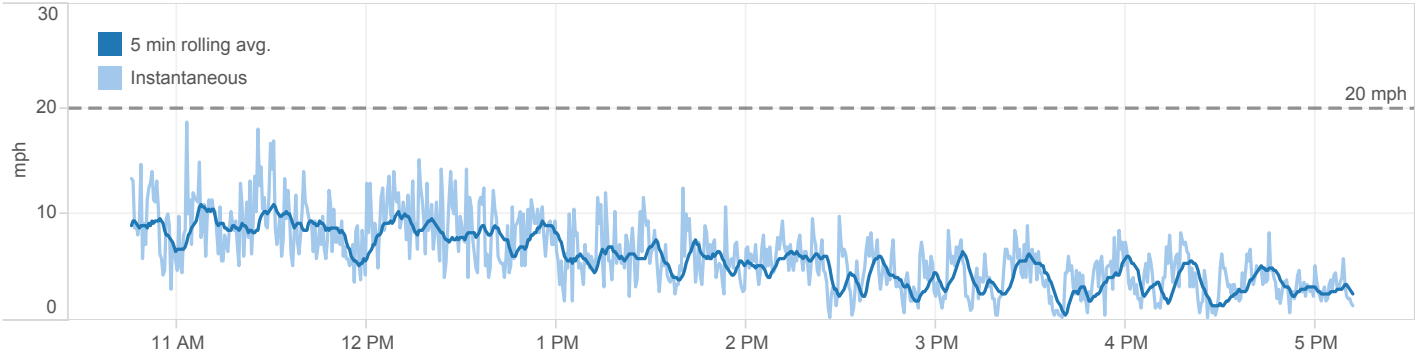
Barometric Pressure



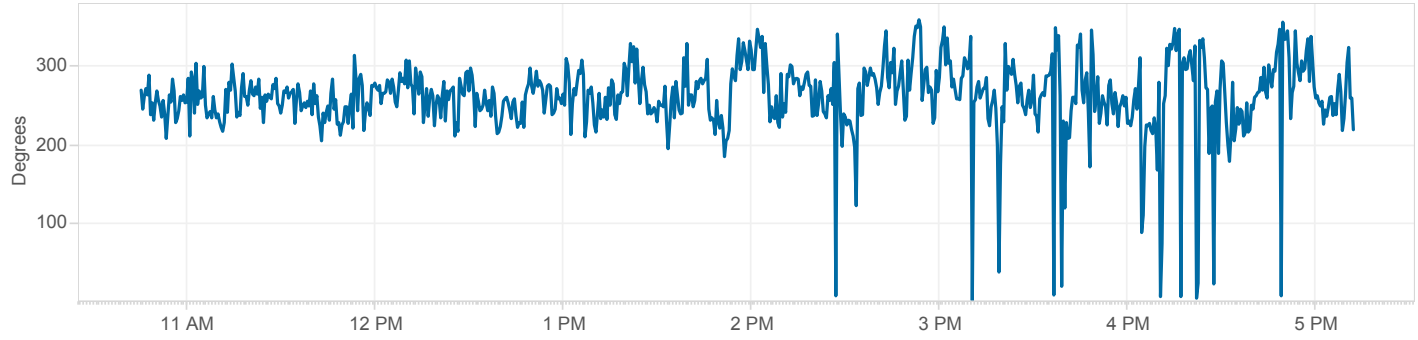
Houston, TX Meteorological Data

February 12, 2016

Wind Speed

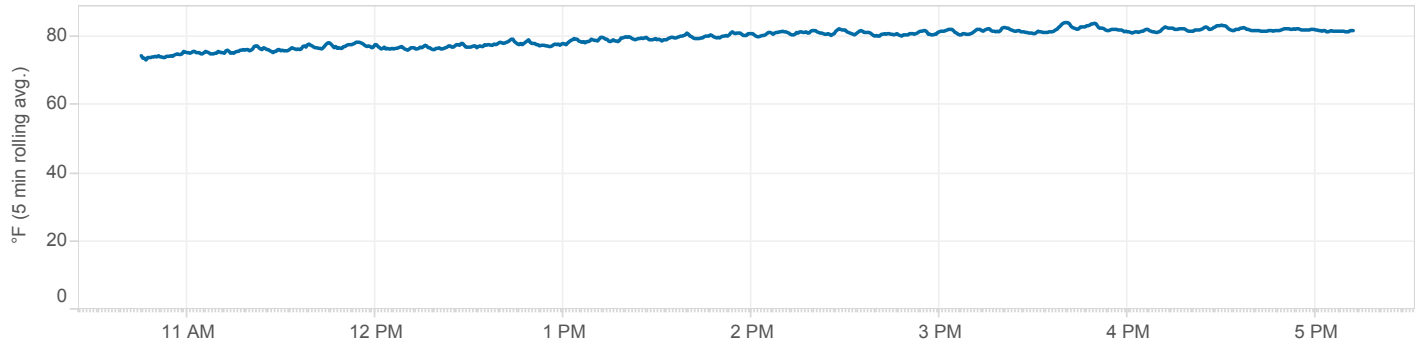


Wind Direction

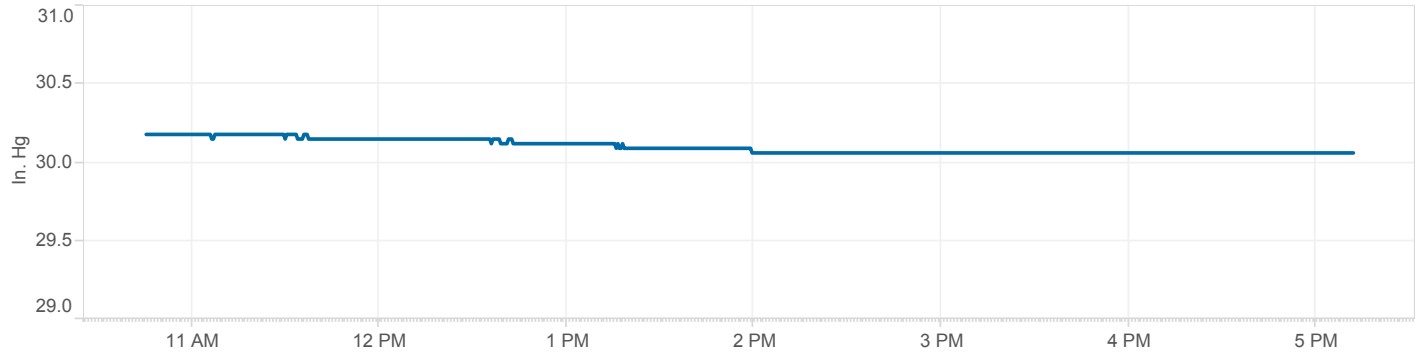


Wind direction reported in degrees where 0 degrees is equivalent to a cardinal direction of North and 180 degrees is equivalent to South

Temperature



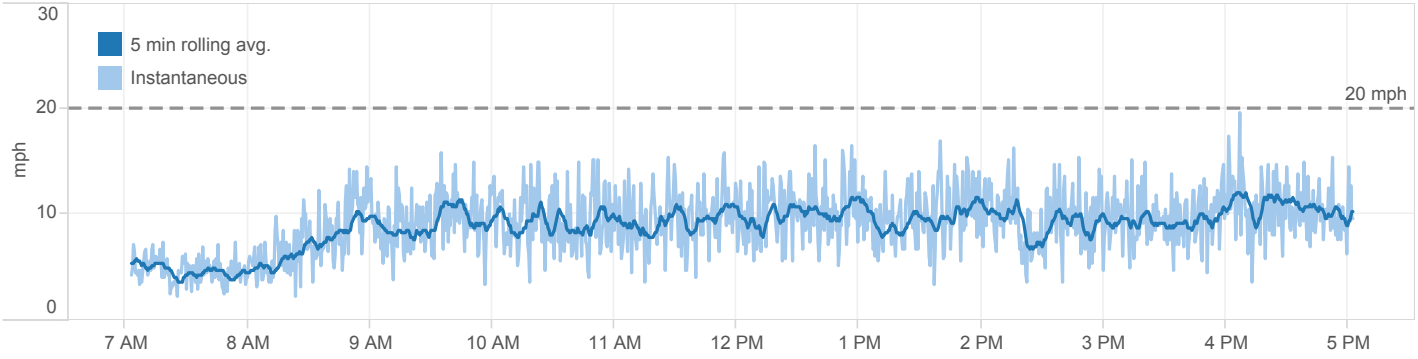
Barometric Pressure



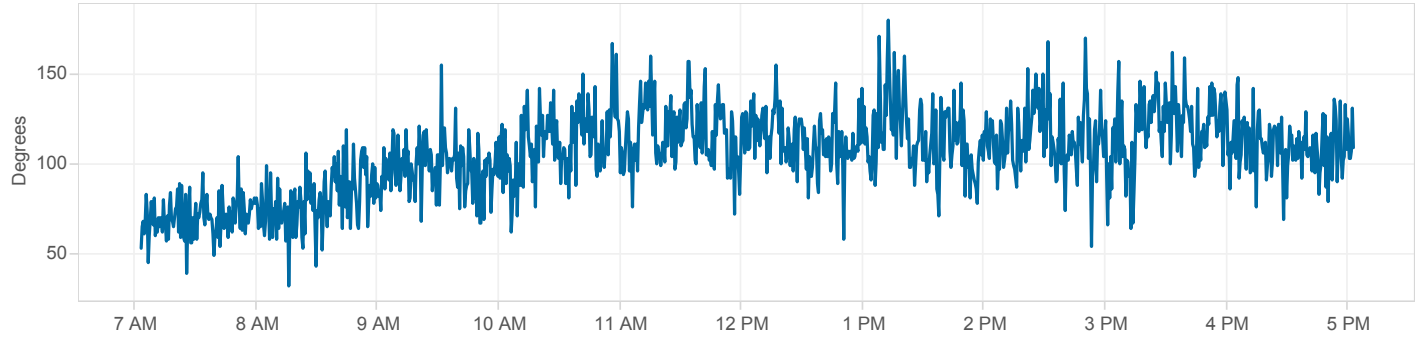
Houston, TX Meteorological Data

February 13, 2016

Wind Speed

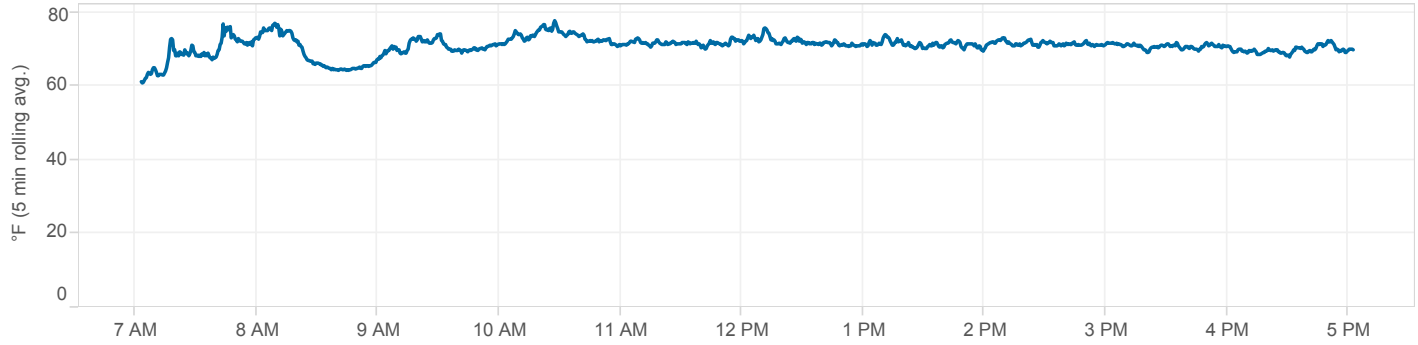


Wind Direction

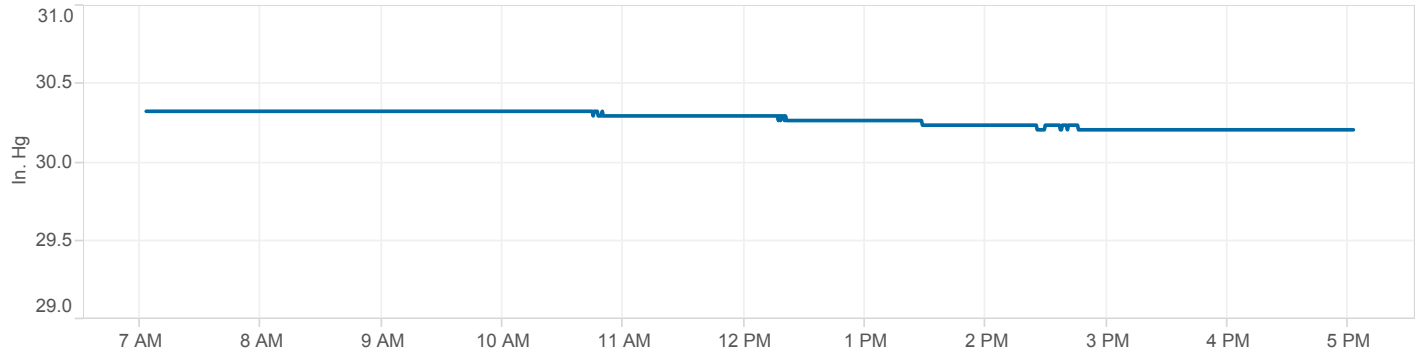


Wind direction reported in degrees where 0 degrees is equivalent to a cardinal direction of North and 180 degrees is equivalent to South

Temperature



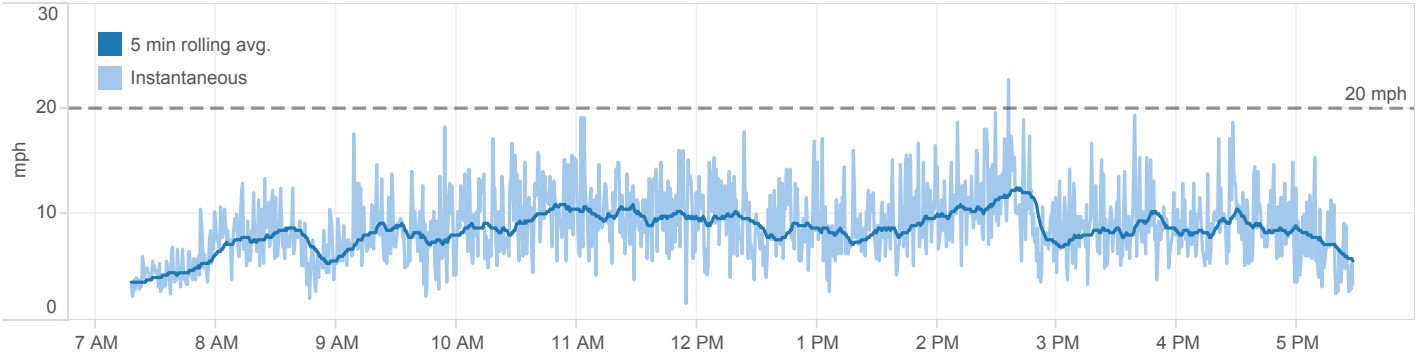
Barometric Pressure



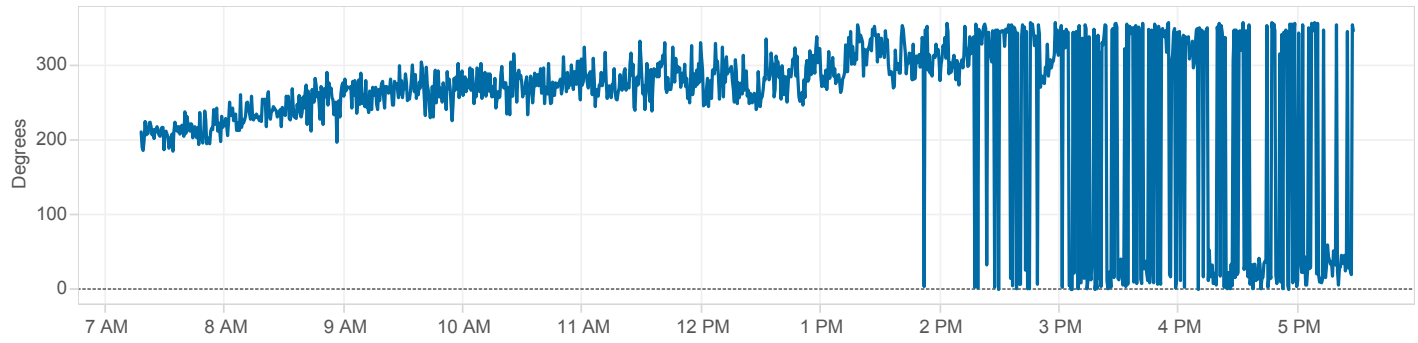
Houston, TX Meteorological Data

February 15, 2016

Wind Speed

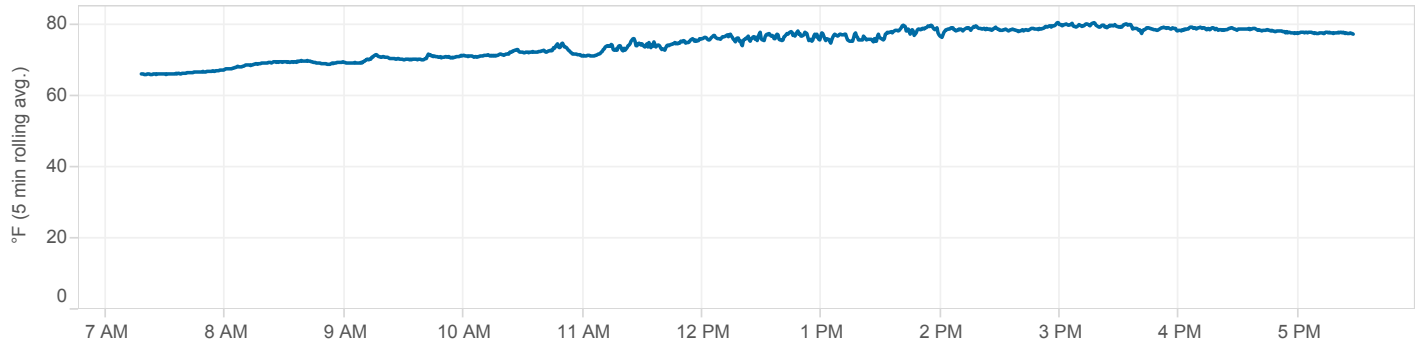


Wind Direction

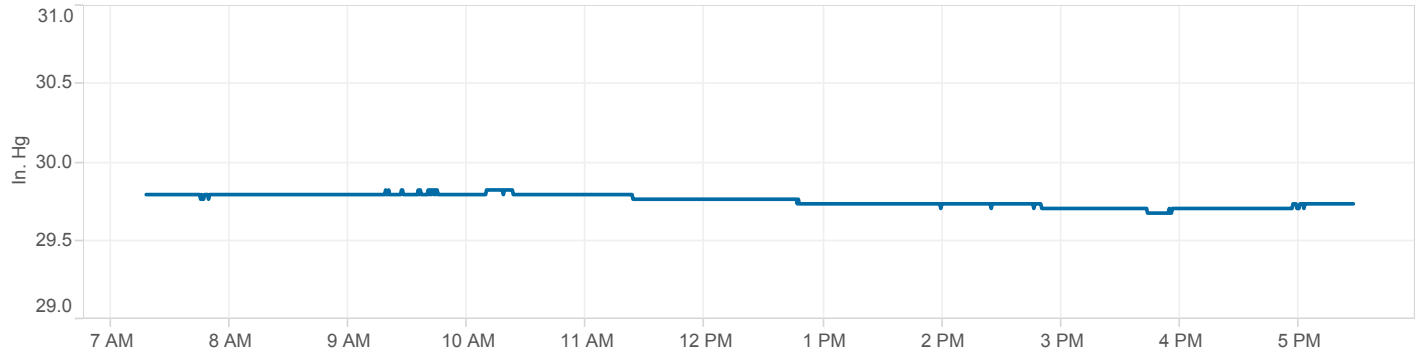


Wind direction reported in degrees where 0 degrees is equivalent to a cardinal direction of North and 180 degrees is equivalent to South

Temperature



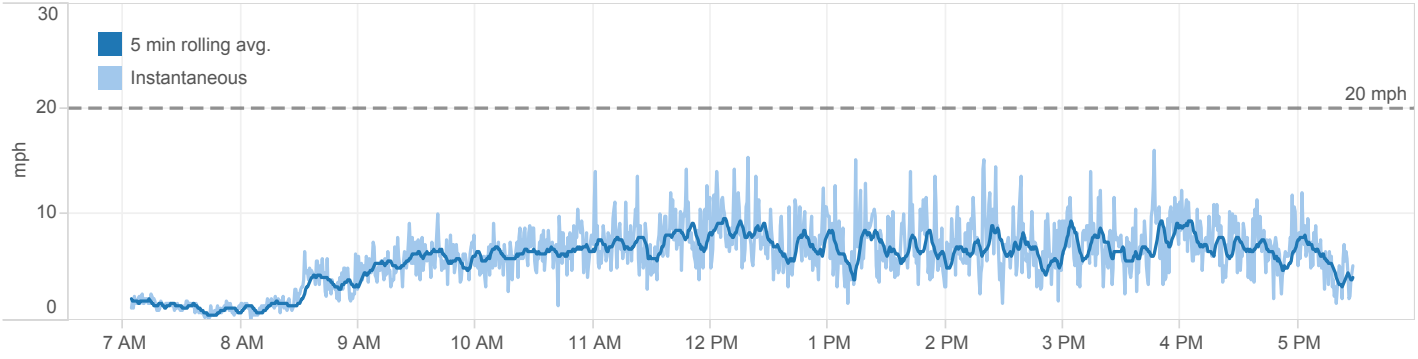
Barometric Pressure



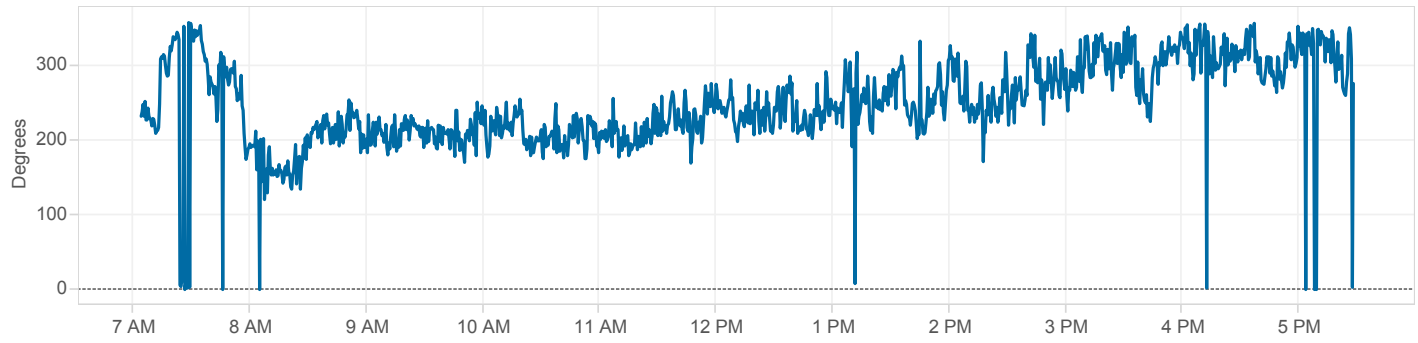
Houston, TX Meteorological Data

February 16, 2016

Wind Speed

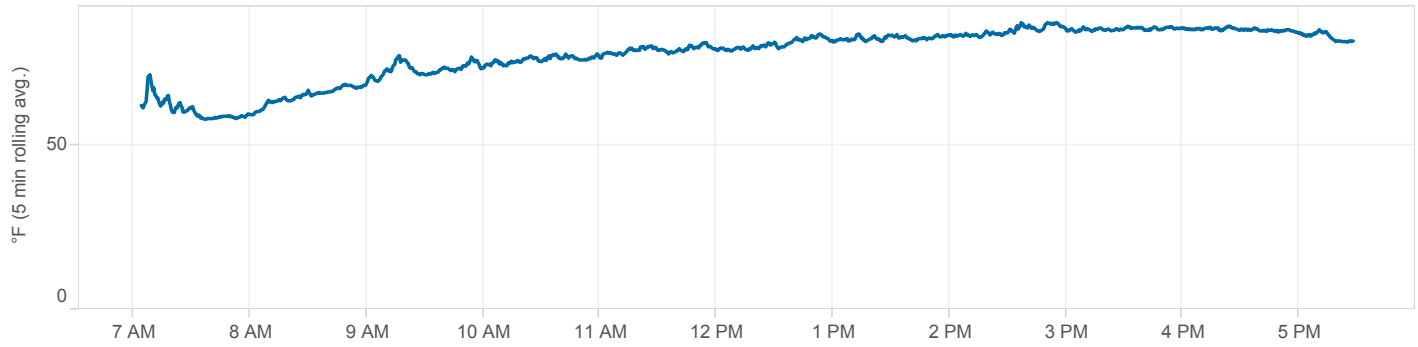


Wind Direction

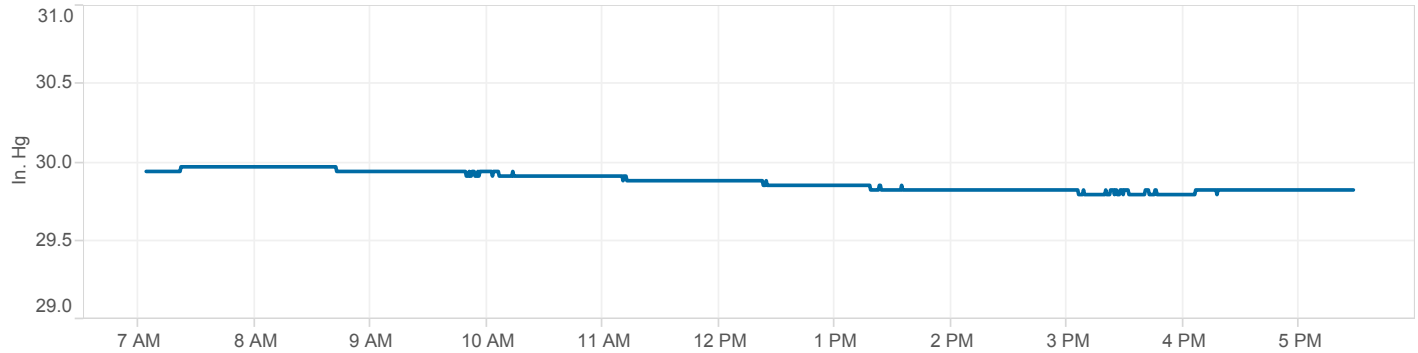


Wind direction reported in degrees where 0 degrees is equivalent to a cardinal direction of North and 180 degrees is equivalent to South

Temperature



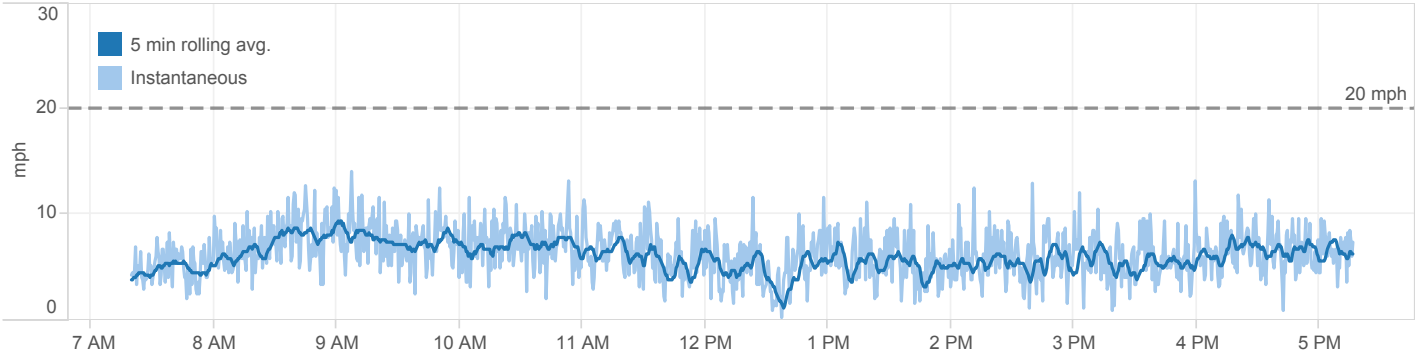
Barometric Pressure



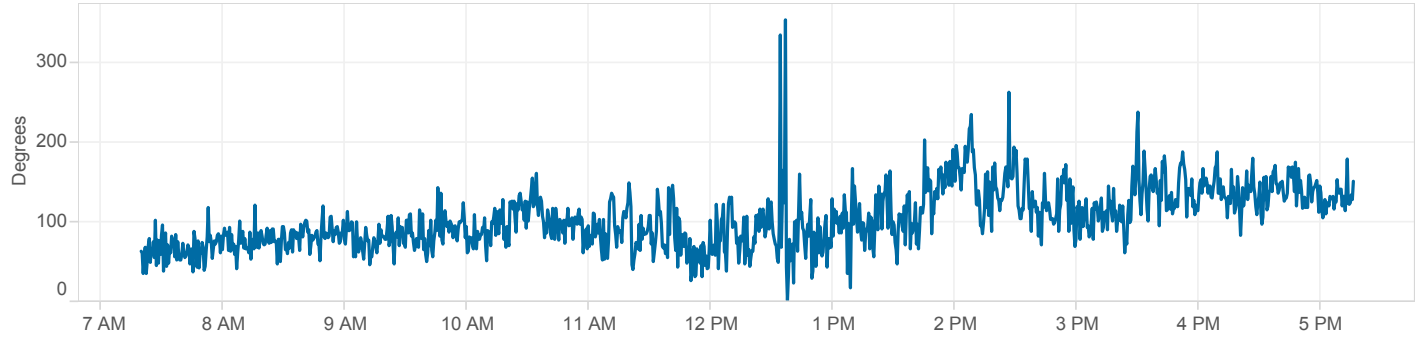
Houston, TX Meteorological Data

February 17, 2016

Wind Speed

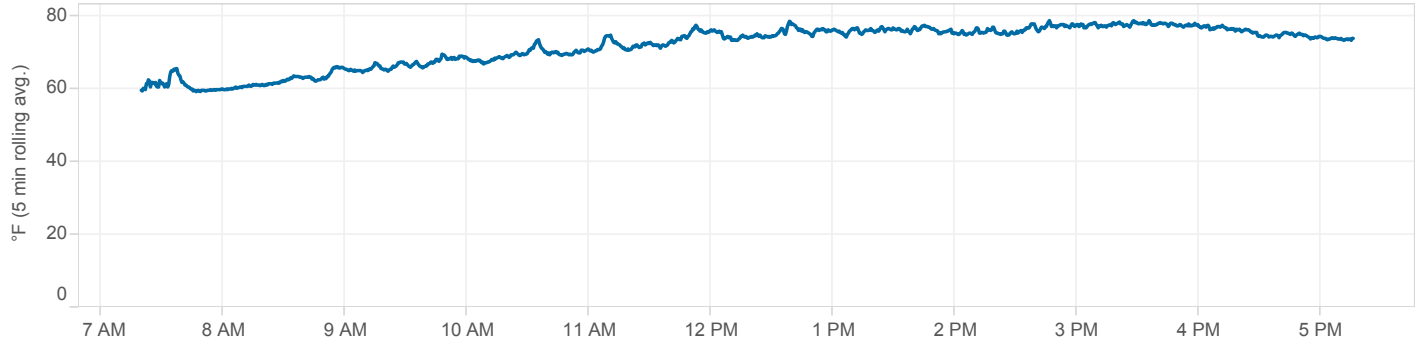


Wind Direction

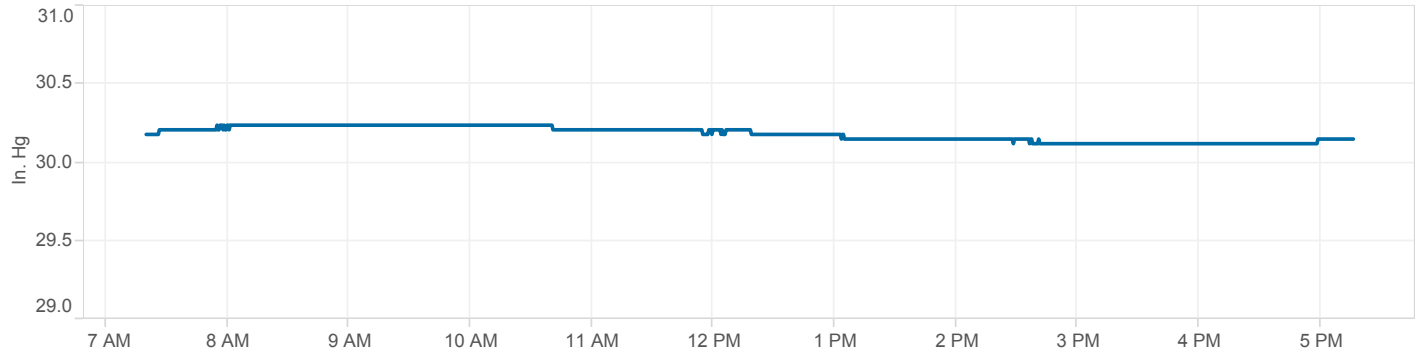


Wind direction reported in degrees where 0 degrees is equivalent to a cardinal direction of North and 180 degrees is equivalent to South

Temperature



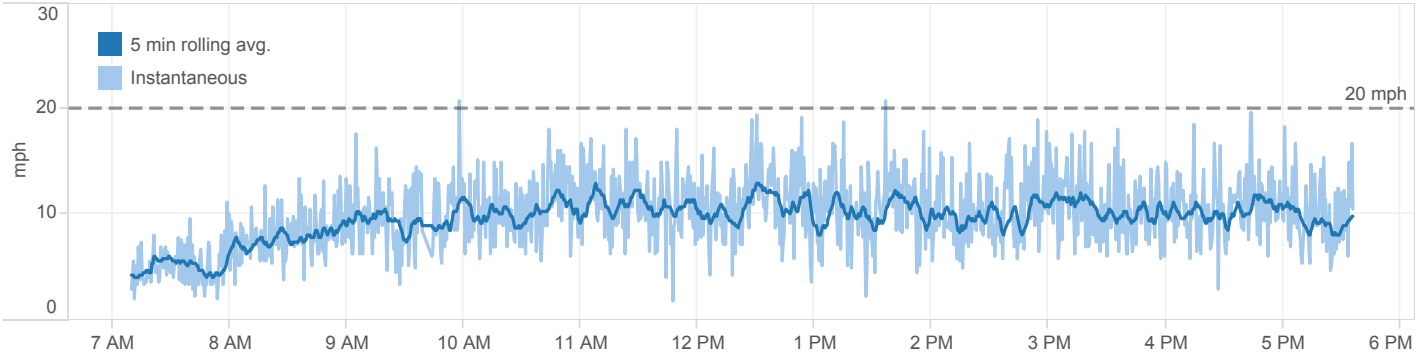
Barometric Pressure



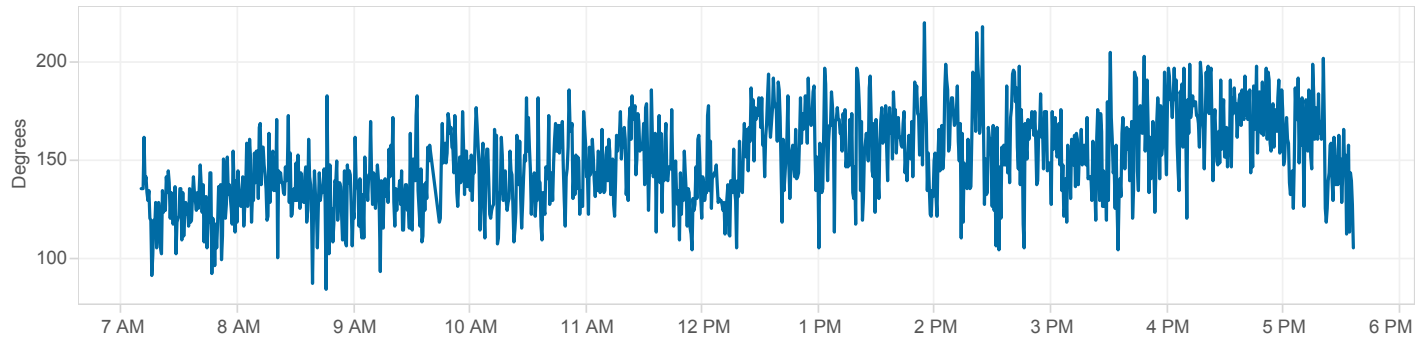
Houston, TX Meteorological Data

February 18, 2016

Wind Speed

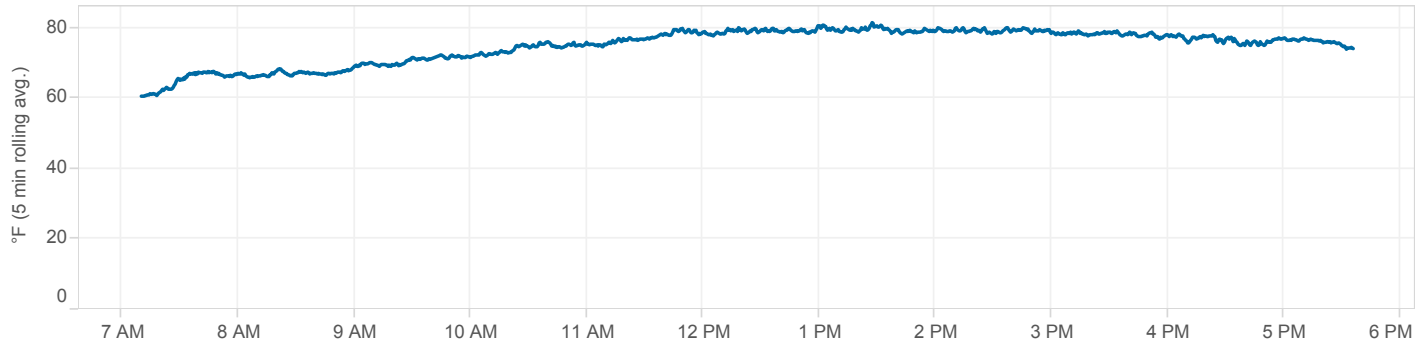


Wind Direction

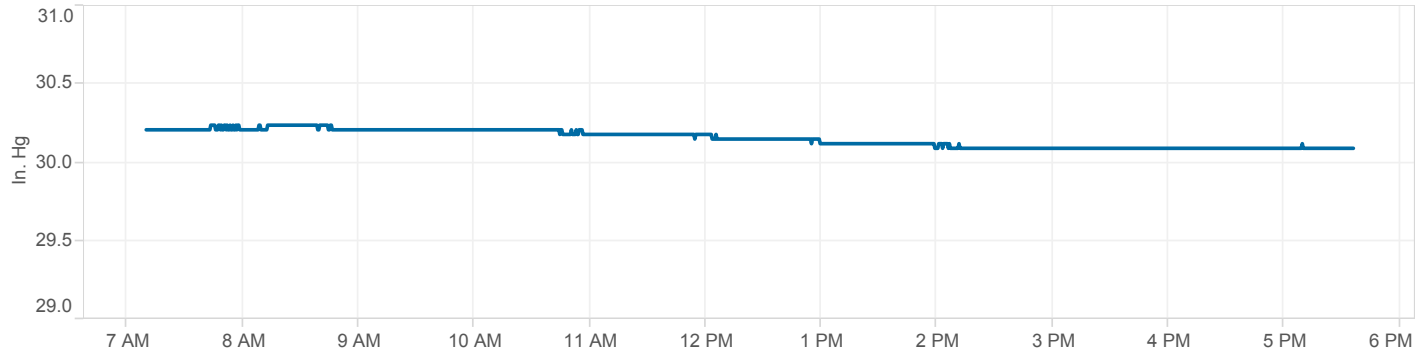


Wind direction reported in degrees where 0 degrees is equivalent to a cardinal direction of North and 180 degrees is equivalent to South

Temperature



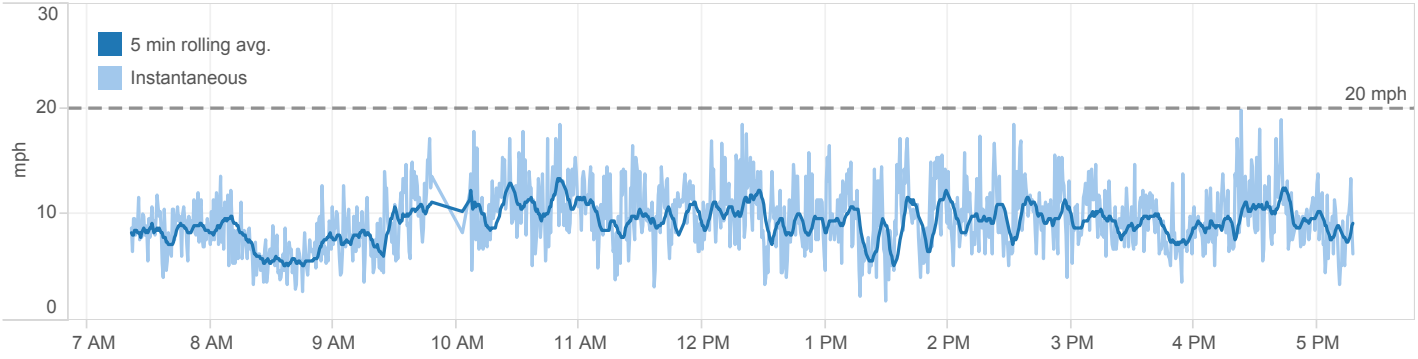
Barometric Pressure



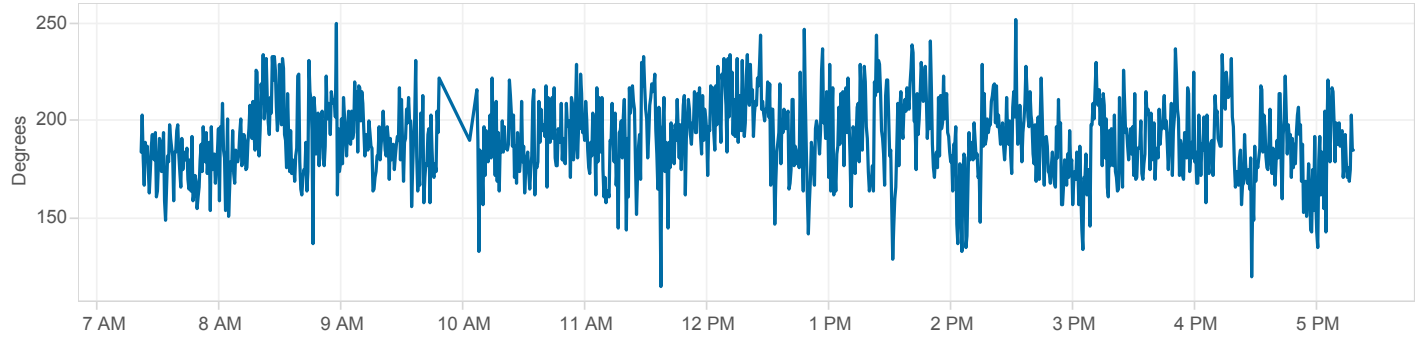
Houston, TX Meteorological Data

February 19, 2016

Wind Speed

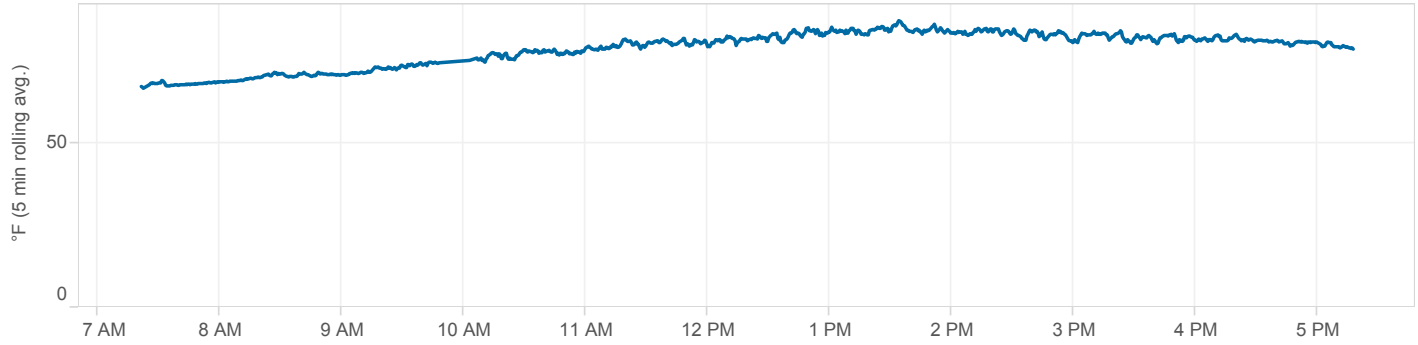


Wind Direction

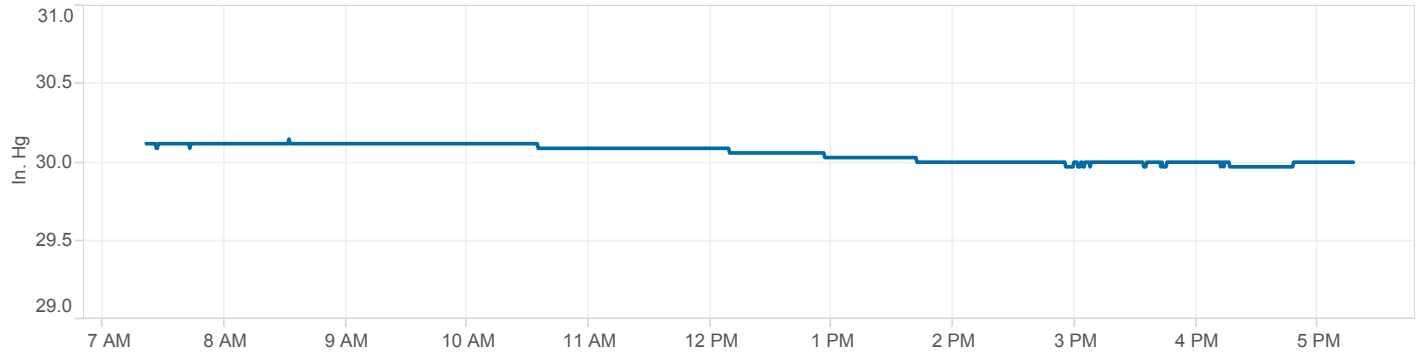


Wind direction reported in degrees where 0 degrees is equivalent to a cardinal direction of North and 180 degrees is equivalent to South

Temperature



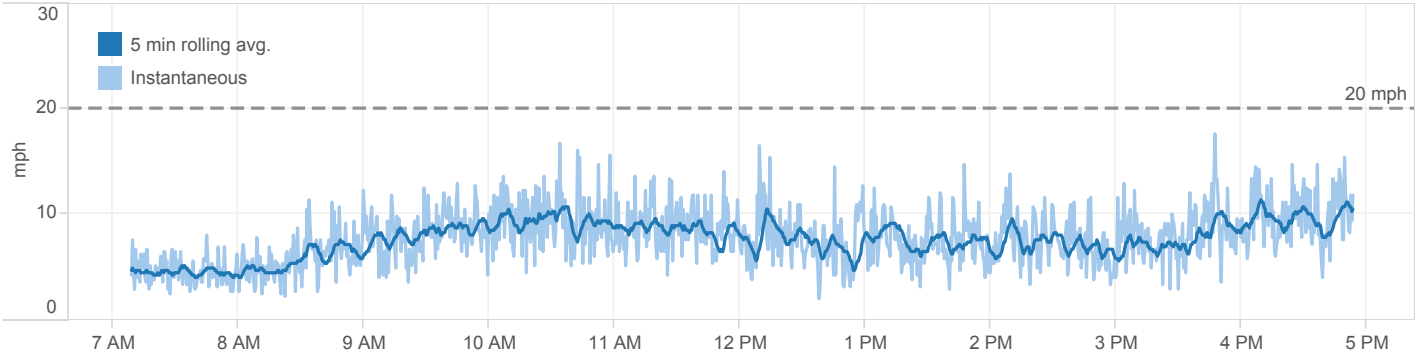
Barometric Pressure



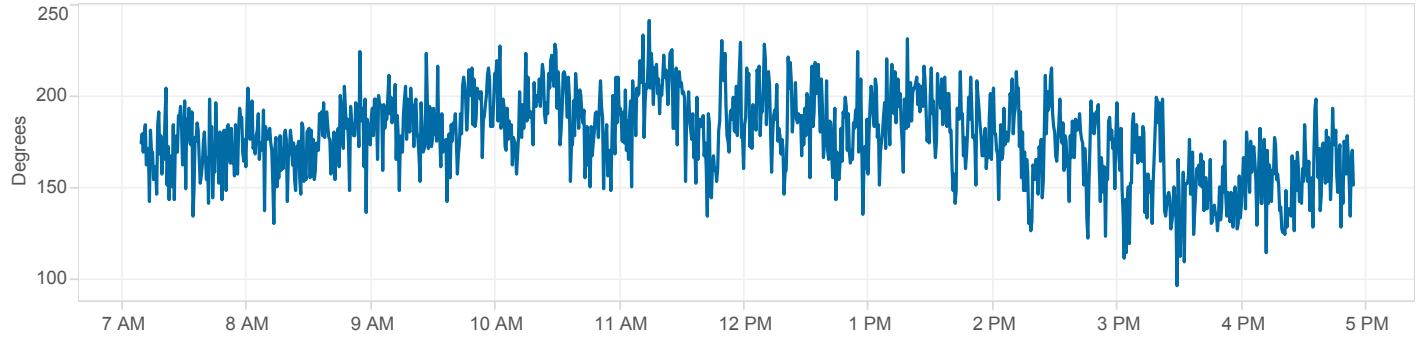
Houston, TX Meteorological Data

February 20, 2016

Wind Speed



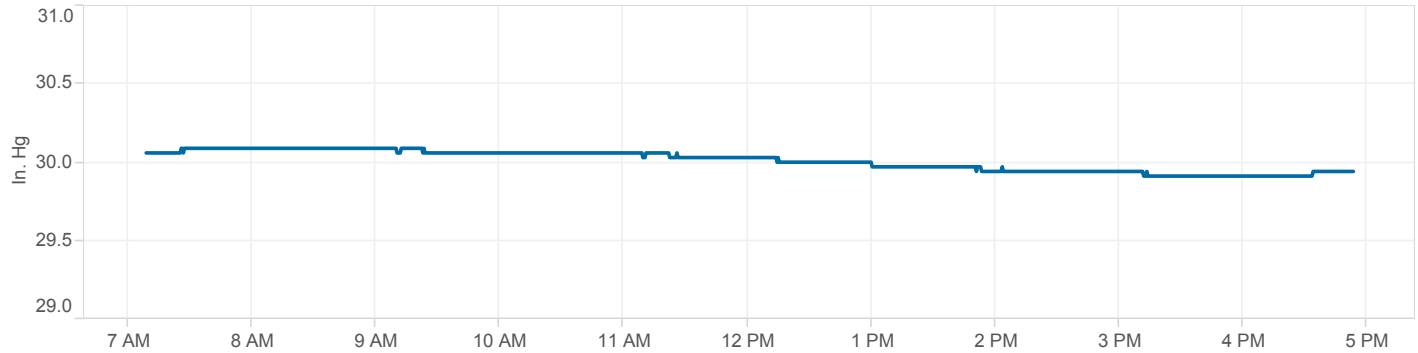
Wind Direction



Wind direction reported in degrees where 0 degrees is equivalent to a cardinal direction of North and 180 degrees is equivalent to South

Temperature

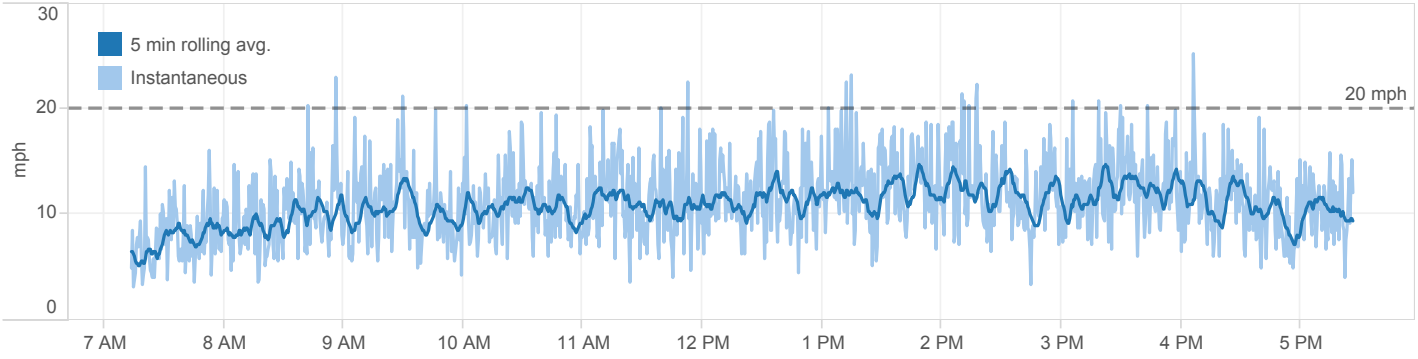
Barometric Pressure



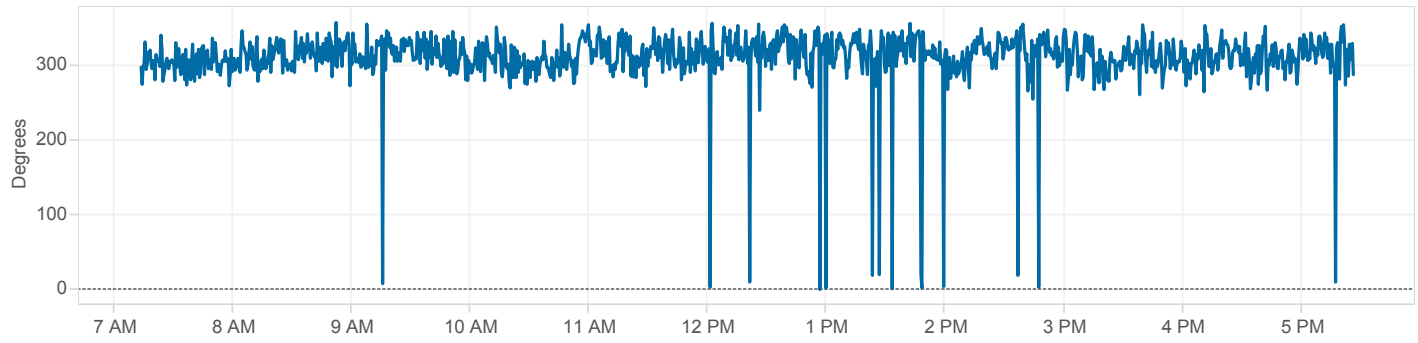
Houston, TX Meteorological Data

February 24, 2016

Wind Speed

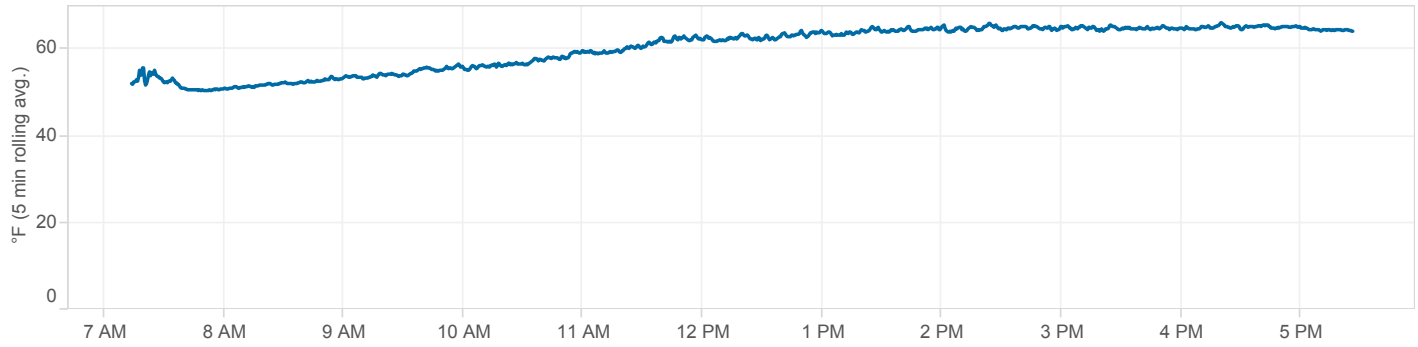


Wind Direction

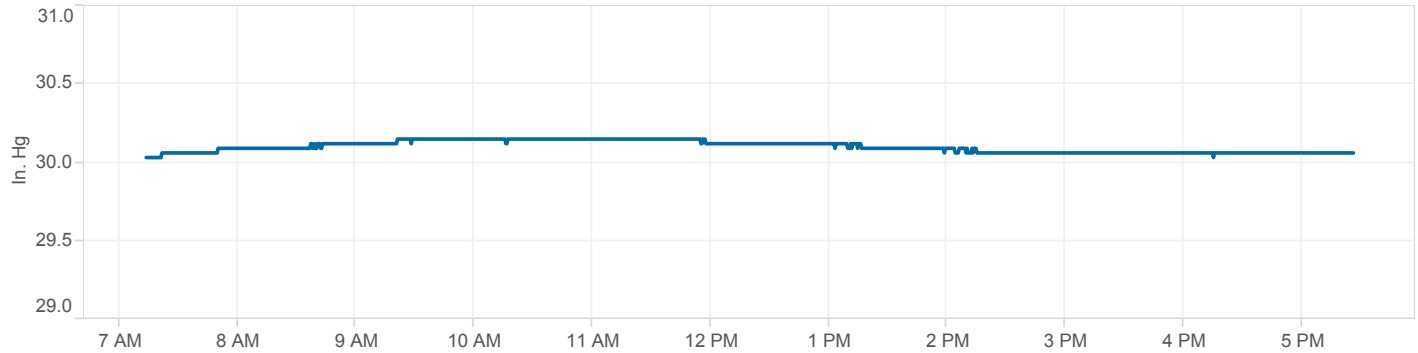


Wind direction reported in degrees where 0 degrees is equivalent to a cardinal direction of North and 180 degrees is equivalent to South

Temperature



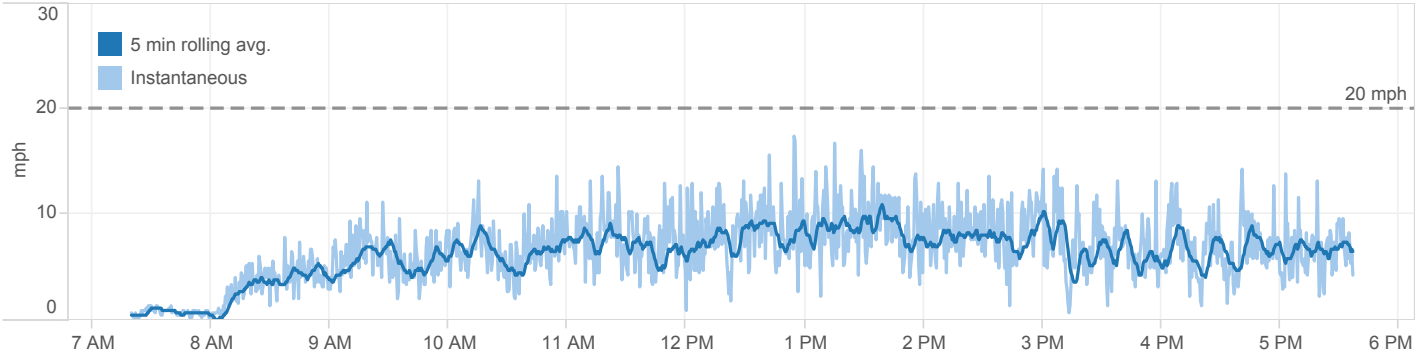
Barometric Pressure



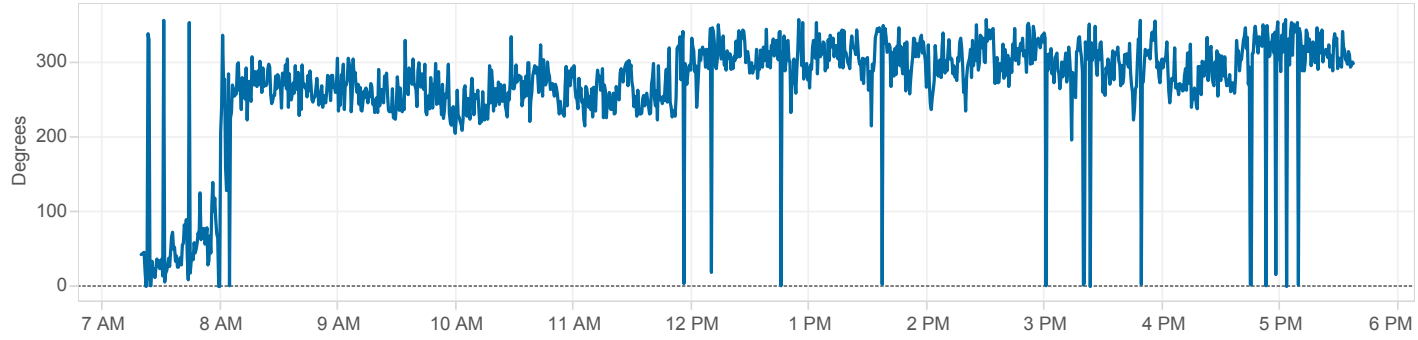
Houston, TX Meteorological Data

February 25, 2016

Wind Speed

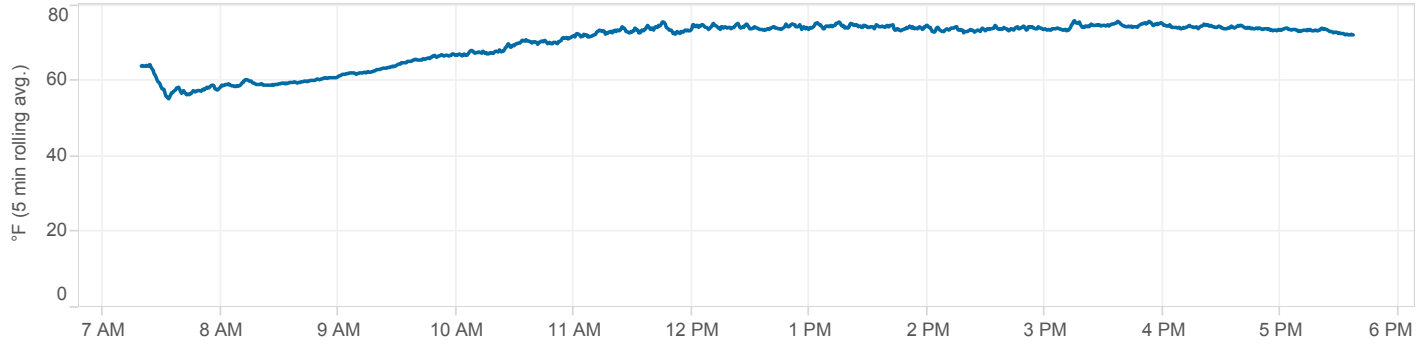


Wind Direction

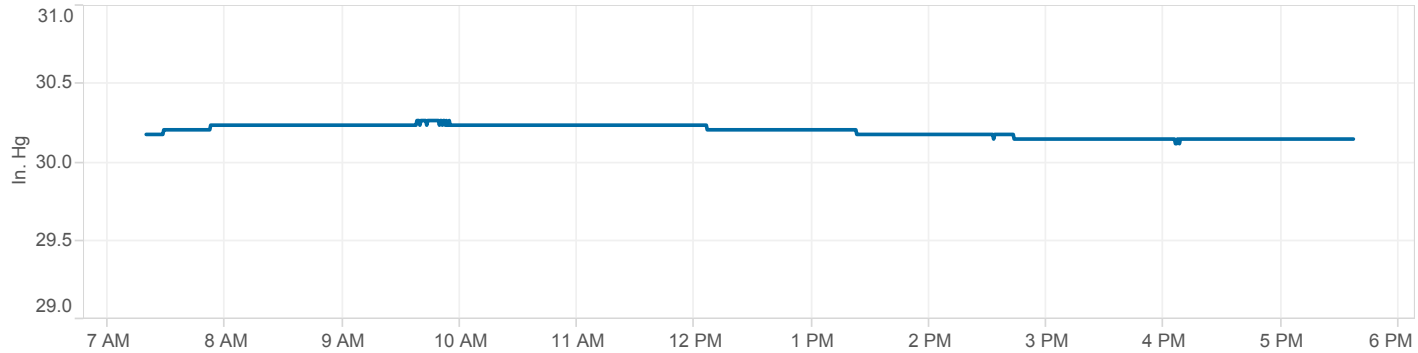


Wind direction reported in degrees where 0 degrees is equivalent to a cardinal direction of North and 180 degrees is equivalent to South

Temperature



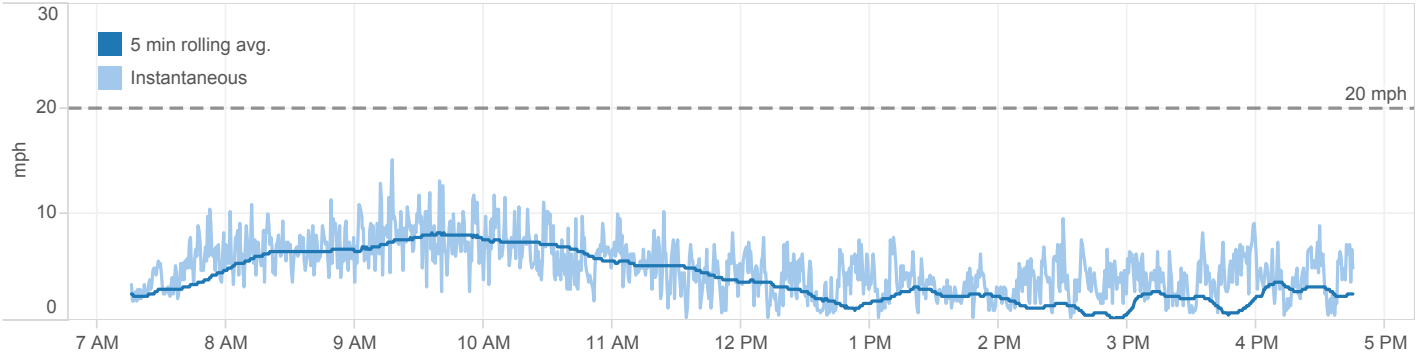
Barometric Pressure



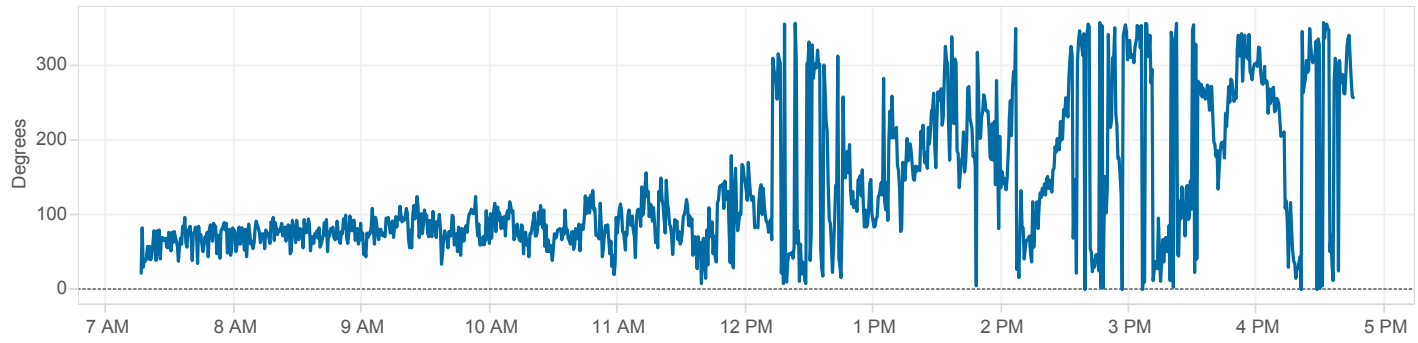
Houston, TX Meteorological Data

February 26, 2016

Wind Speed



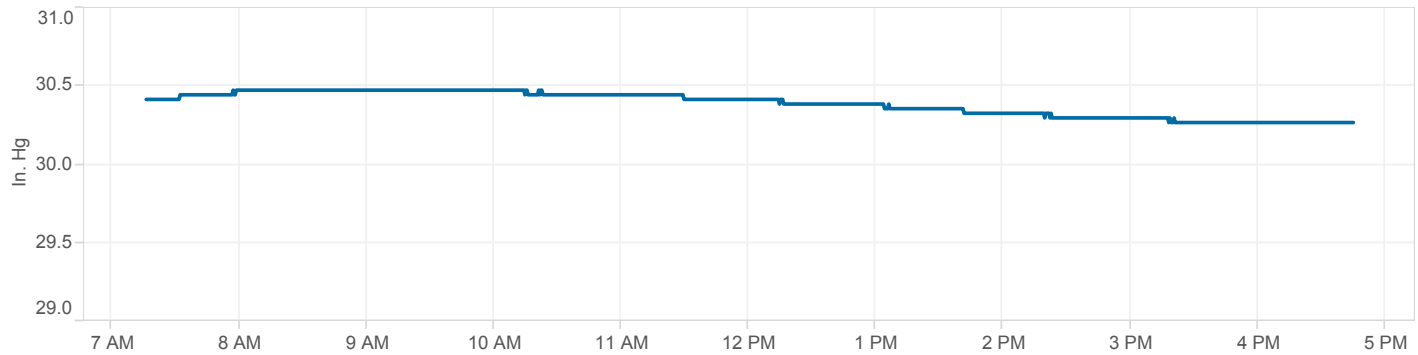
Wind Direction



Wind direction reported in degrees where 0 degrees is equivalent to a cardinal direction of North and 180 degrees is equivalent to South

Temperature

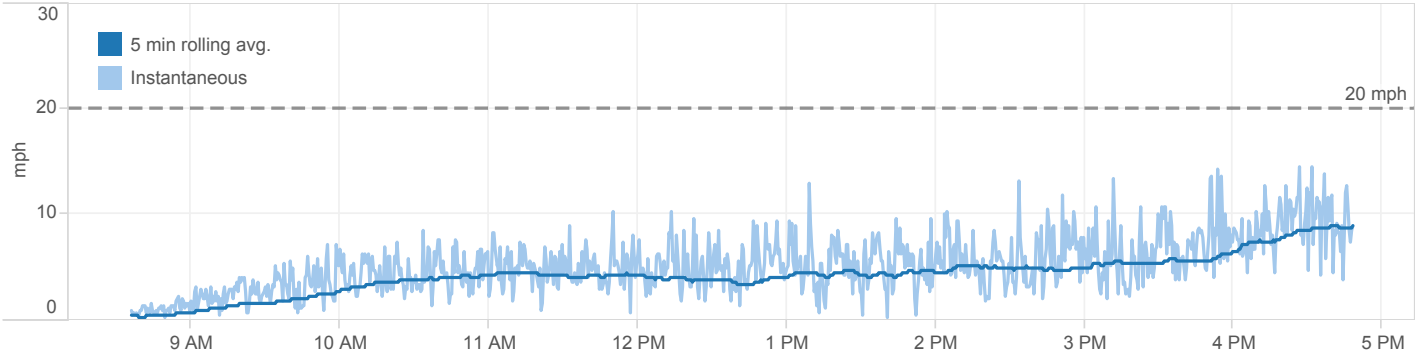
Barometric Pressure



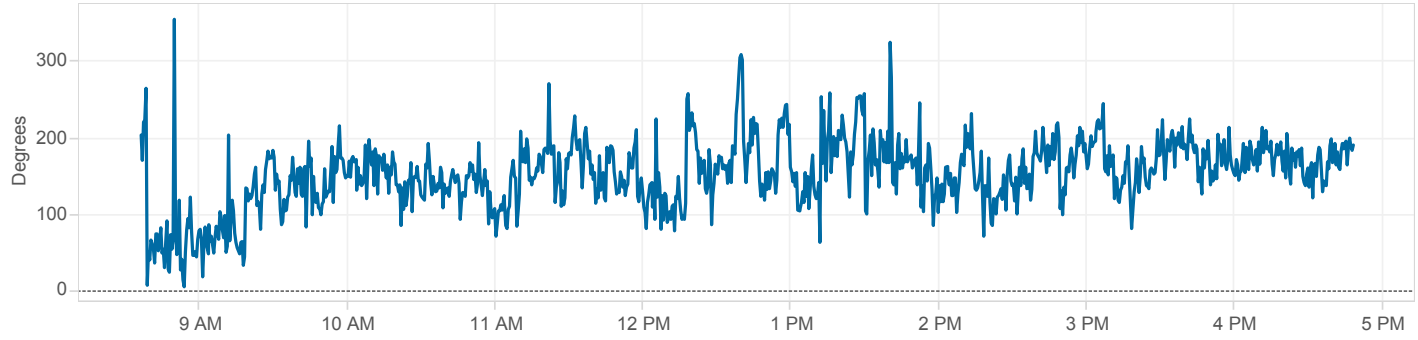
Houston, TX Meteorological Data

February 27, 2016

Wind Speed

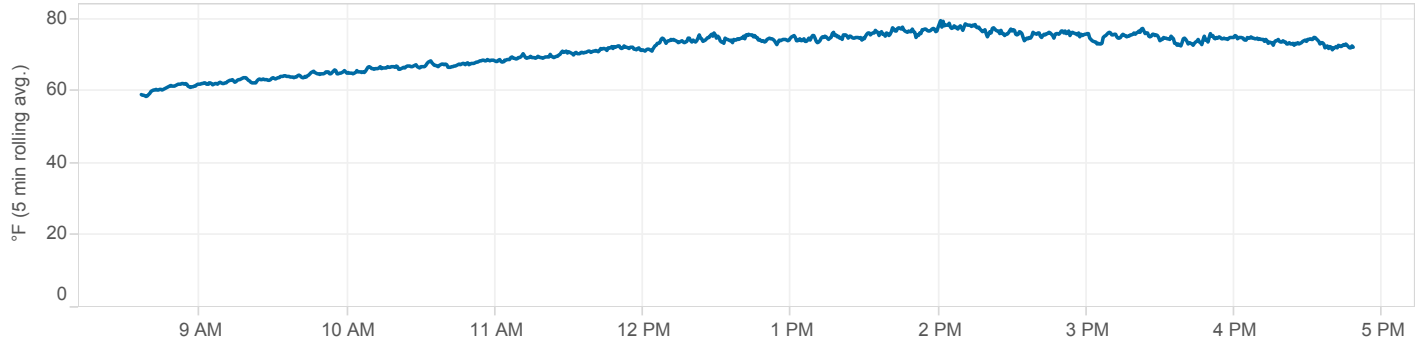


Wind Direction

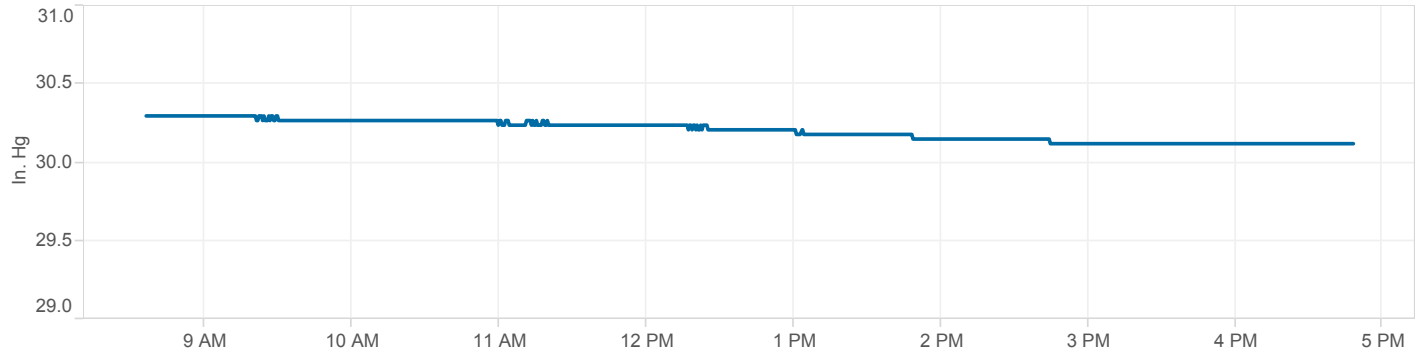


Wind direction reported in degrees where 0 degrees is equivalent to a cardinal direction of North and 180 degrees is equivalent to South

Temperature



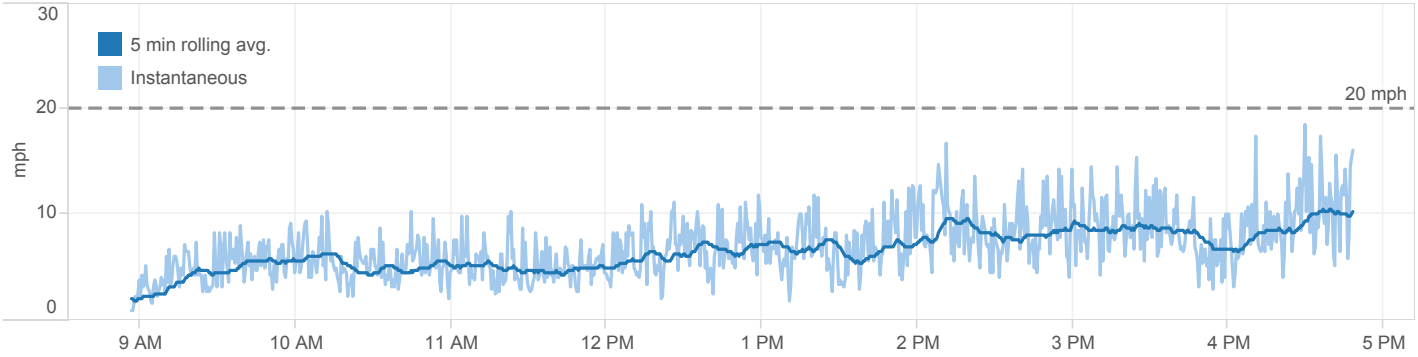
Barometric Pressure



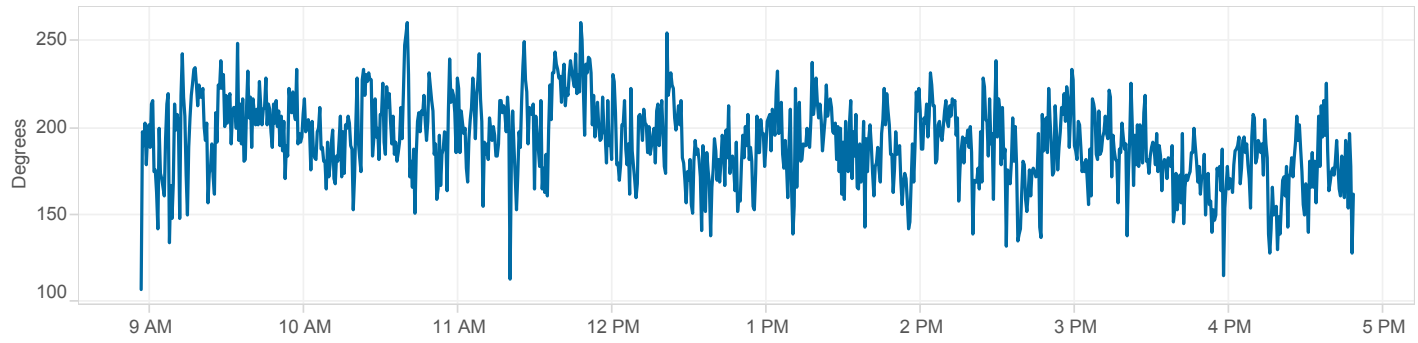
Houston, TX Meteorological Data

February 29, 2016

Wind Speed

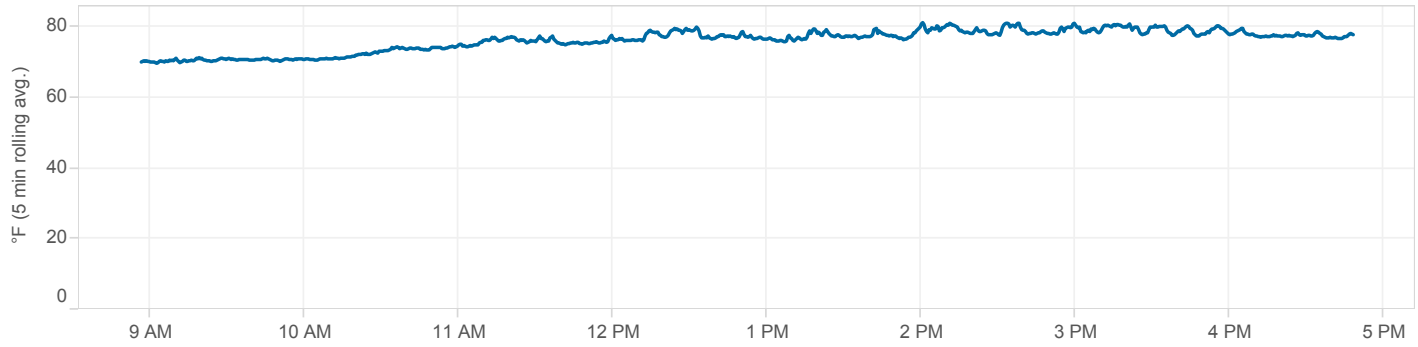


Wind Direction

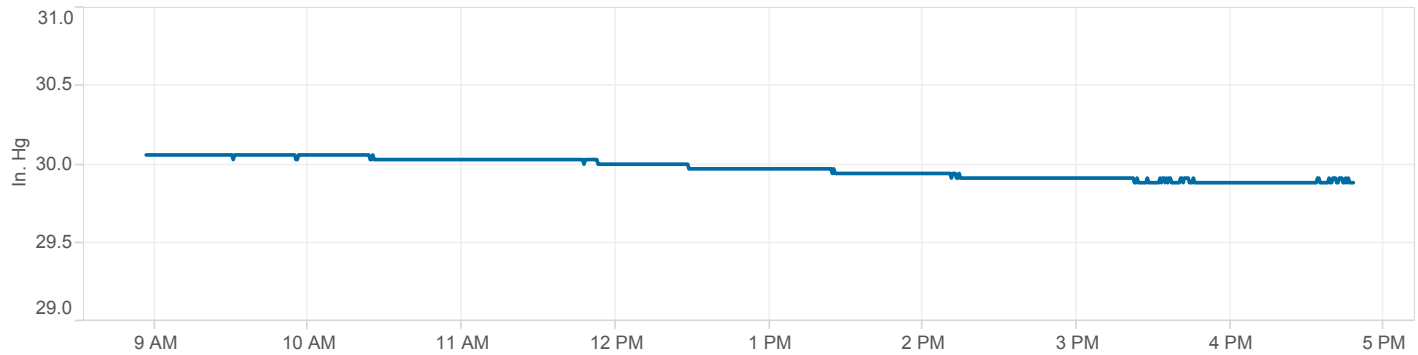


Wind direction reported in degrees where 0 degrees is equivalent to a cardinal direction of North and 180 degrees is equivalent to South

Temperature



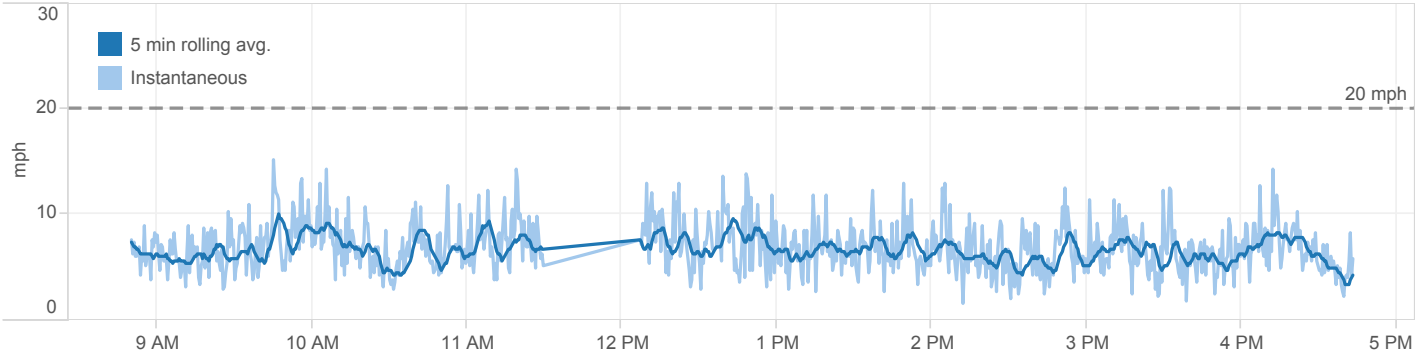
Barometric Pressure



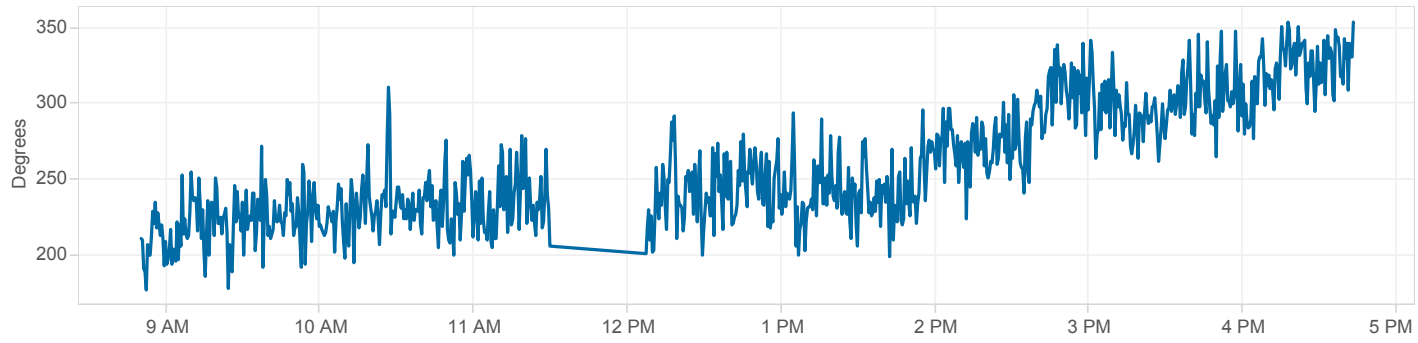
Houston, TX Meteorological Data

March 1, 2016

Wind Speed

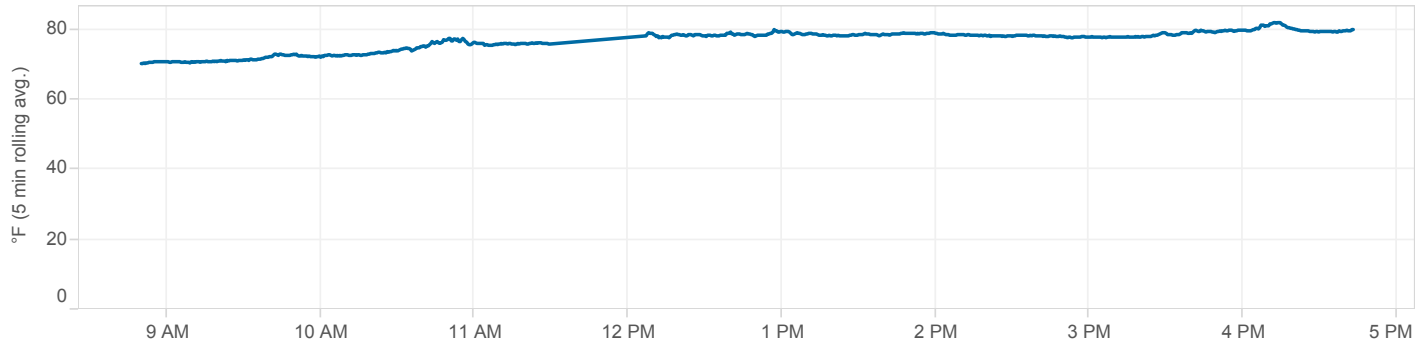


Wind Direction

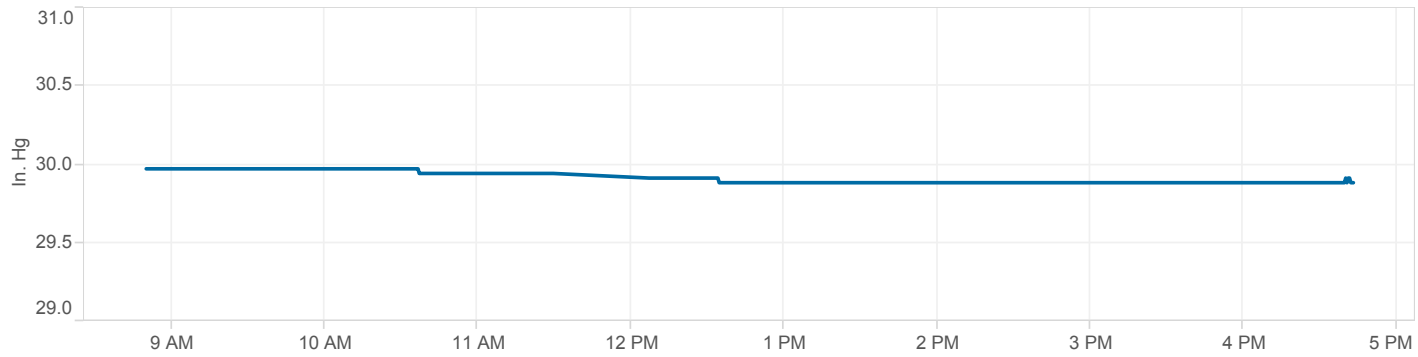


Wind direction reported in degrees where 0 degrees is equivalent to a cardinal direction of North and 180 degrees is equivalent to South

Temperature



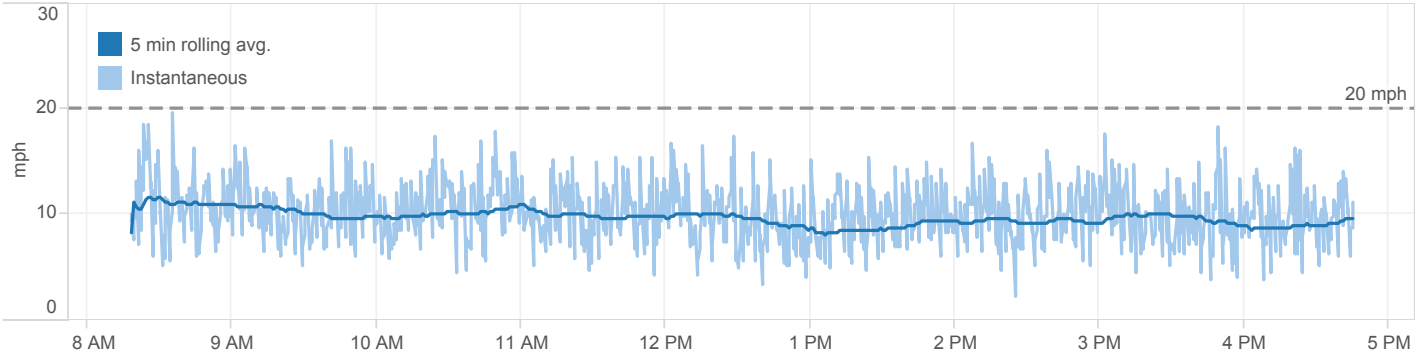
Barometric Pressure



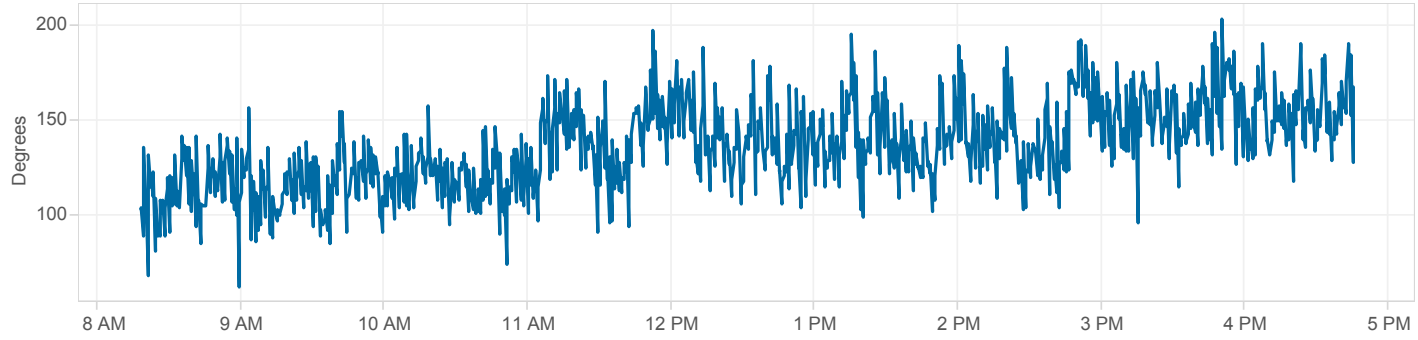
Houston, TX Meteorological Data

March 2, 2016

Wind Speed

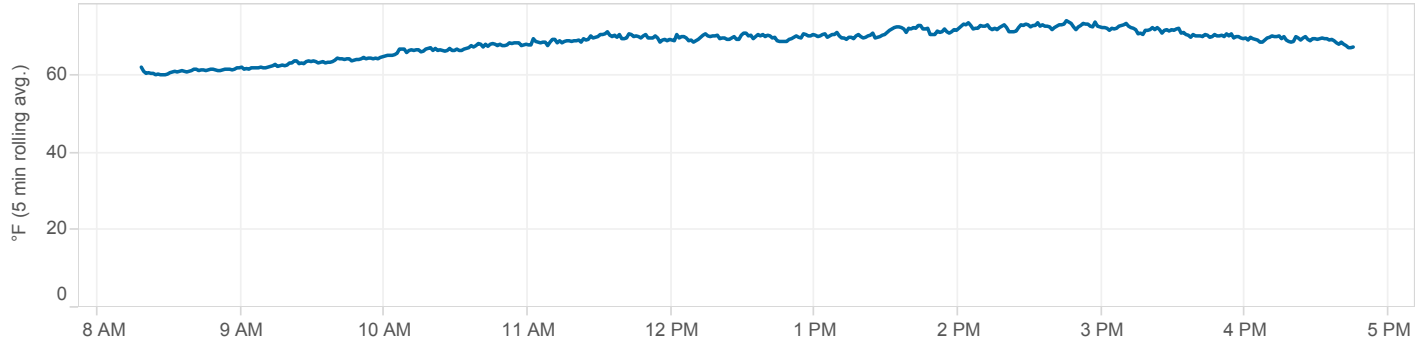


Wind Direction

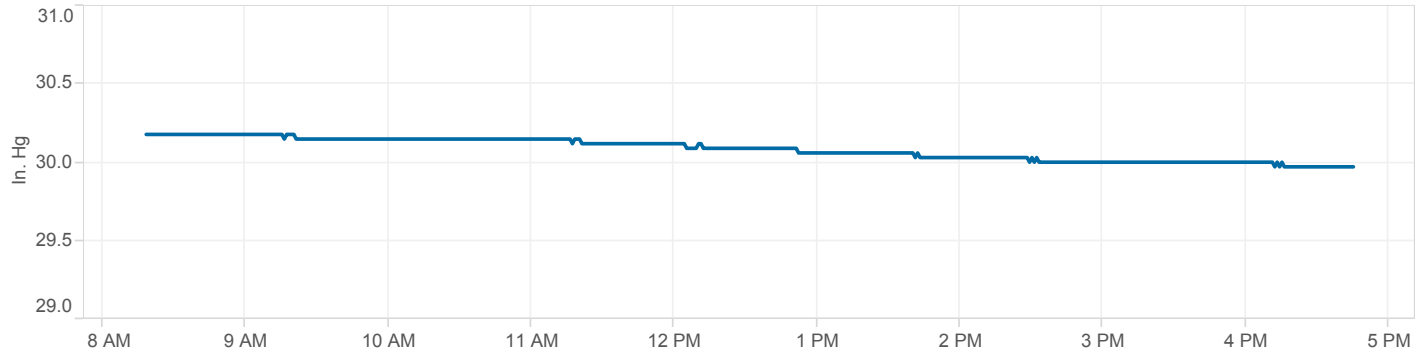


Wind direction reported in degrees where 0 degrees is equivalent to a cardinal direction of North and 180 degrees is equivalent to South

Temperature



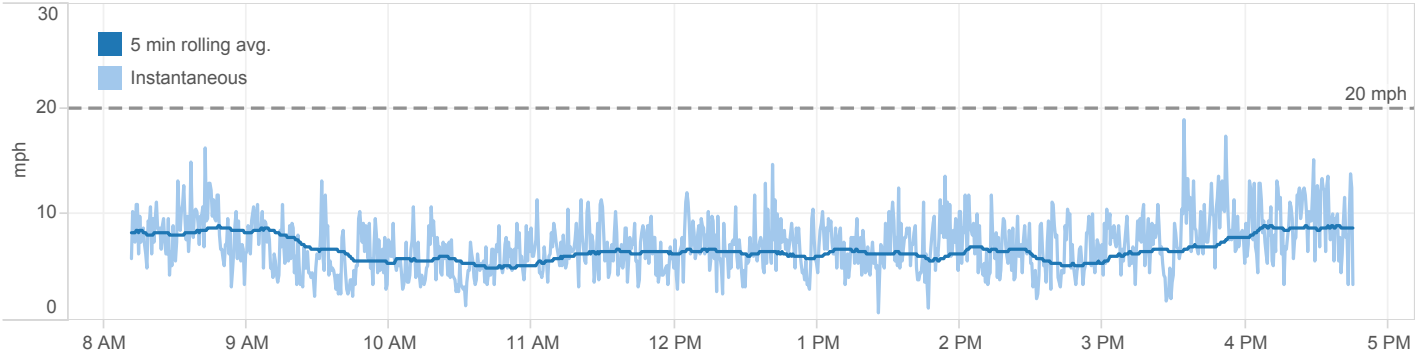
Barometric Pressure



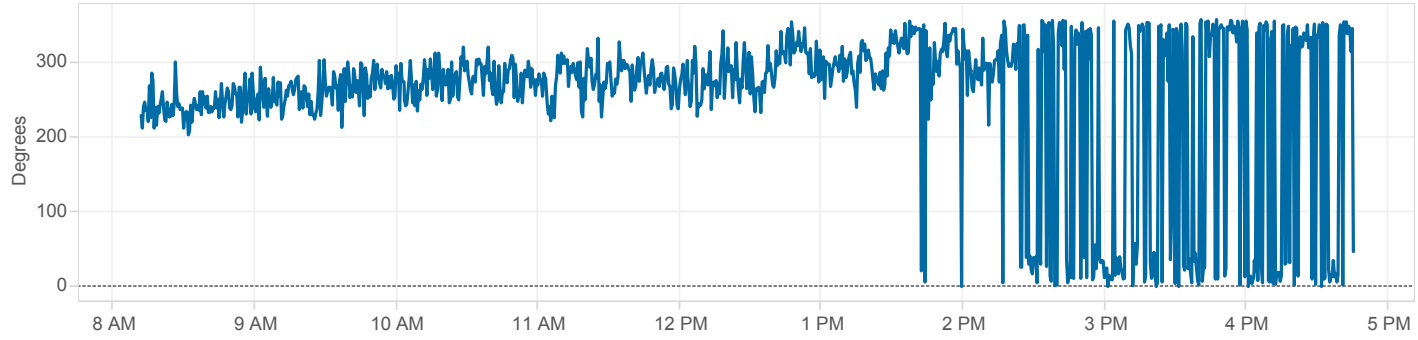
Houston, TX Meteorological Data

March 3, 2016

Wind Speed

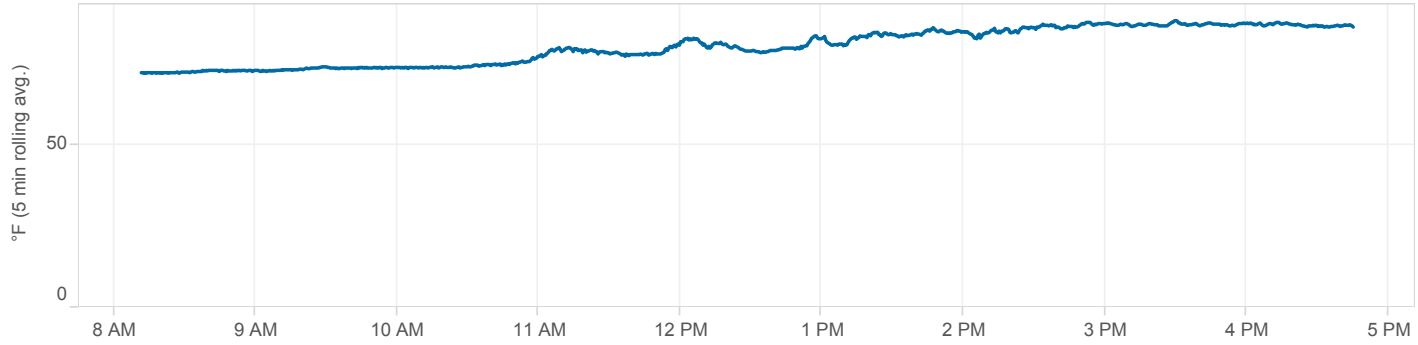


Wind Direction

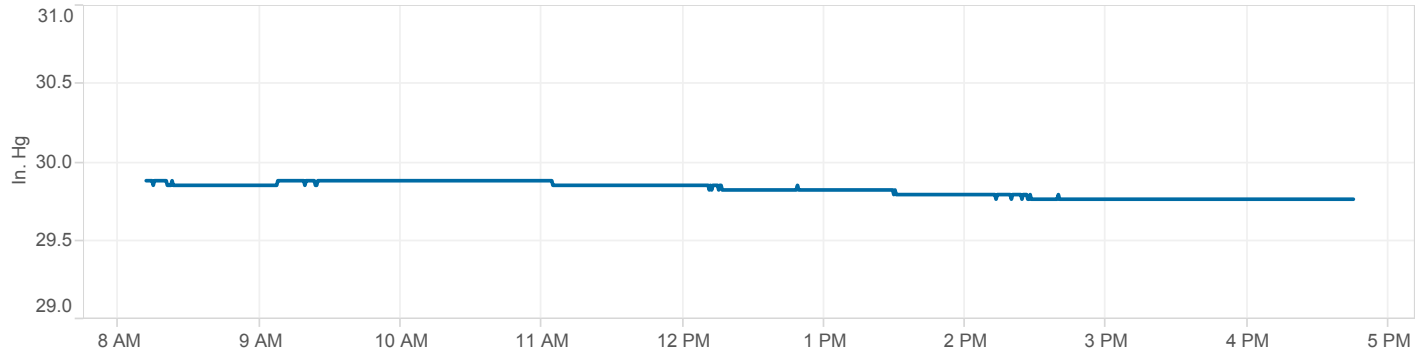


Wind direction reported in degrees where 0 degrees is equivalent to a cardinal direction of North and 180 degrees is equivalent to South

Temperature



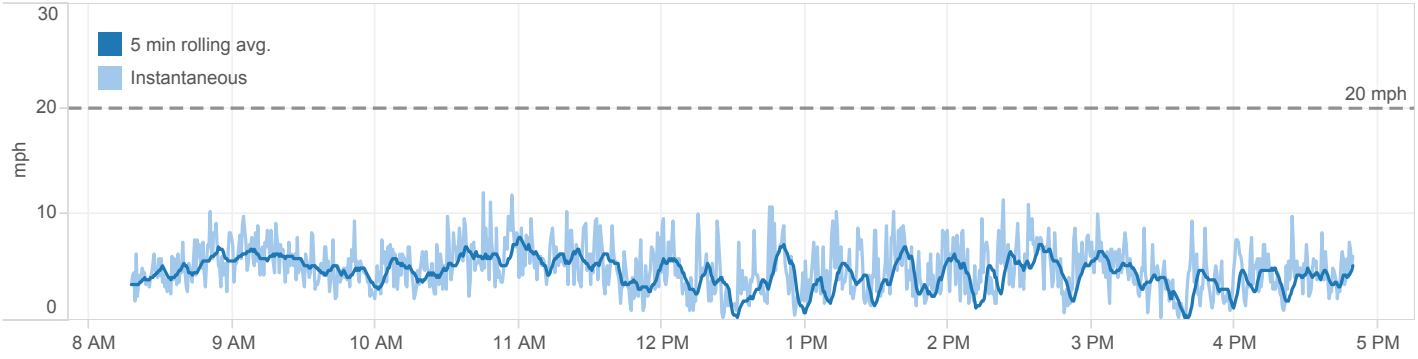
Barometric Pressure



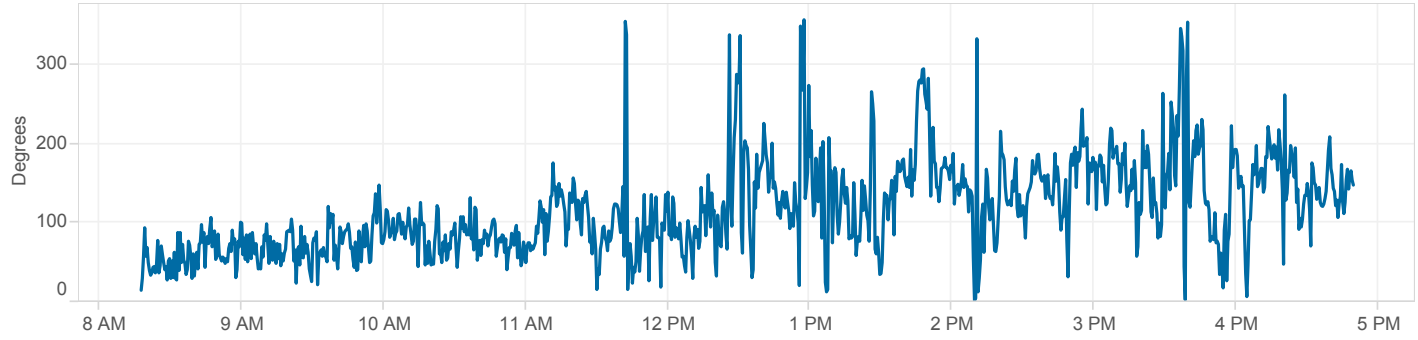
Houston, TX Meteorological Data

March 4, 2016

Wind Speed

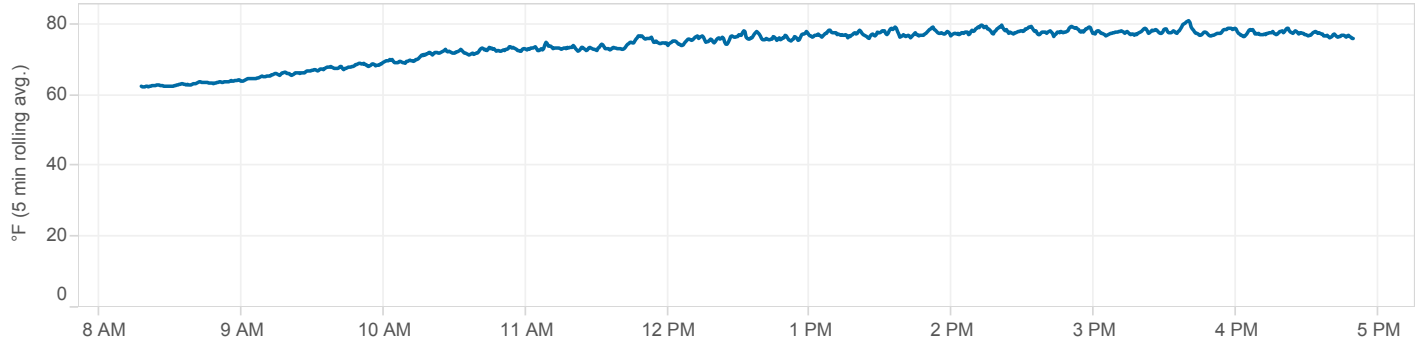


Wind Direction

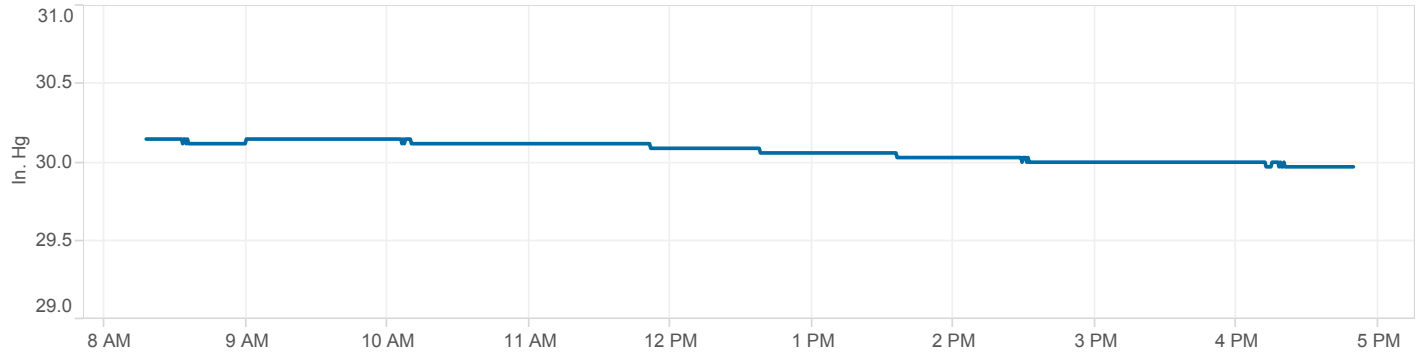


Wind direction reported in degrees where 0 degrees is equivalent to a cardinal direction of North and 180 degrees is equivalent to South

Temperature



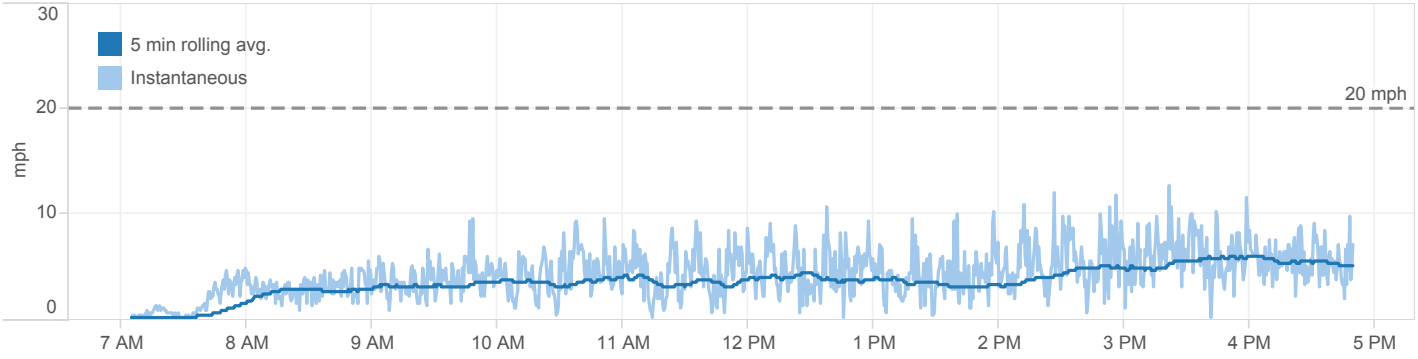
Barometric Pressure



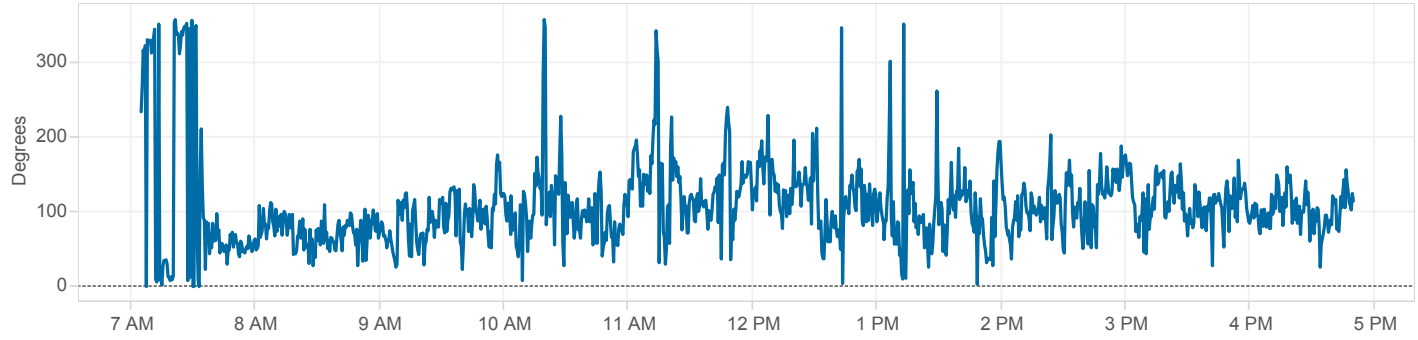
Houston, TX Meteorological Data

March 5, 2016

Wind Speed



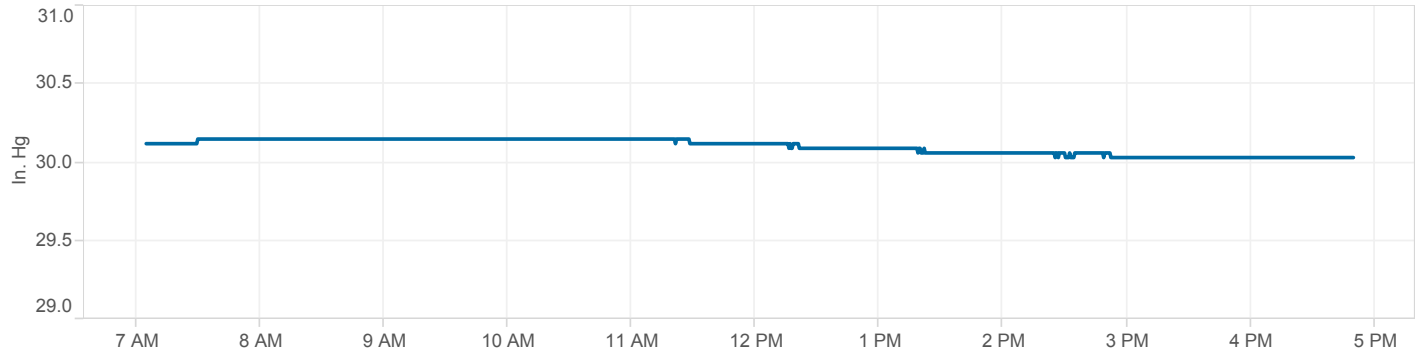
Wind Direction



Wind direction reported in degrees where 0 degrees is equivalent to a cardinal direction of North and 180 degrees is equivalent to South

Temperature

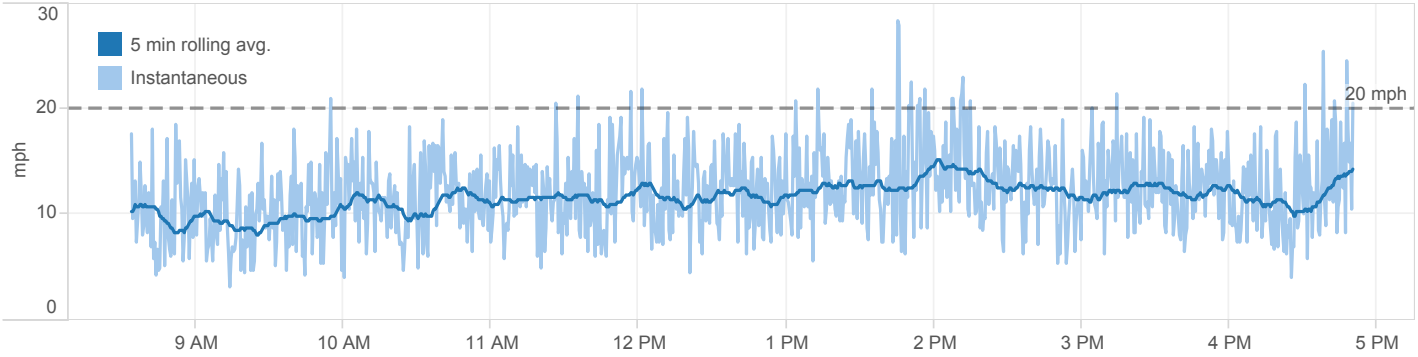
Barometric Pressure



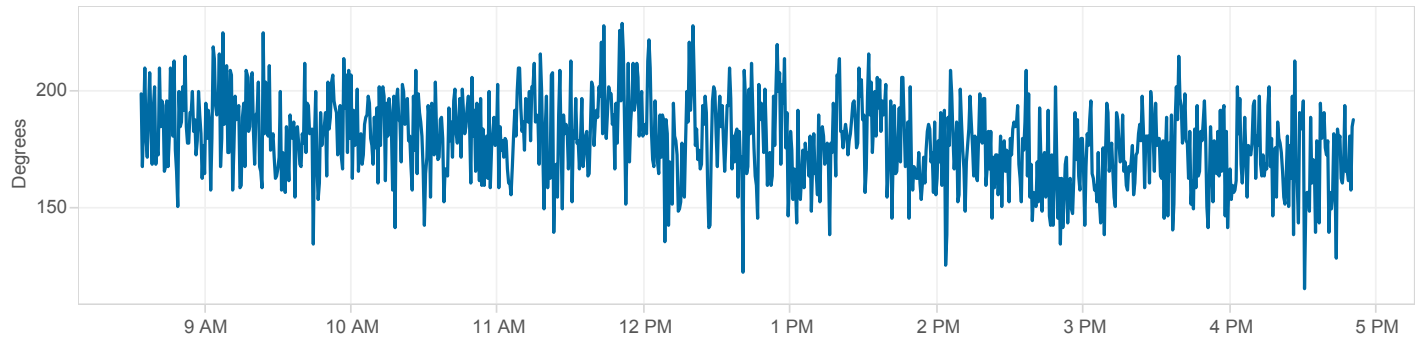
Houston, TX Meteorological Data

March 7, 2016

Wind Speed

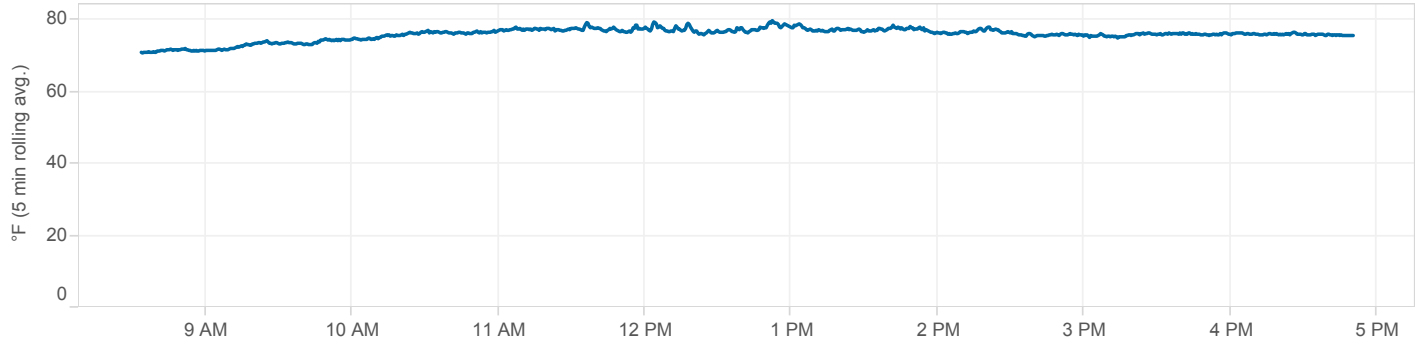


Wind Direction

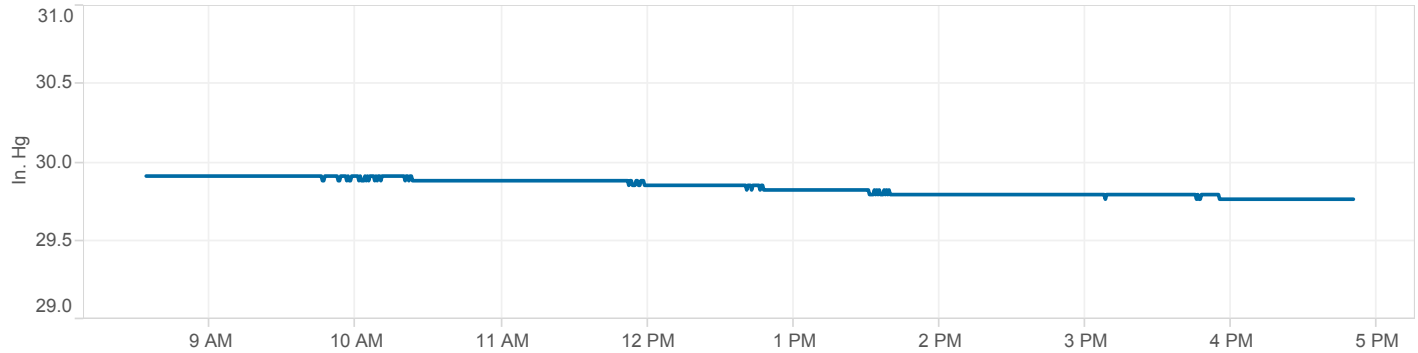


Wind direction reported in degrees where 0 degrees is equivalent to a cardinal direction of North and 180 degrees is equivalent to South

Temperature



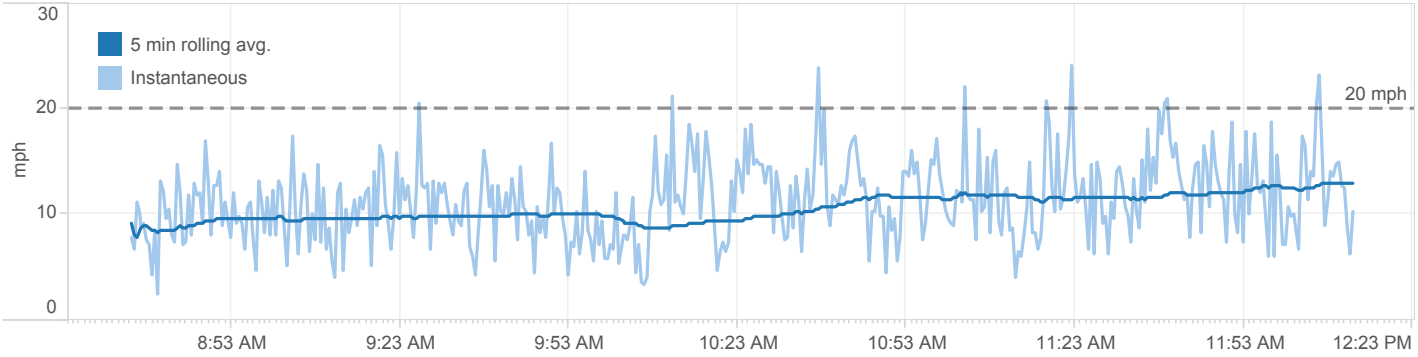
Barometric Pressure



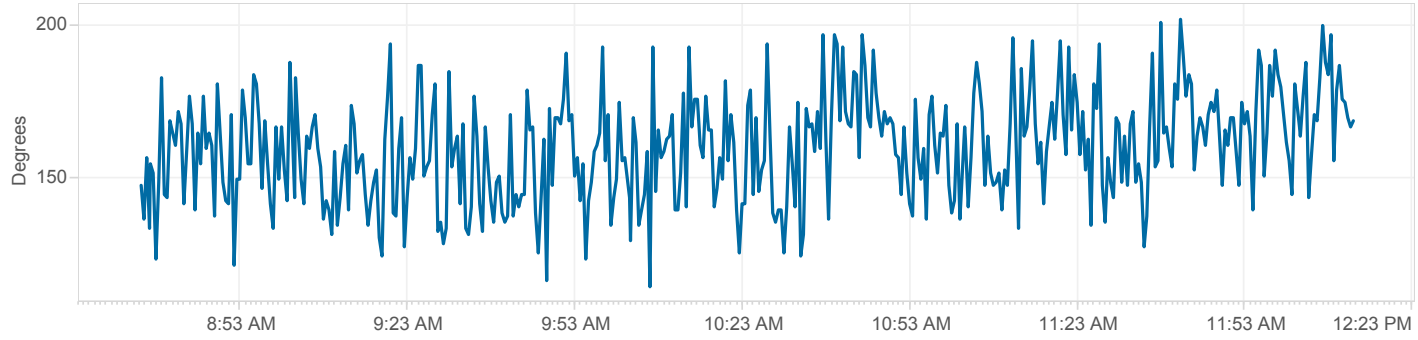
Houston, TX Meteorological Data

March 8, 2016

Wind Speed

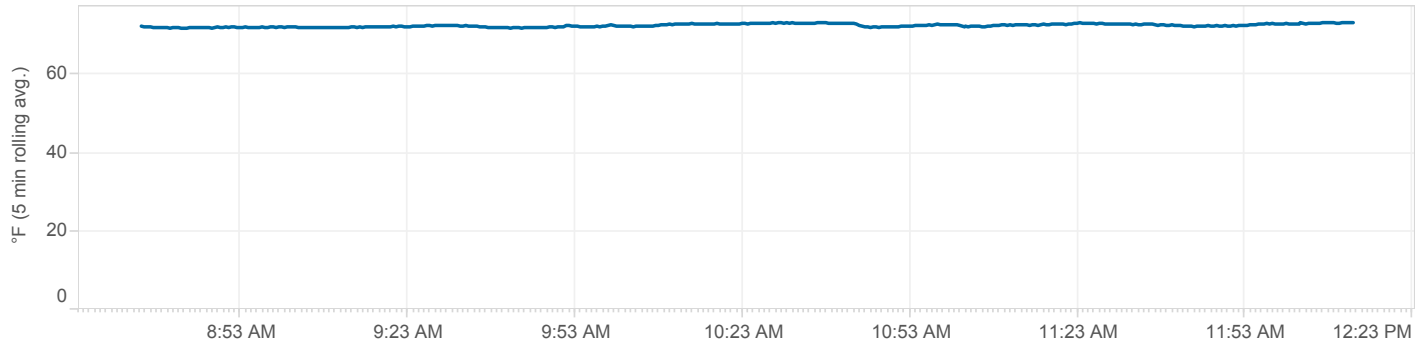


Wind Direction

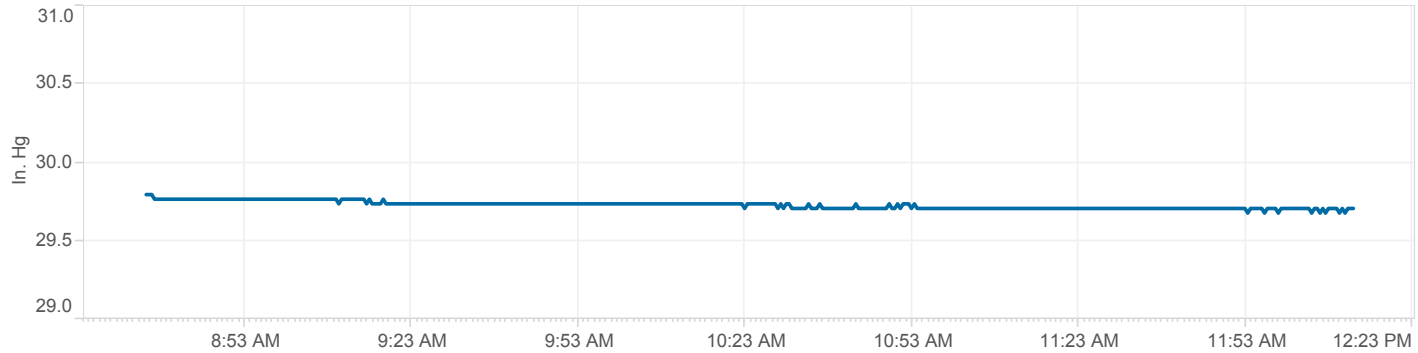


Wind direction reported in degrees where 0 degrees is equivalent to a cardinal direction of North and 180 degrees is equivalent to South

Temperature



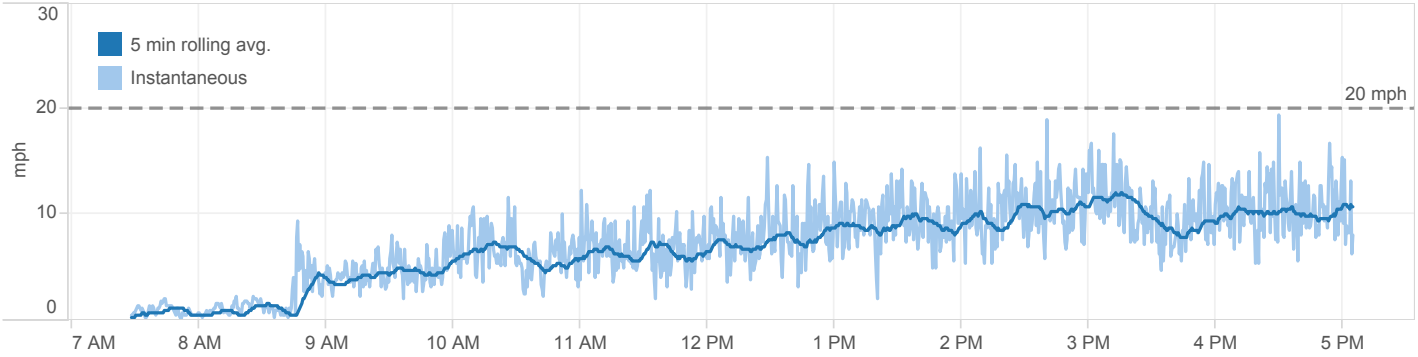
Barometric Pressure



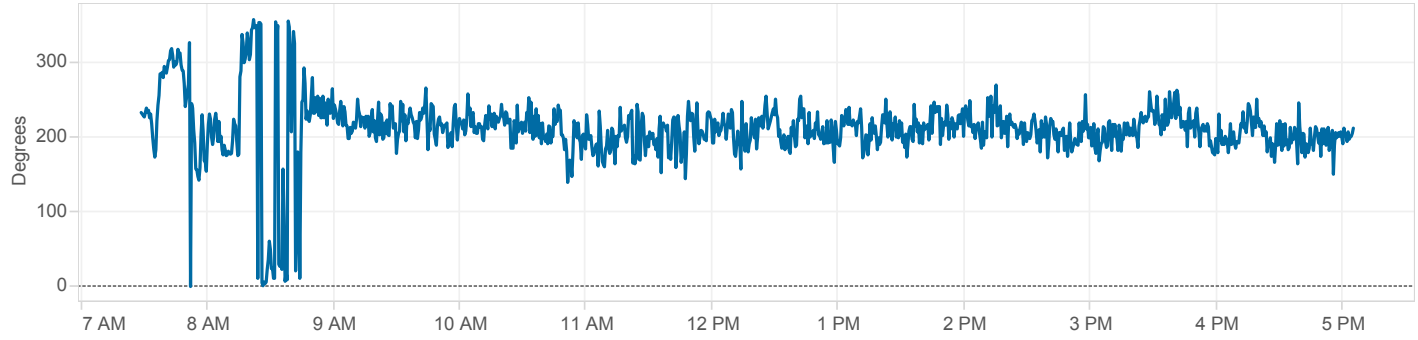
Houston, TX Meteorological Data

March 14, 2016

Wind Speed

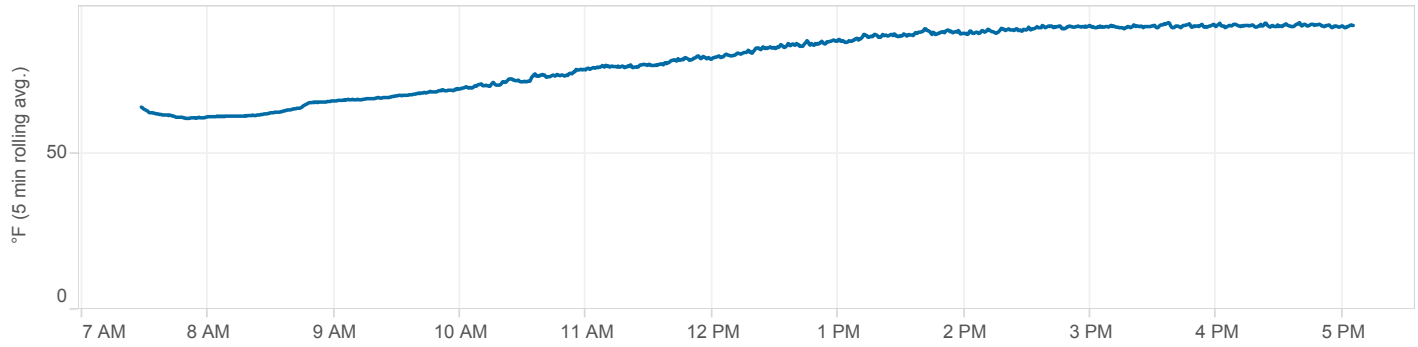


Wind Direction

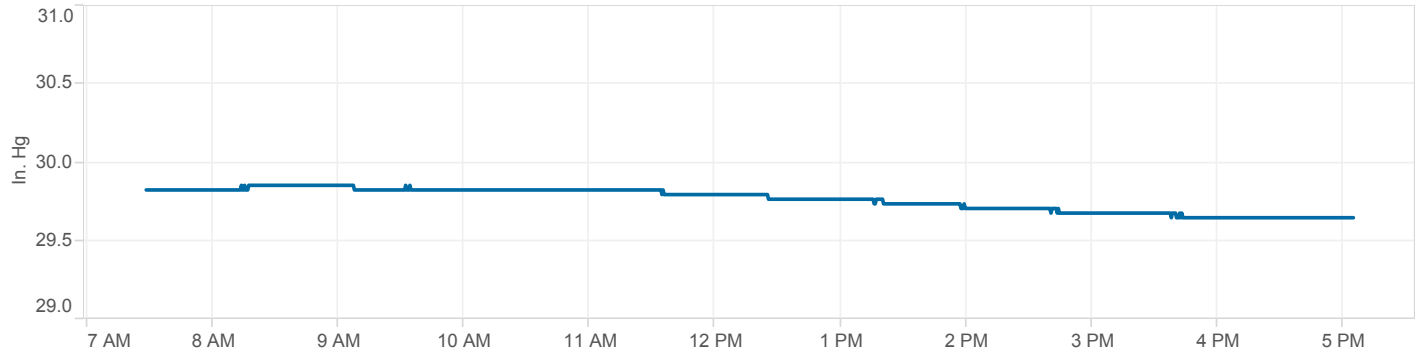


Wind direction reported in degrees where 0 degrees is equivalent to a cardinal direction of North and 180 degrees is equivalent to South

Temperature



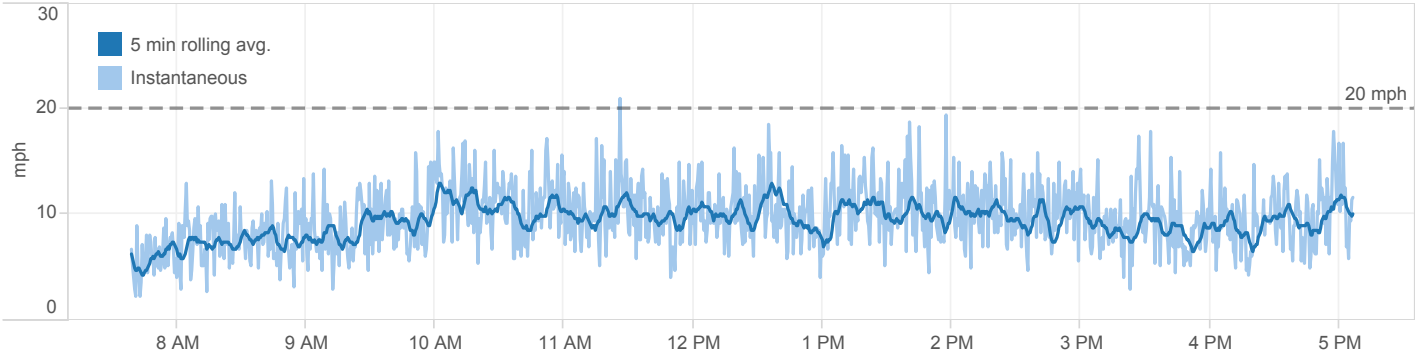
Barometric Pressure



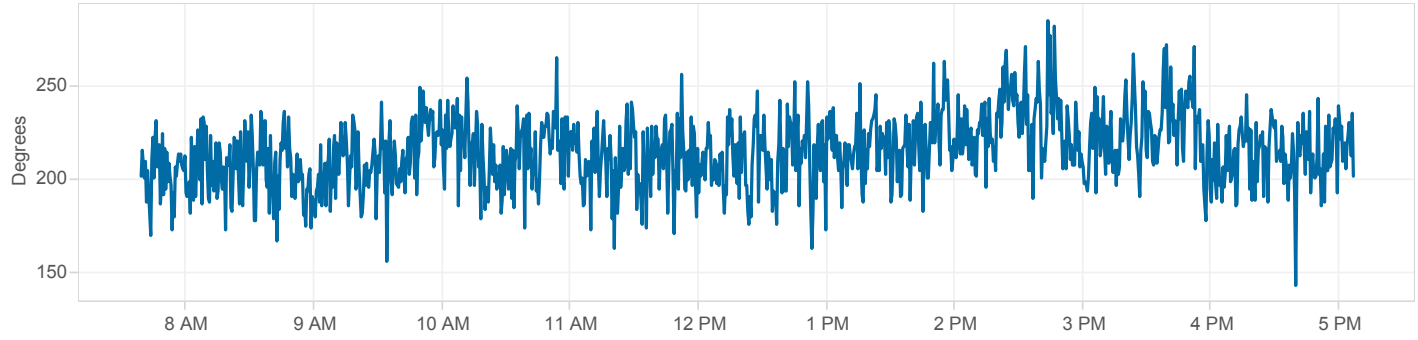
Houston, TX Meteorological Data

March 15, 2016

Wind Speed

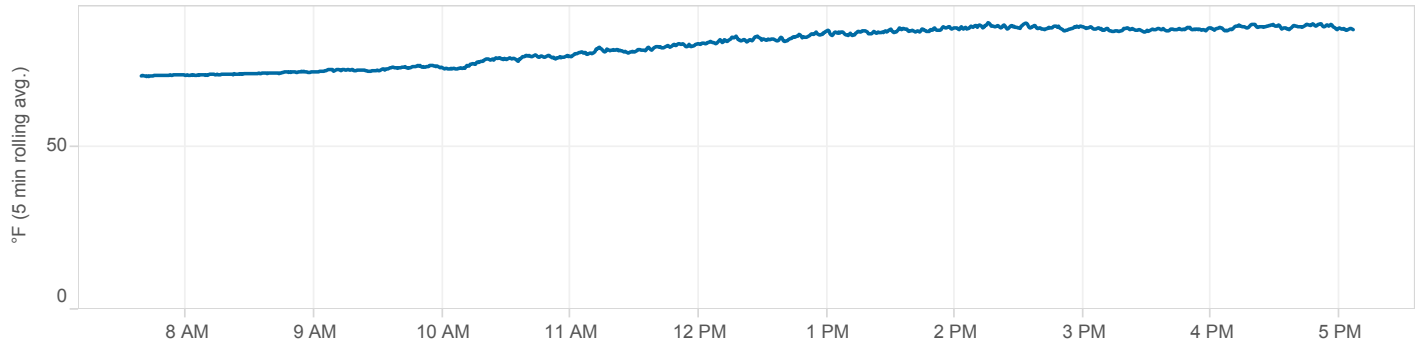


Wind Direction

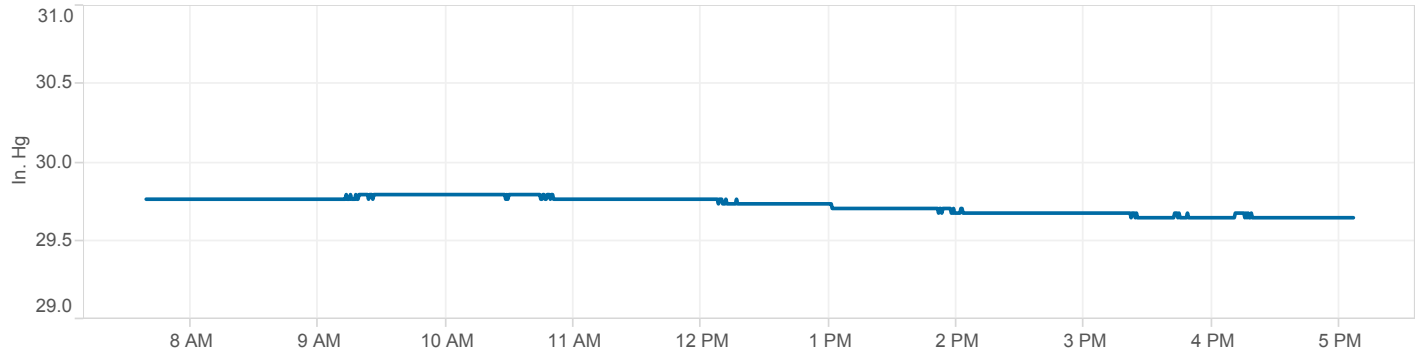


Wind direction reported in degrees where 0 degrees is equivalent to a cardinal direction of North and 180 degrees is equivalent to South

Temperature



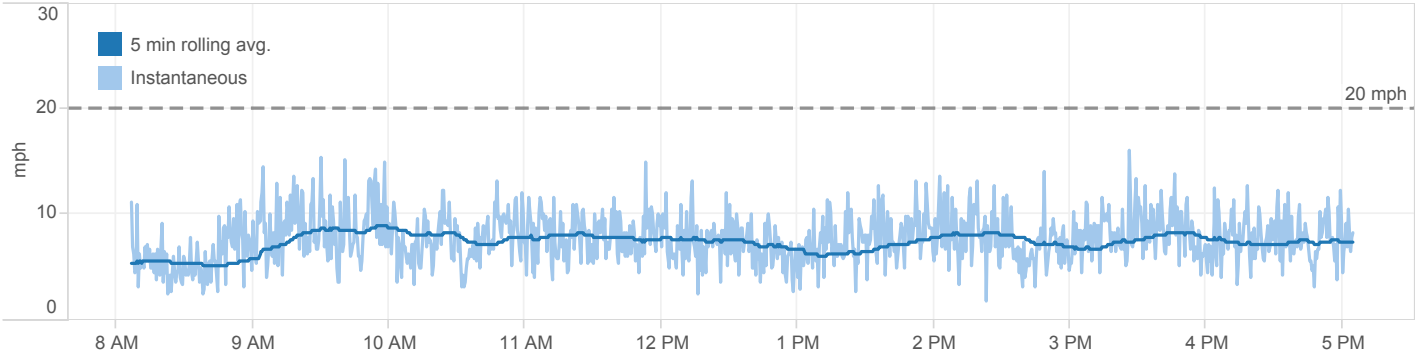
Barometric Pressure



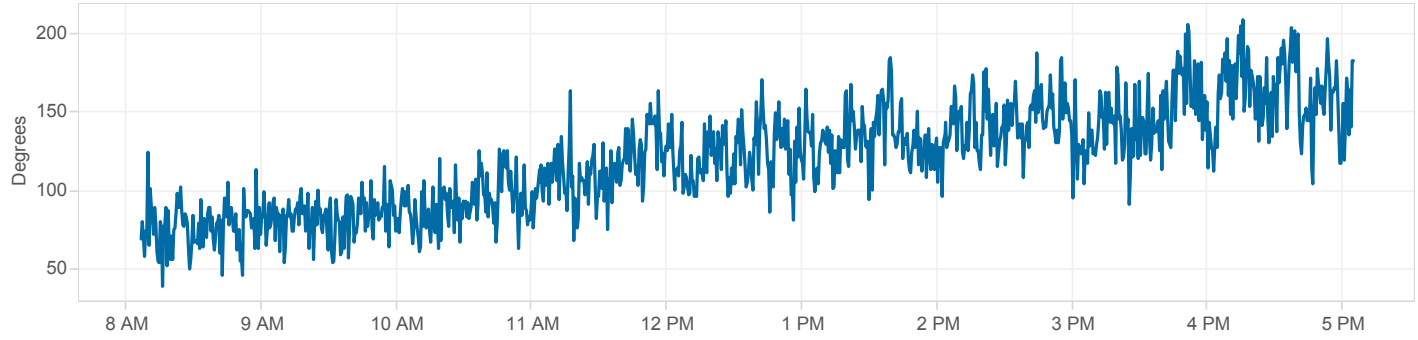
Houston, TX Meteorological Data

March 16, 2016

Wind Speed

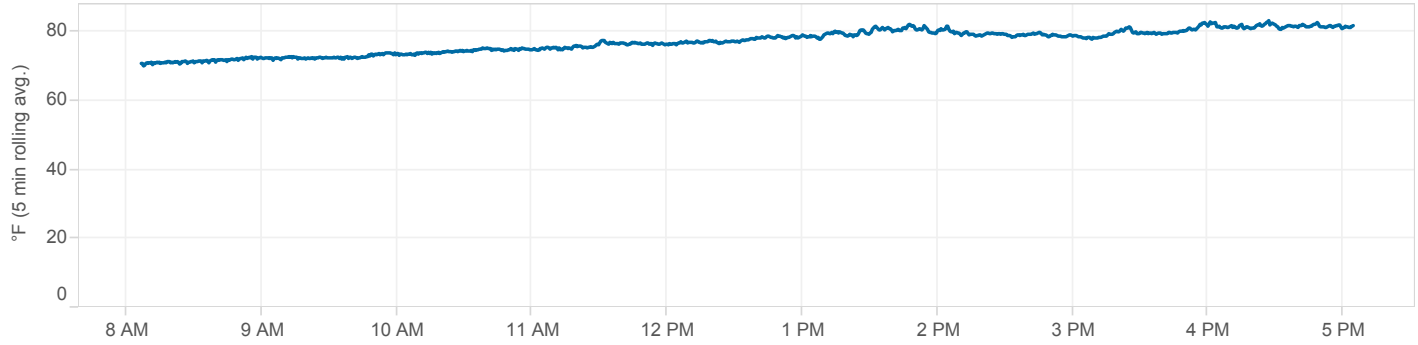


Wind Direction

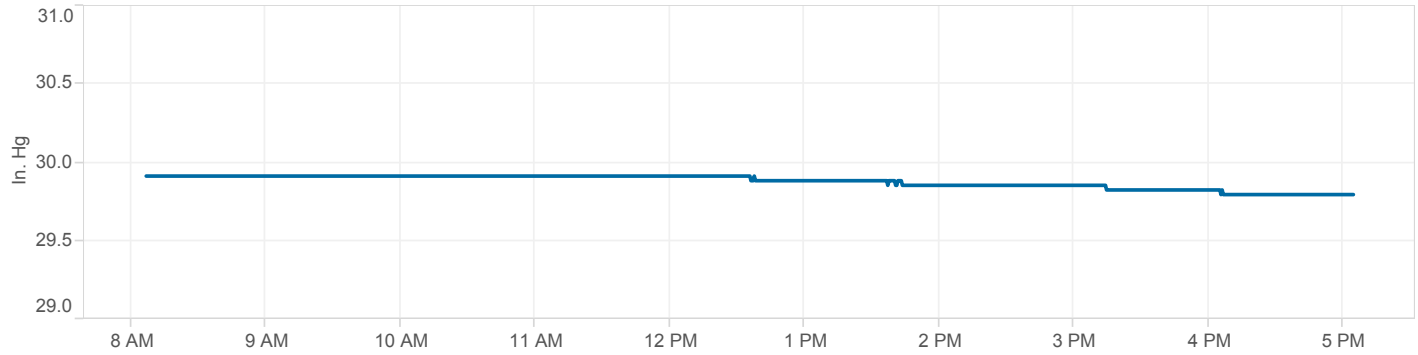


Wind direction reported in degrees where 0 degrees is equivalent to a cardinal direction of North and 180 degrees is equivalent to South

Temperature



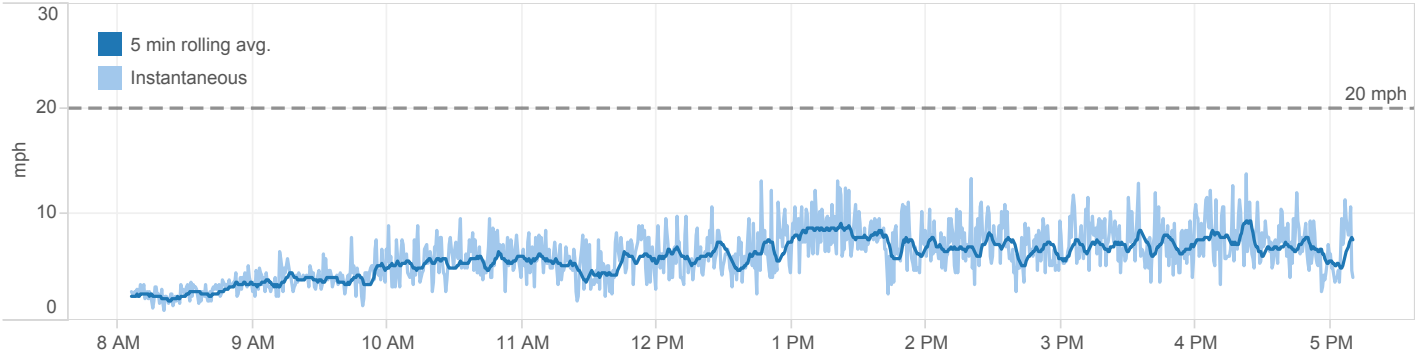
Barometric Pressure



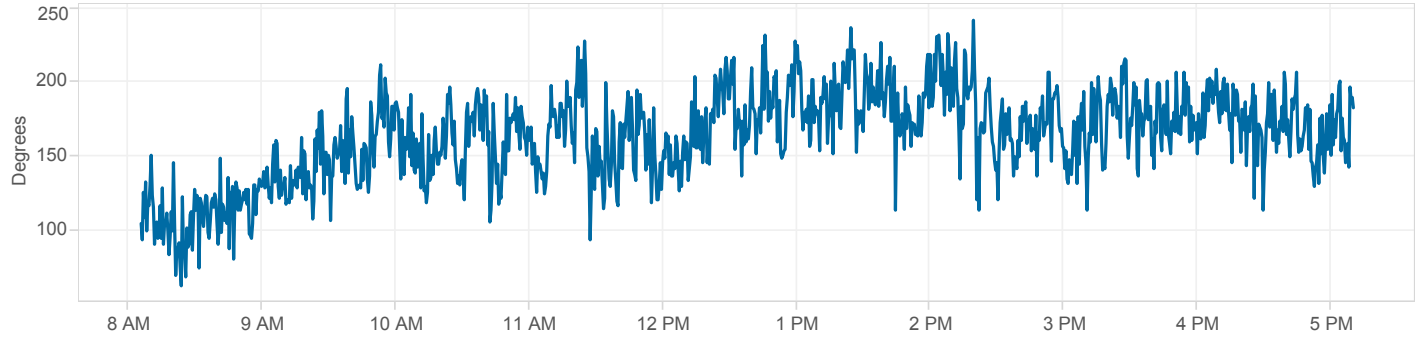
Houston, TX Meteorological Data

March 17, 2016

Wind Speed

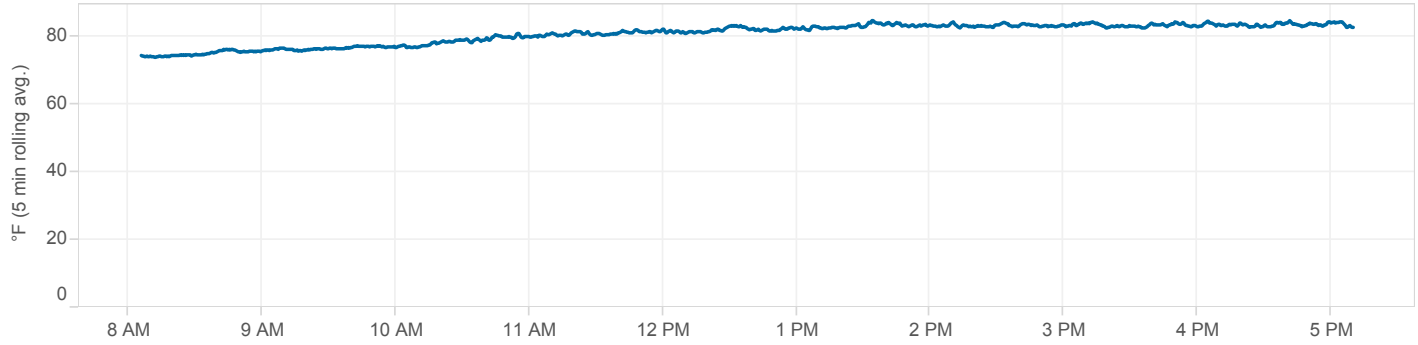


Wind Direction

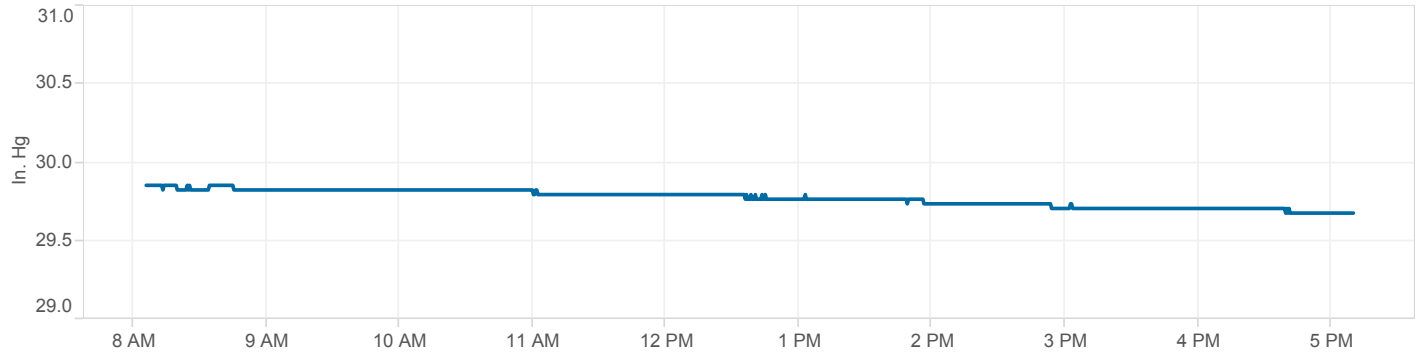


Wind direction reported in degrees where 0 degrees is equivalent to a cardinal direction of North and 180 degrees is equivalent to South

Temperature



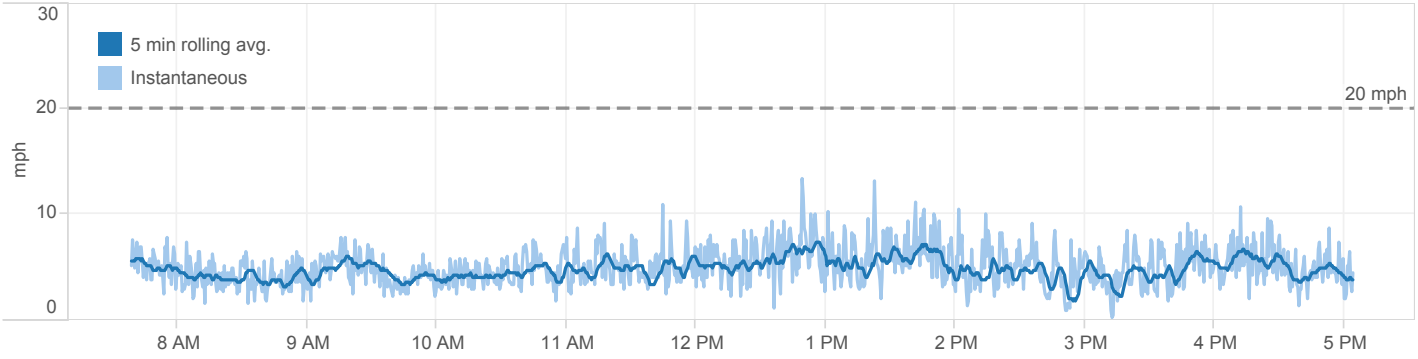
Barometric Pressure



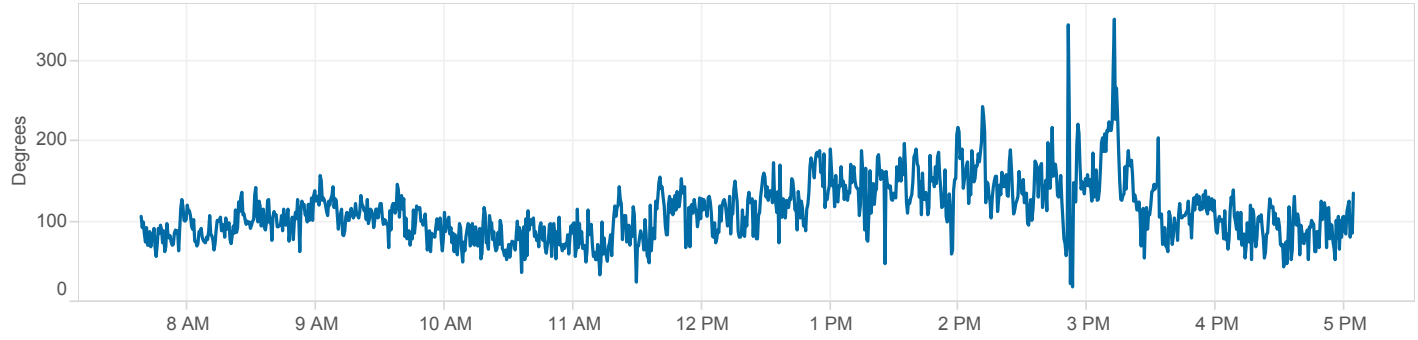
Houston, TX Meteorological Data

March 18, 2016

Wind Speed

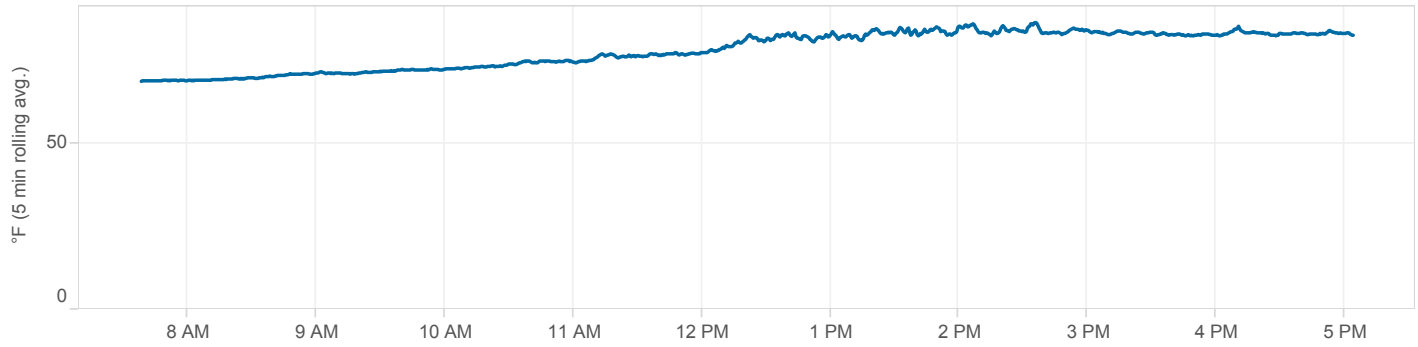


Wind Direction

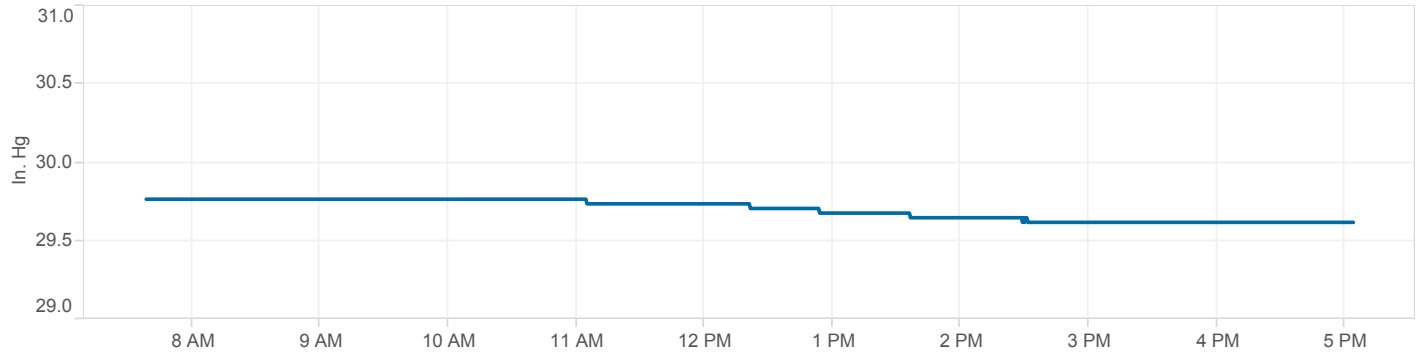


Wind direction reported in degrees where 0 degrees is equivalent to a cardinal direction of North and 180 degrees is equivalent to South

Temperature



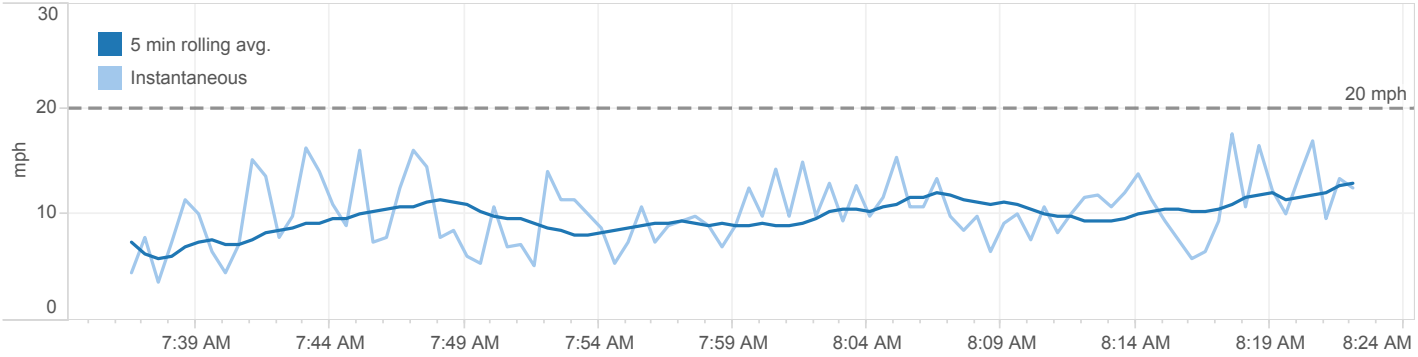
Barometric Pressure



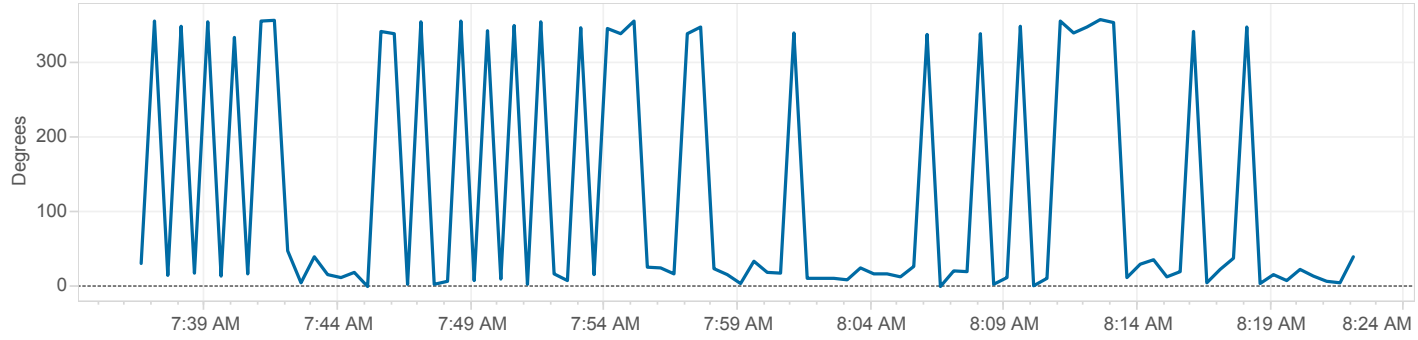
Houston, TX Meteorological Data

March 19, 2016

Wind Speed

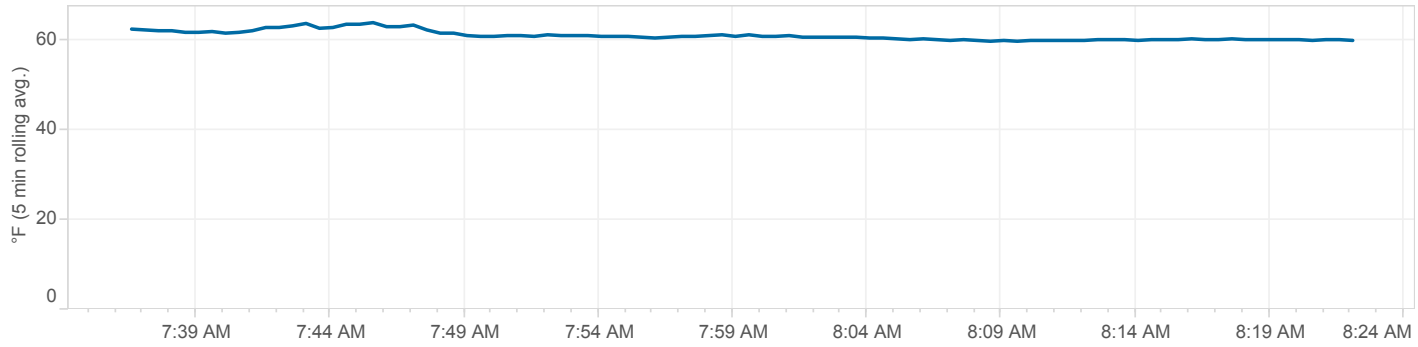


Wind Direction

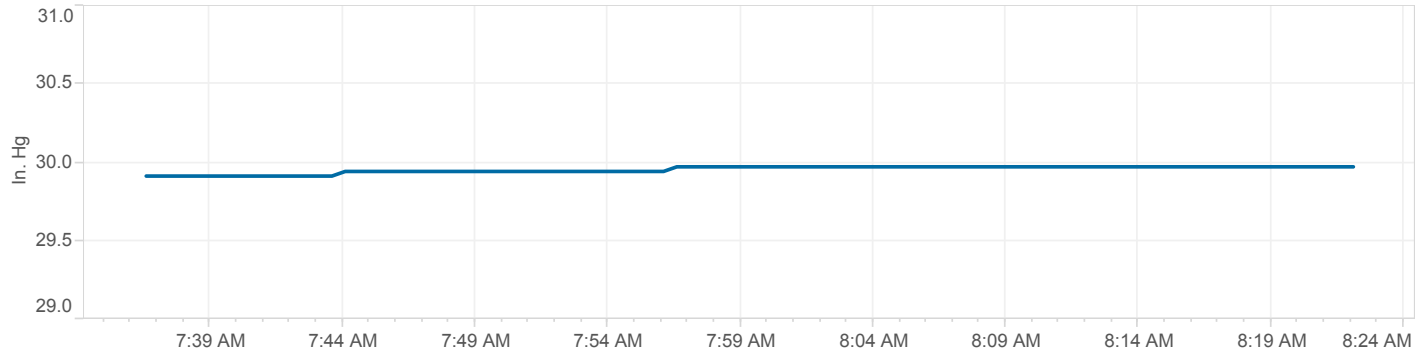


Wind direction reported in degrees where 0 degrees is equivalent to a cardinal direction of North and 180 degrees is equivalent to South

Temperature



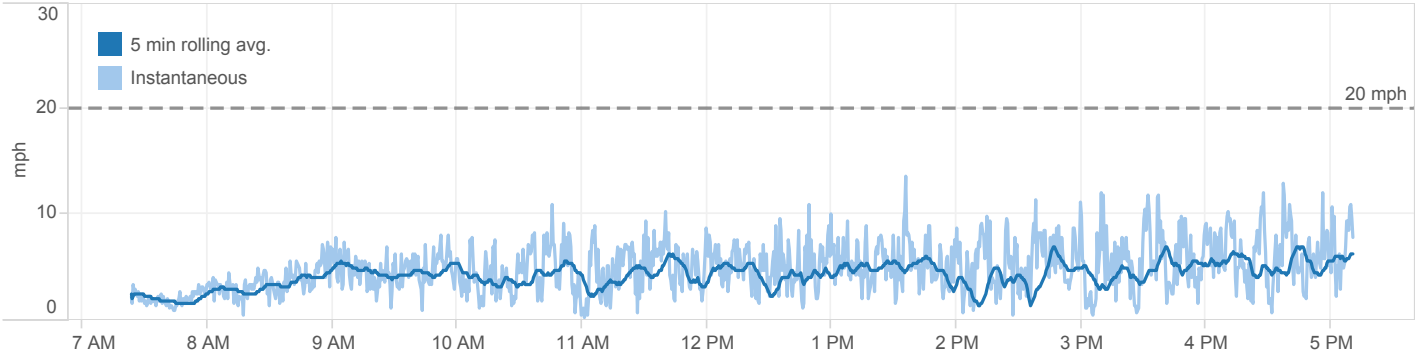
Barometric Pressure



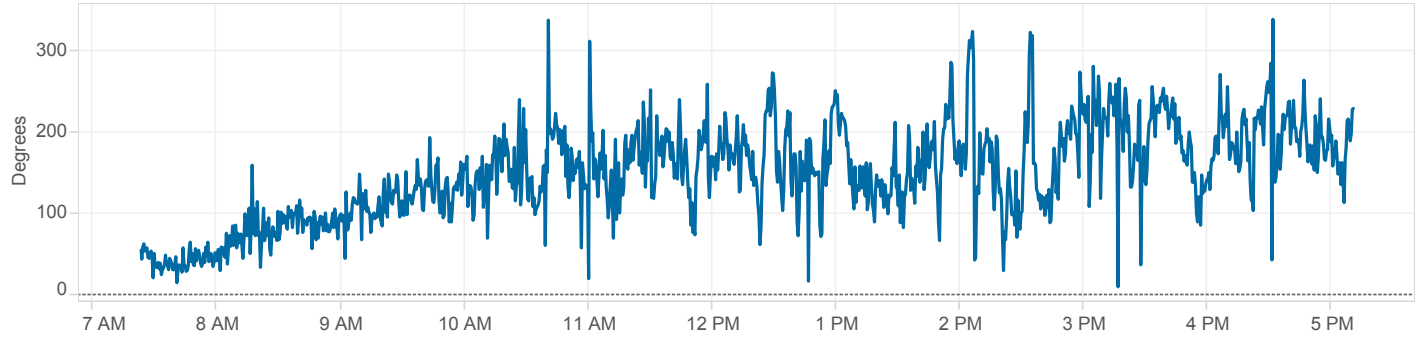
Houston, TX Meteorological Data

March 21, 2016

Wind Speed

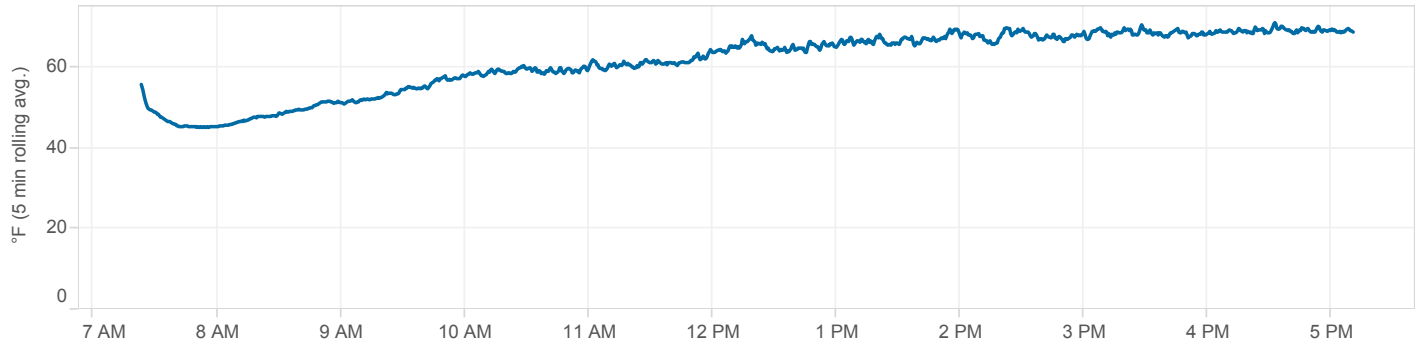


Wind Direction

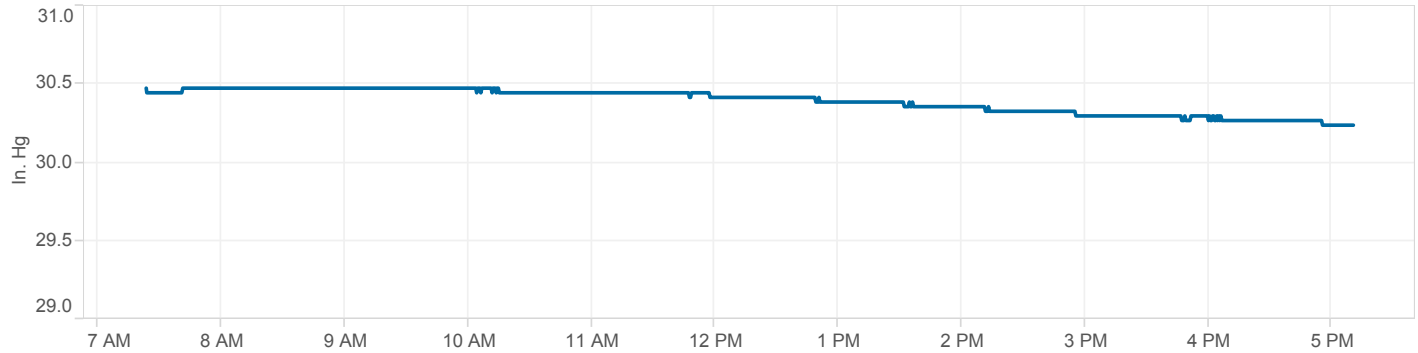


Wind direction reported in degrees where 0 degrees is equivalent to a cardinal direction of North and 180 degrees is equivalent to South

Temperature



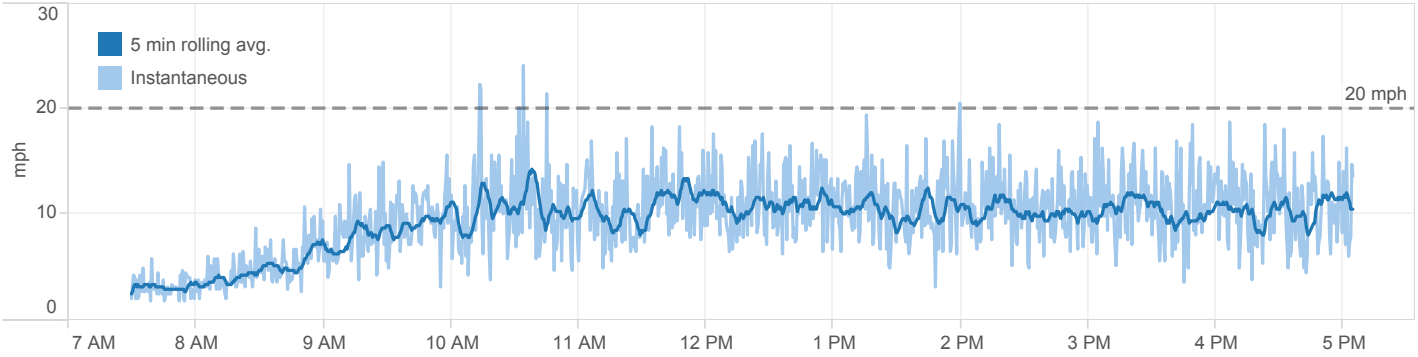
Barometric Pressure



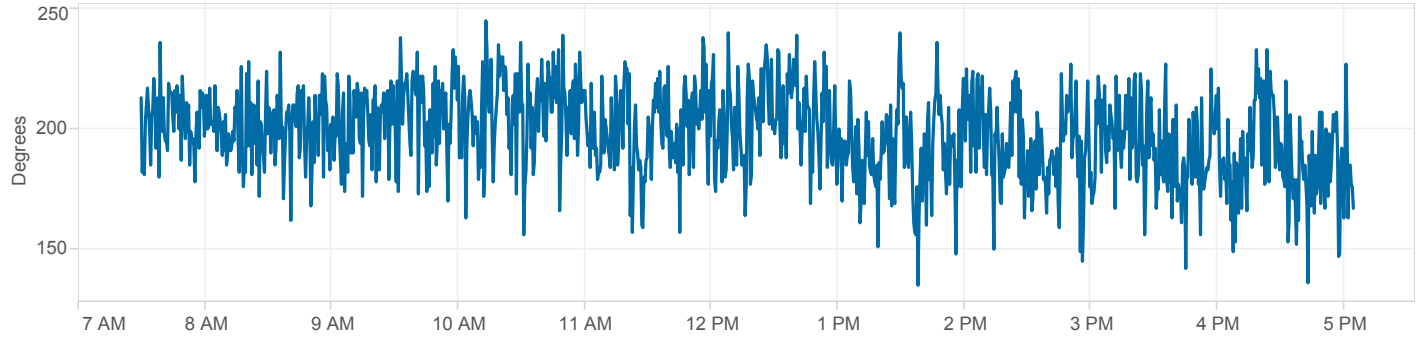
Houston, TX Meteorological Data

March 22, 2016

Wind Speed

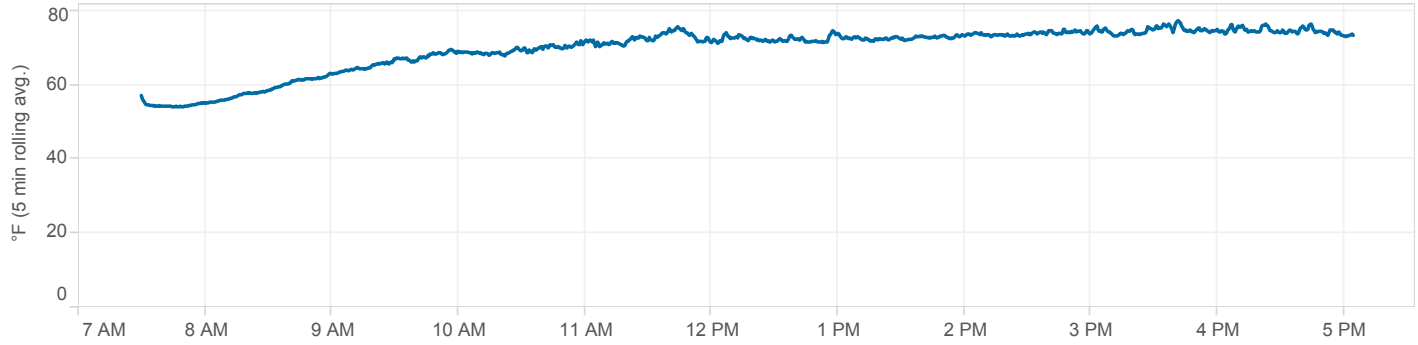


Wind Direction

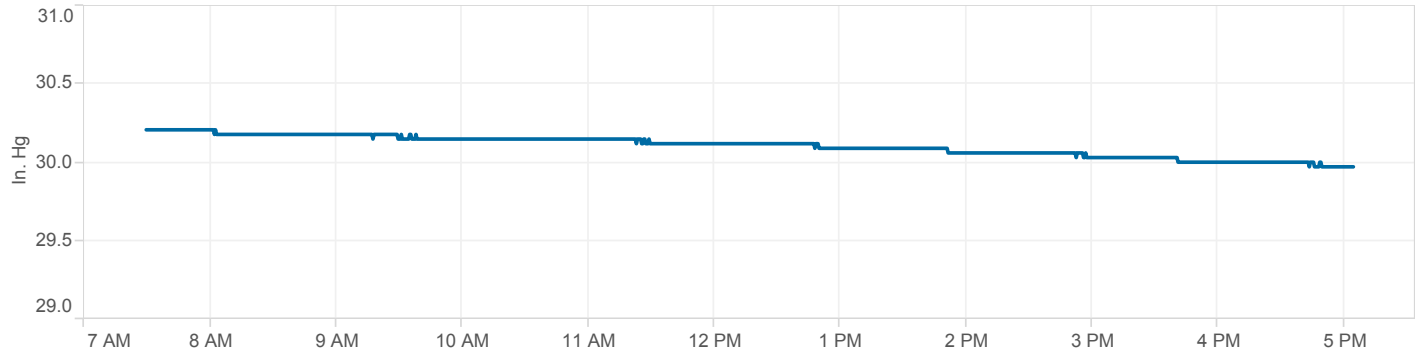


Wind direction reported in degrees where 0 degrees is equivalent to a cardinal direction of North and 180 degrees is equivalent to South

Temperature



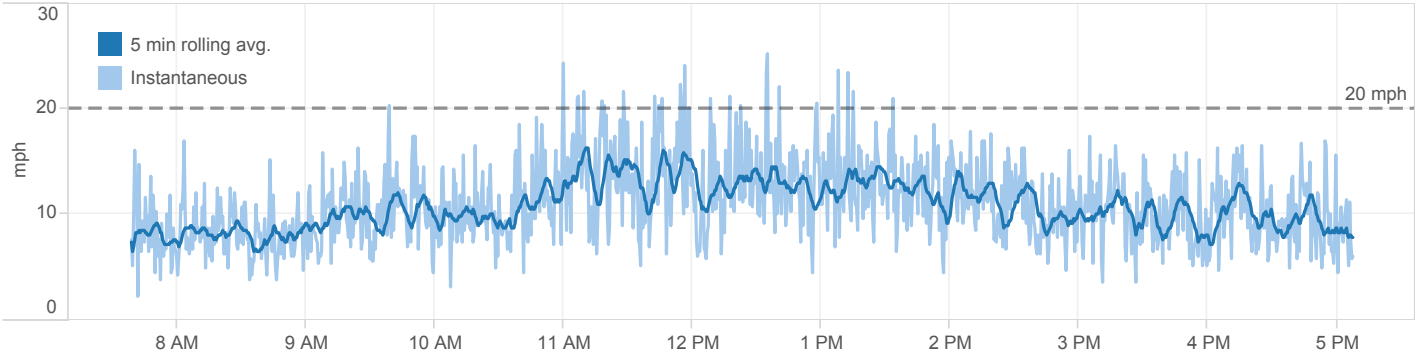
Barometric Pressure



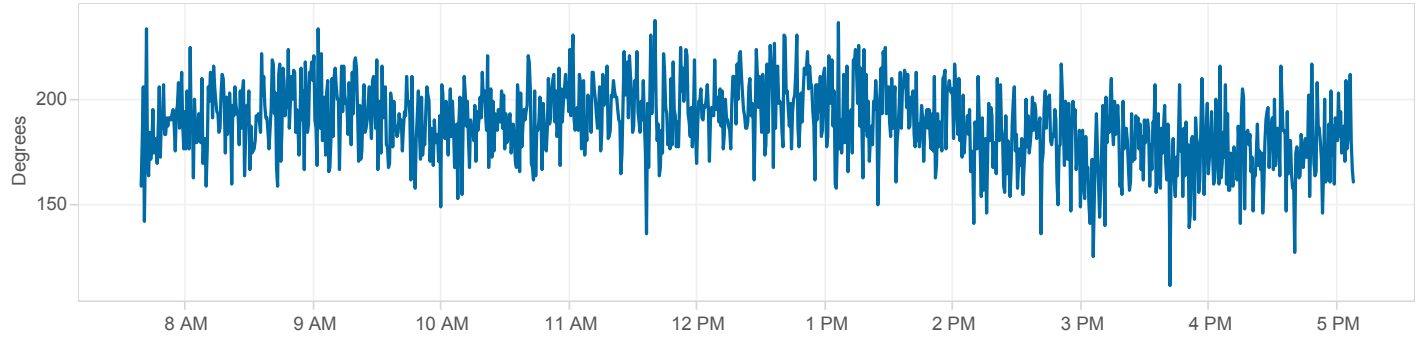
Houston, TX Meteorological Data

March 23, 2016

Wind Speed



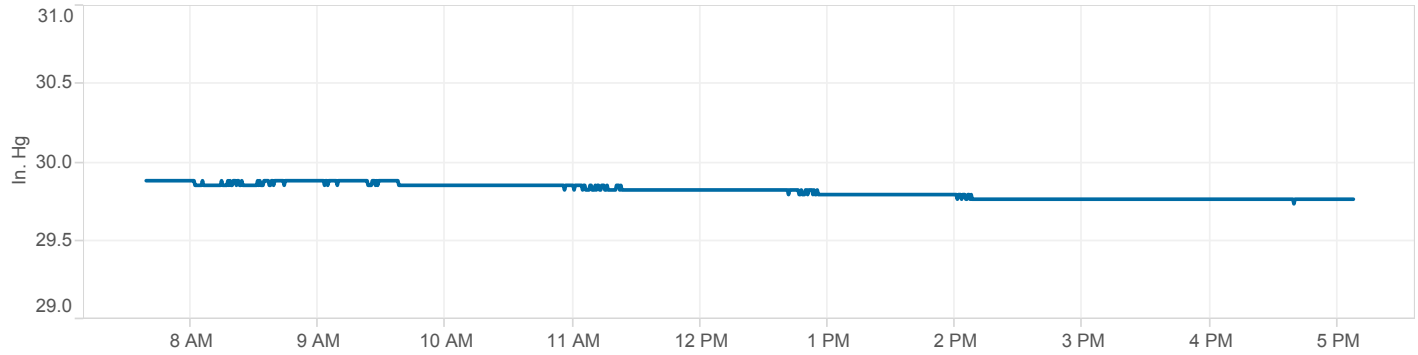
Wind Direction



Wind direction reported in degrees where 0 degrees is equivalent to a cardinal direction of North and 180 degrees is equivalent to South

Temperature

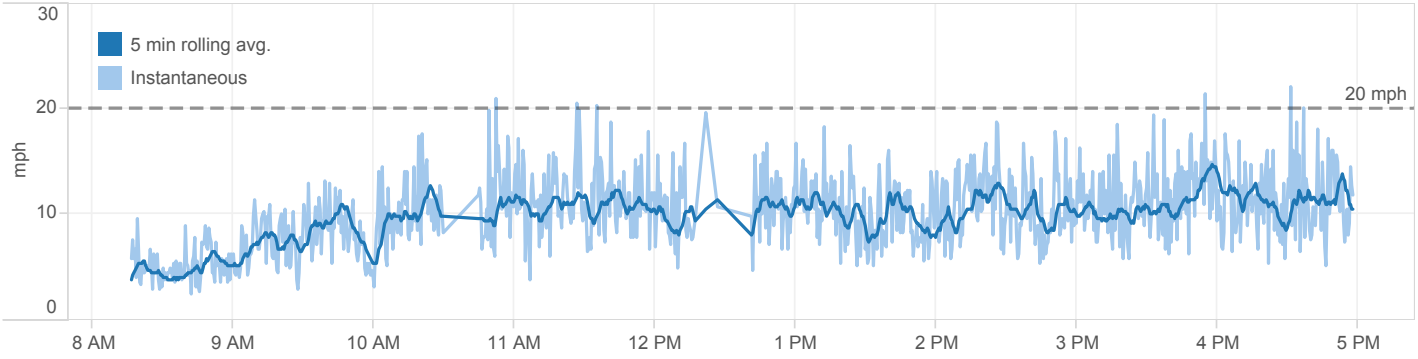
Barometric Pressure



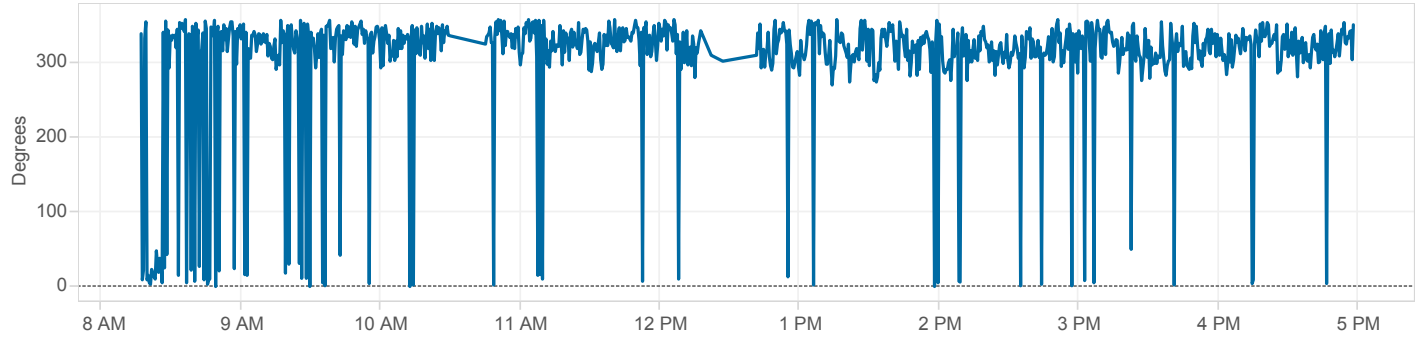
Houston, TX Meteorological Data

March 24, 2016

Wind Speed

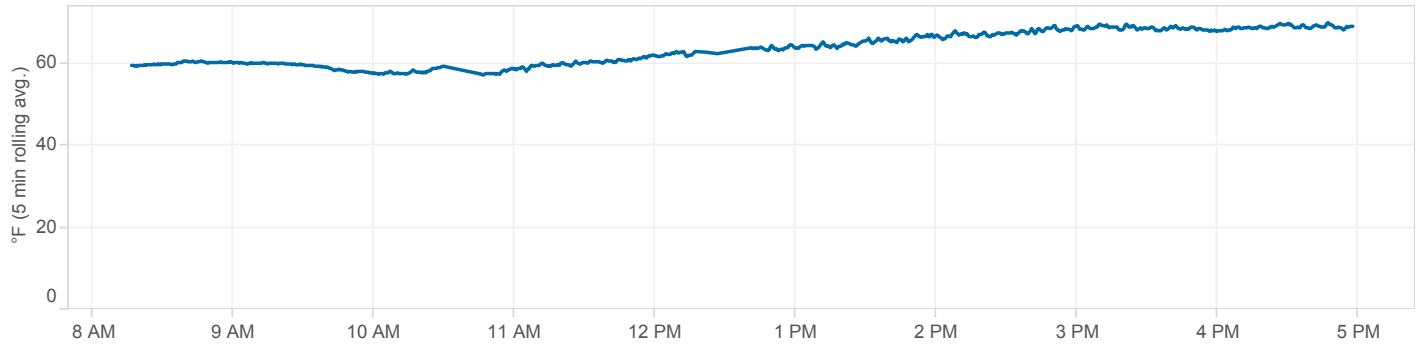


Wind Direction

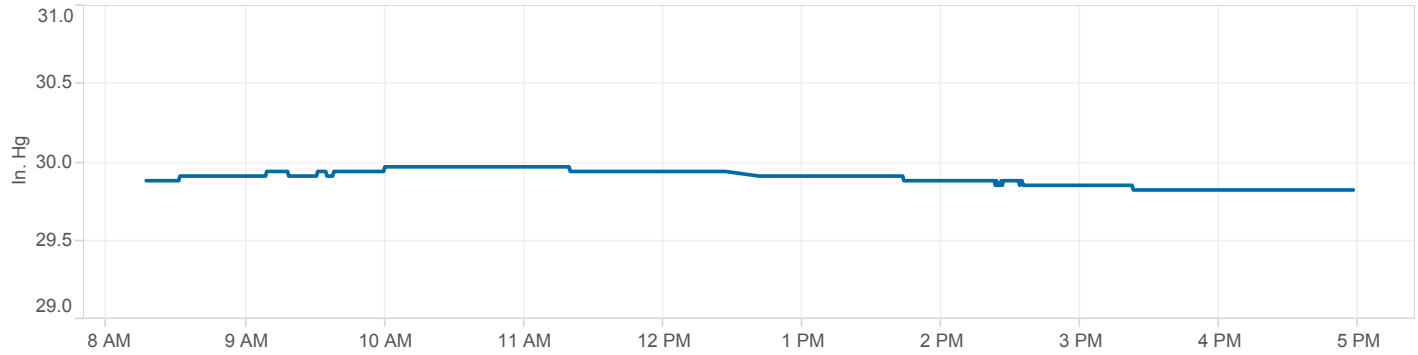


Wind direction reported in degrees where 0 degrees is equivalent to a cardinal direction of North and 180 degrees is equivalent to South

Temperature



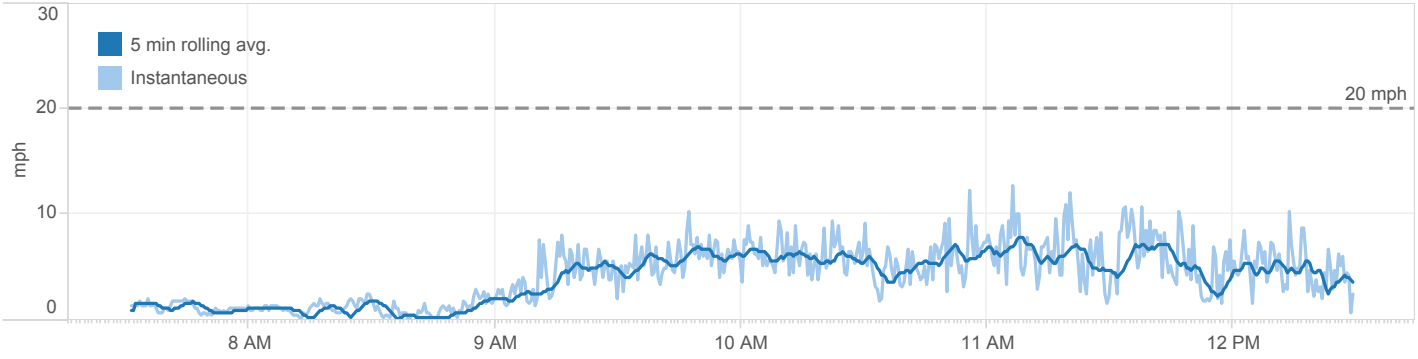
Barometric Pressure



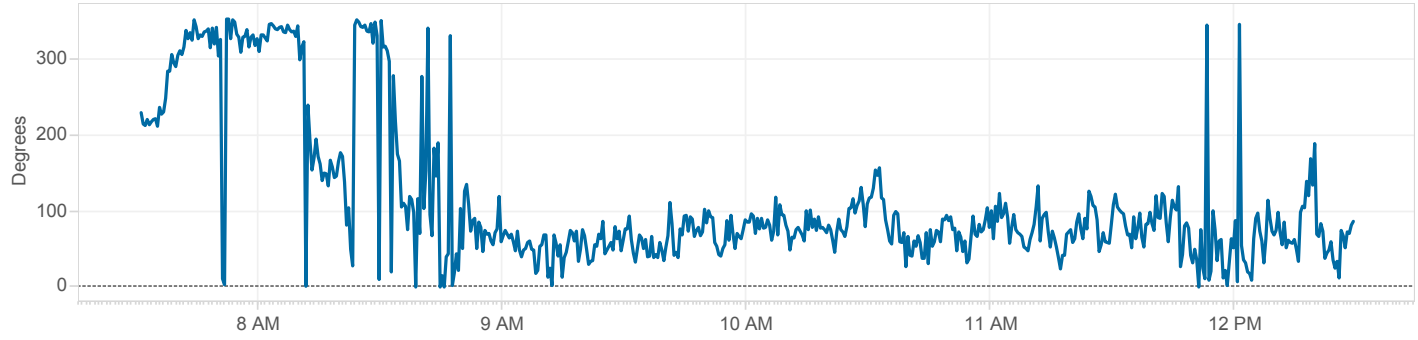
Houston, TX Meteorological Data

March 25, 2016

Wind Speed

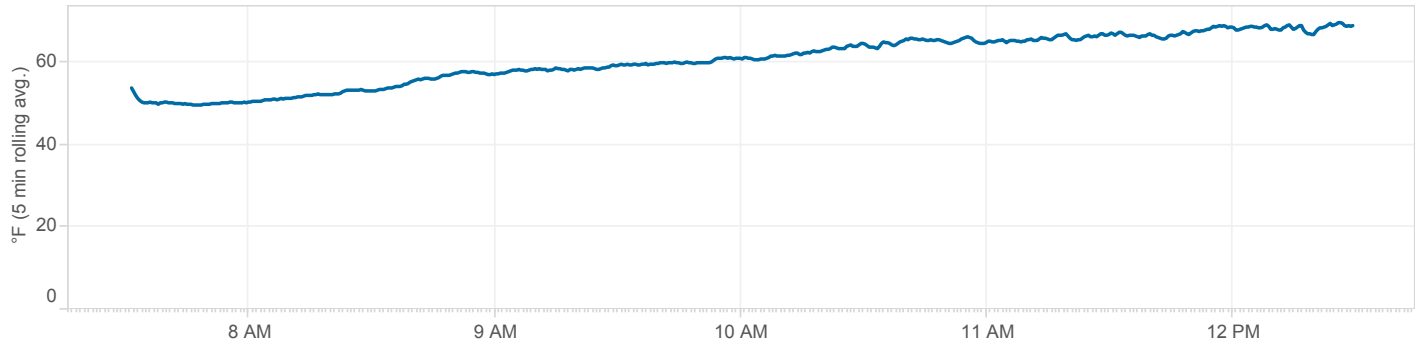


Wind Direction

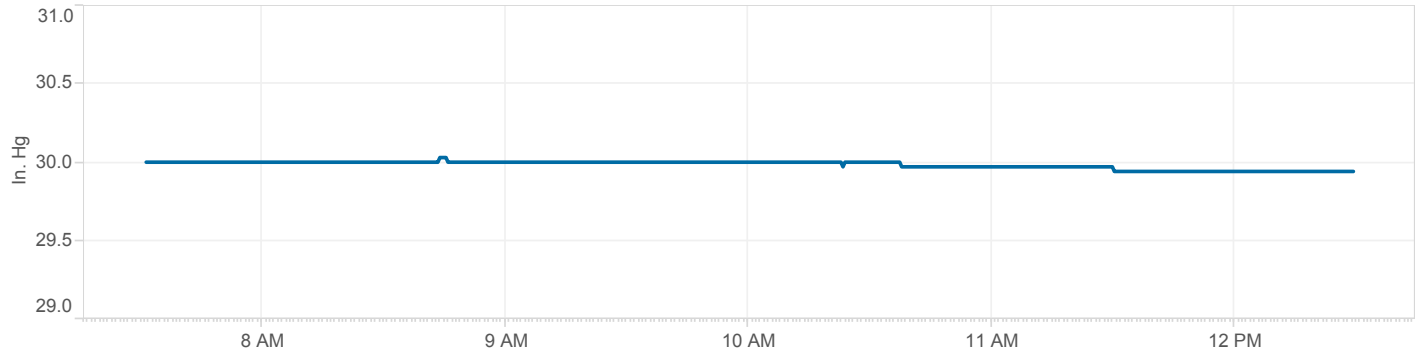


Wind direction reported in degrees where 0 degrees is equivalent to a cardinal direction of North and 180 degrees is equivalent to South

Temperature



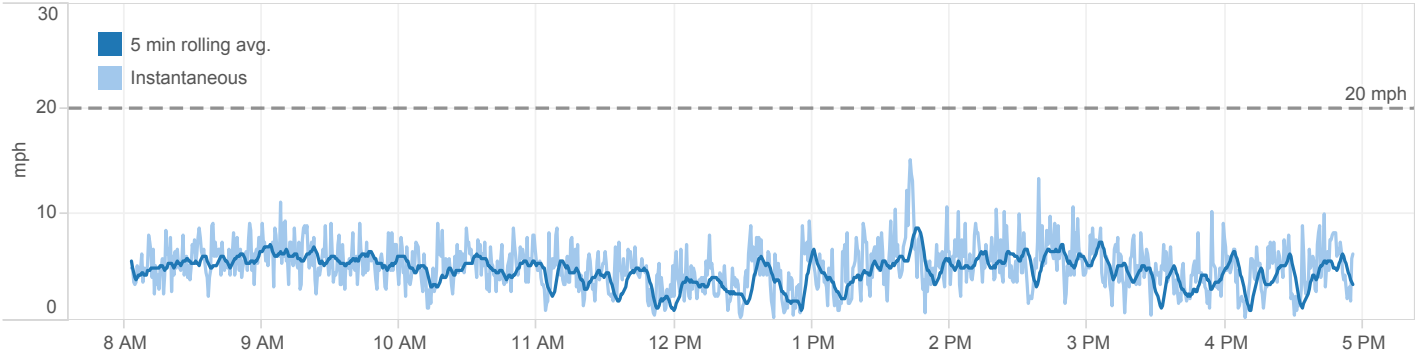
Barometric Pressure



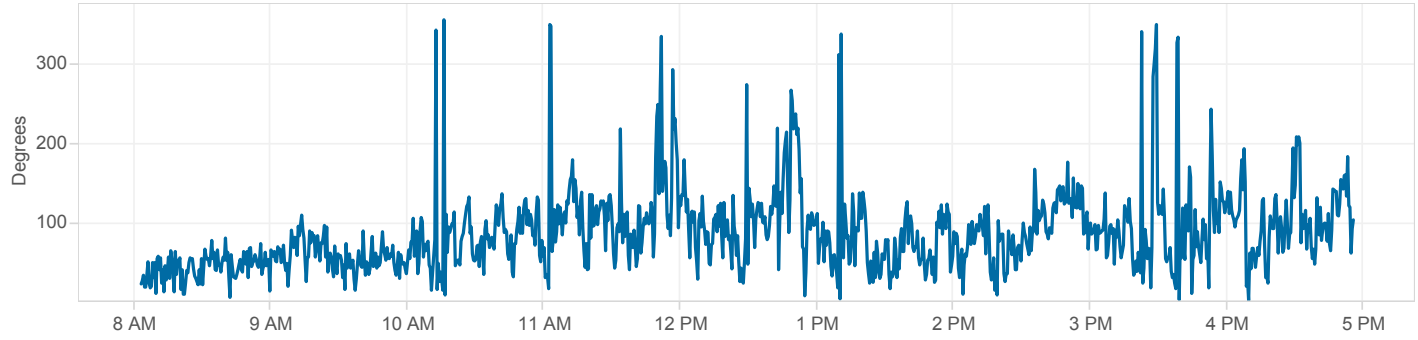
Houston, TX Meteorological Data

March 28, 2016

Wind Speed

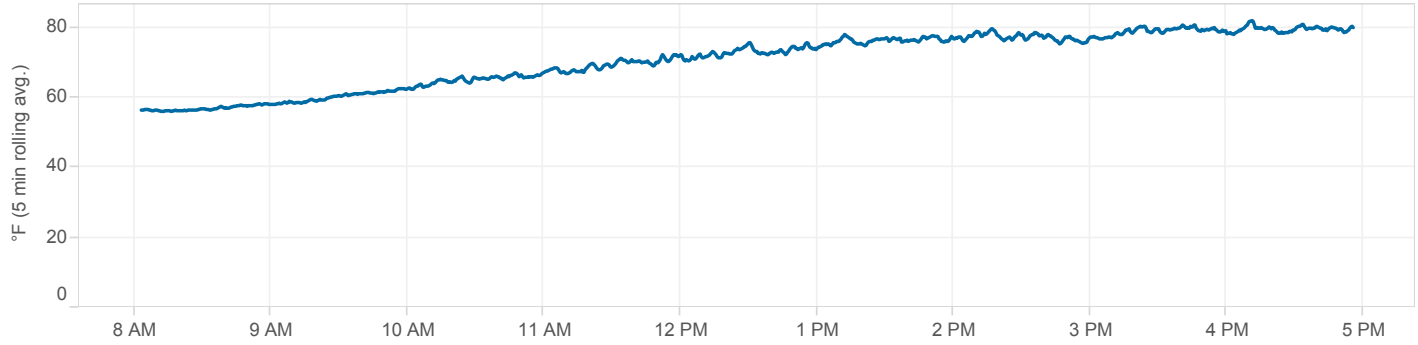


Wind Direction

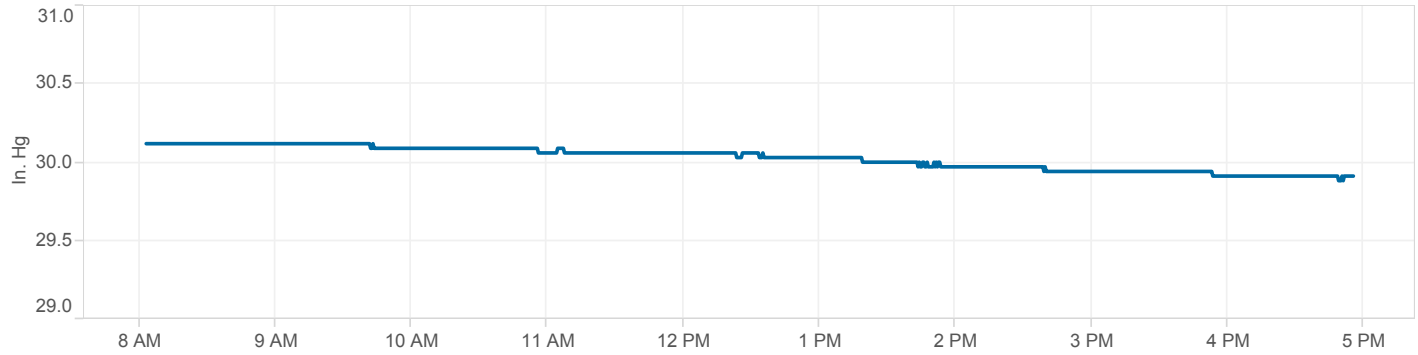


Wind direction reported in degrees where 0 degrees is equivalent to a cardinal direction of North and 180 degrees is equivalent to South

Temperature



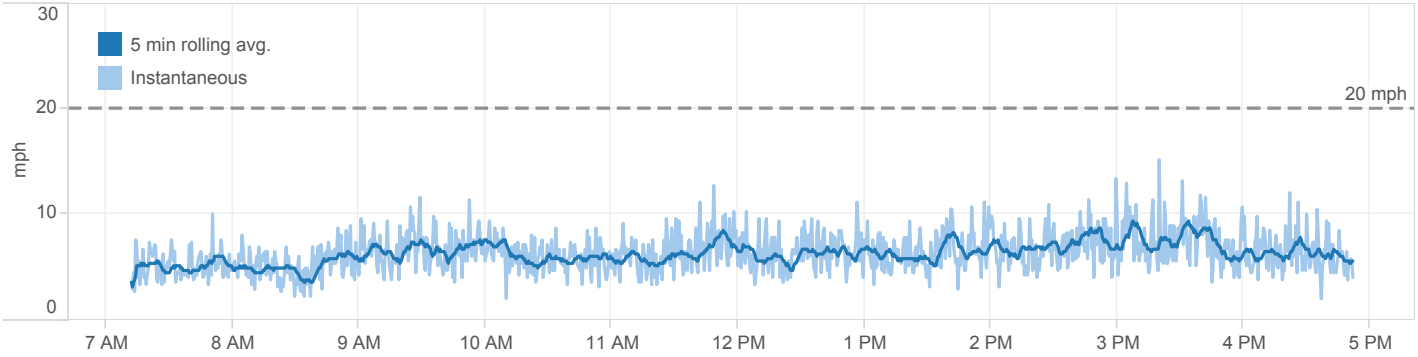
Barometric Pressure



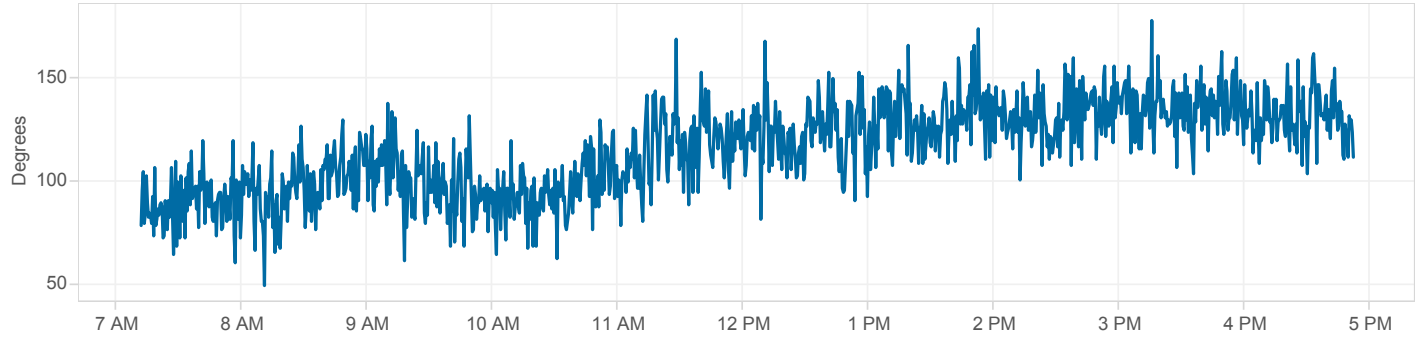
Houston, TX Meteorological Data

March 29, 2016

Wind Speed

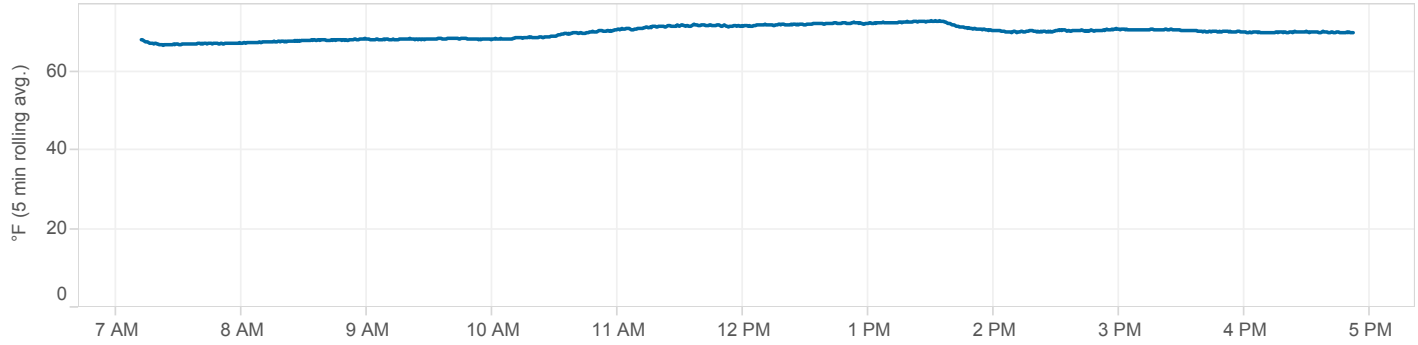


Wind Direction

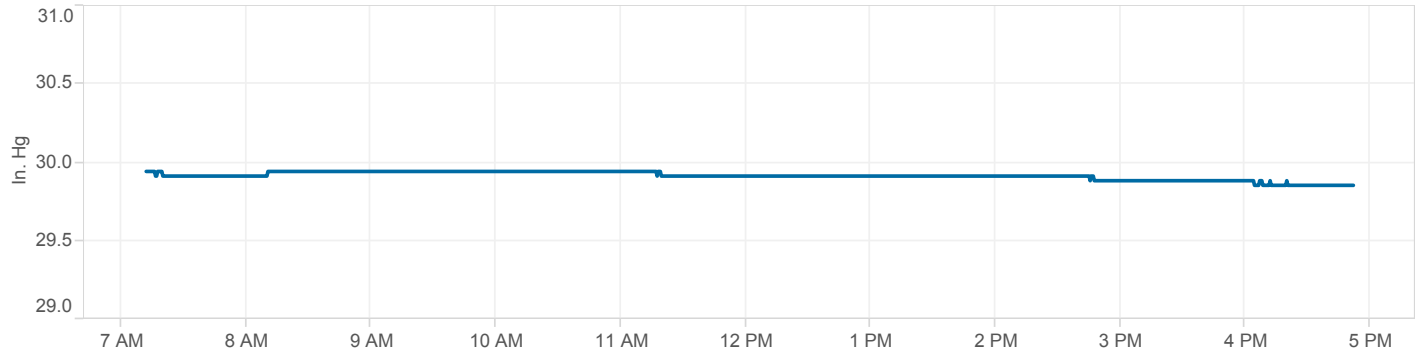


Wind direction reported in degrees where 0 degrees is equivalent to a cardinal direction of North and 180 degrees is equivalent to South

Temperature



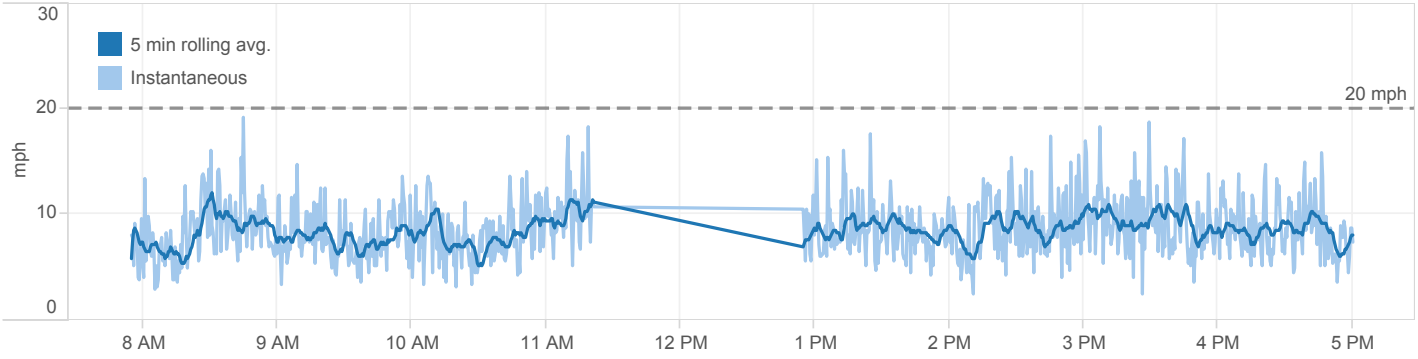
Barometric Pressure



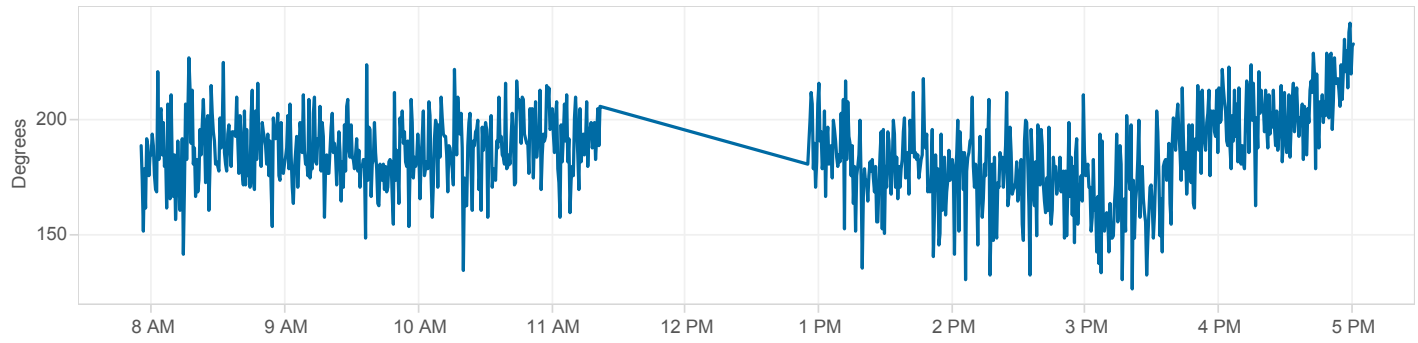
Houston, TX Meteorological Data

March 30, 2016

Wind Speed

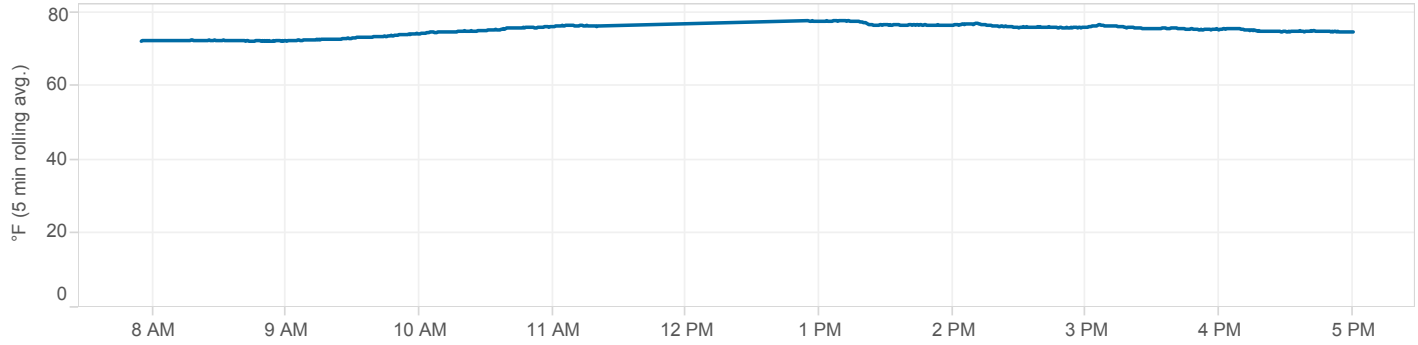


Wind Direction

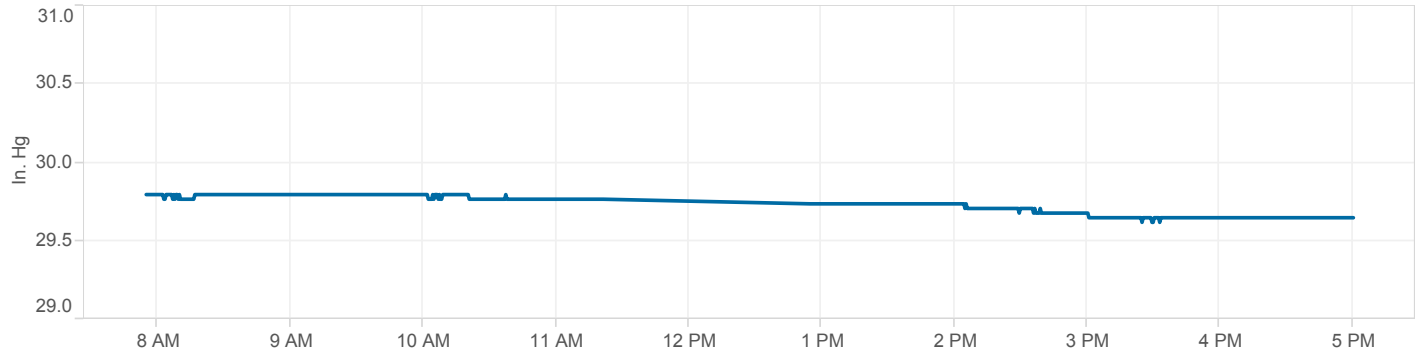


Wind direction reported in degrees where 0 degrees is equivalent to a cardinal direction of North and 180 degrees is equivalent to South

Temperature



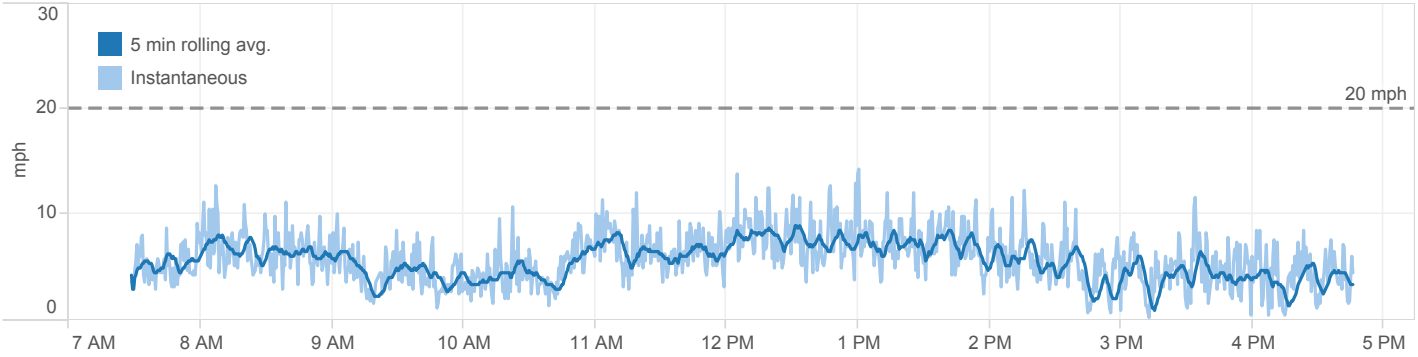
Barometric Pressure



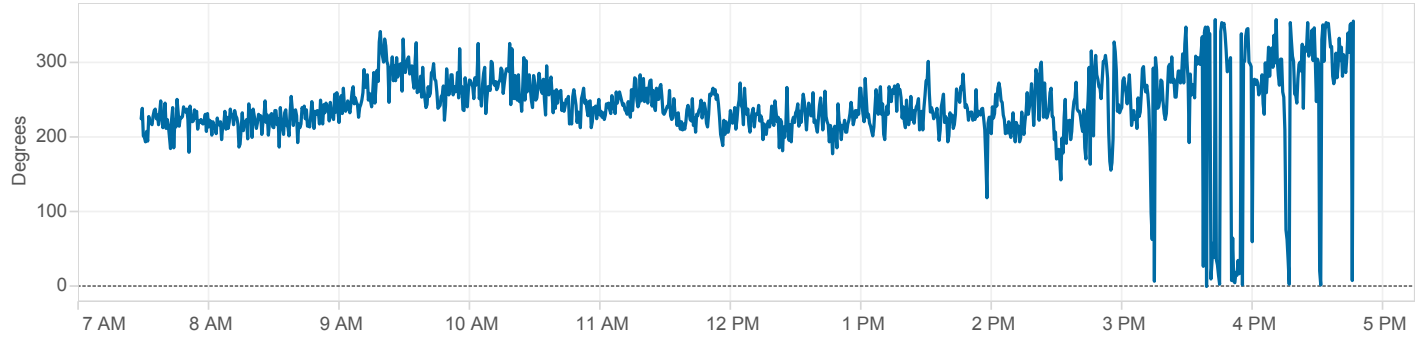
Houston, TX Meteorological Data

March 31, 2016

Wind Speed

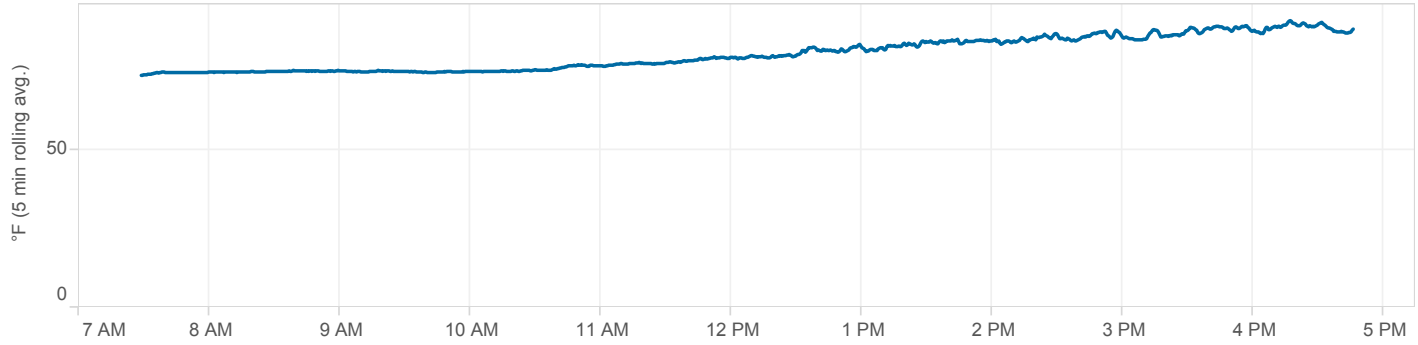


Wind Direction

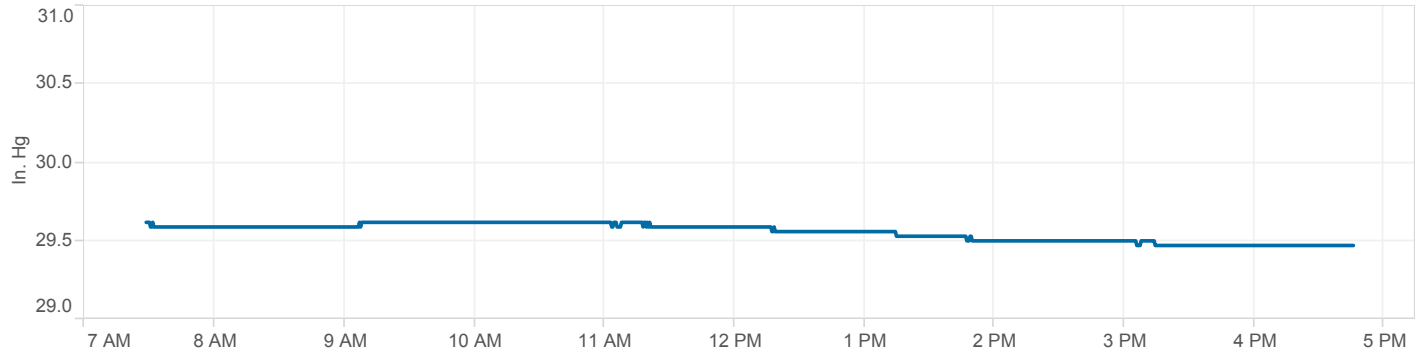


Wind direction reported in degrees where 0 degrees is equivalent to a cardinal direction of North and 180 degrees is equivalent to South

Temperature



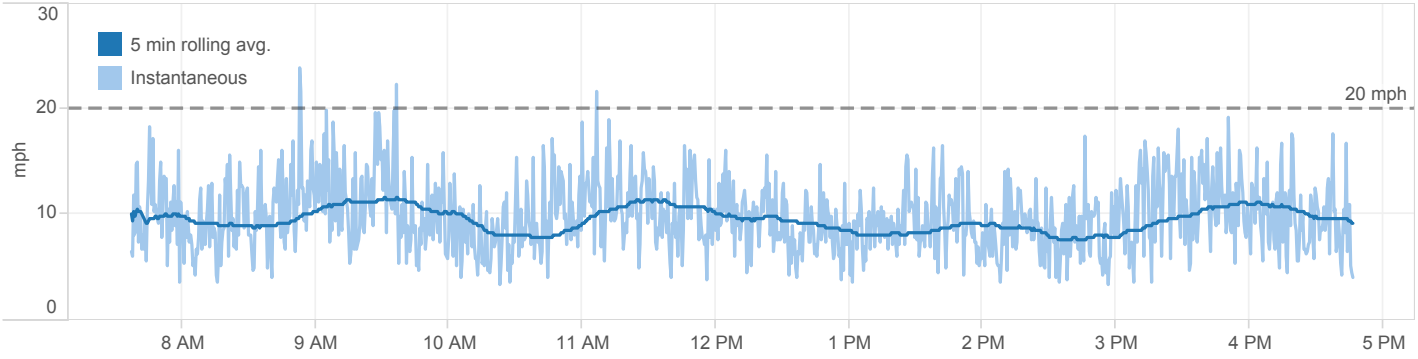
Barometric Pressure



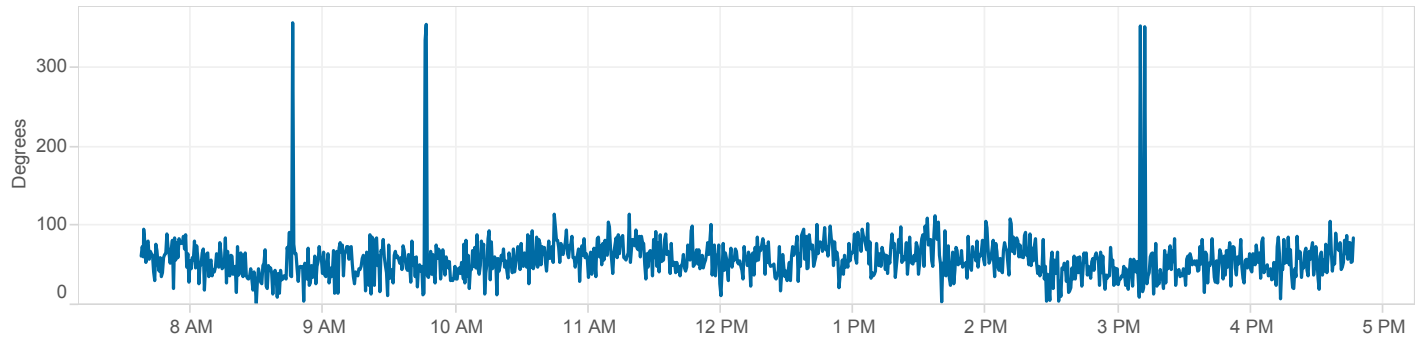
Houston, TX Meteorological Data

April 1, 2016

Wind Speed

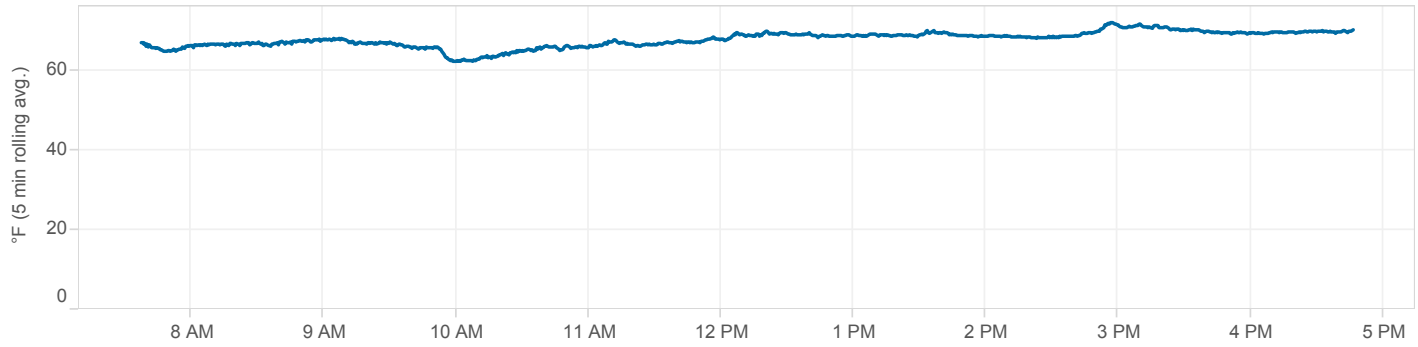


Wind Direction

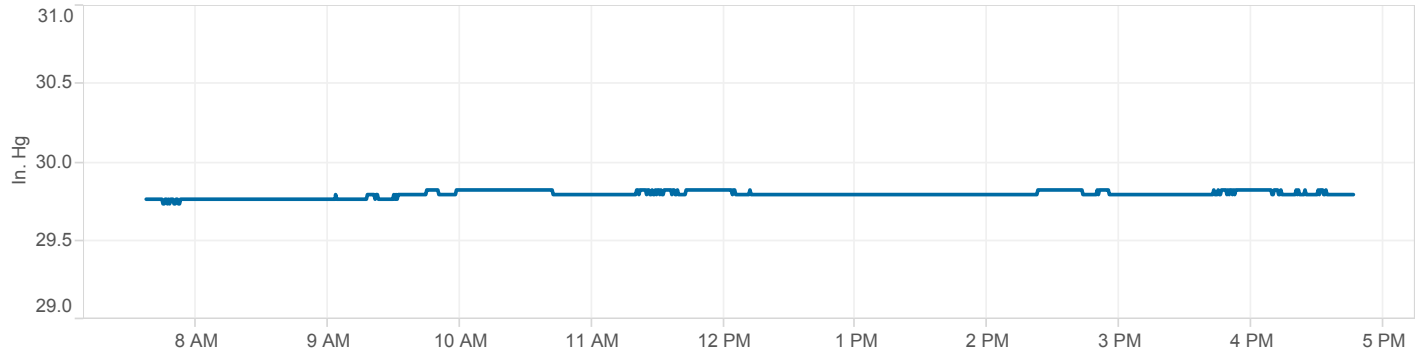


Wind direction reported in degrees where 0 degrees is equivalent to a cardinal direction of North and 180 degrees is equivalent to South

Temperature



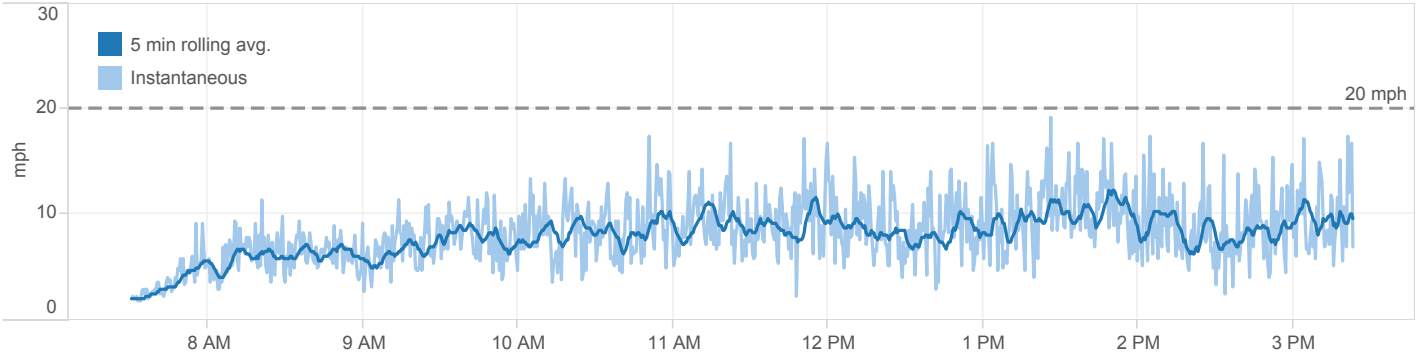
Barometric Pressure



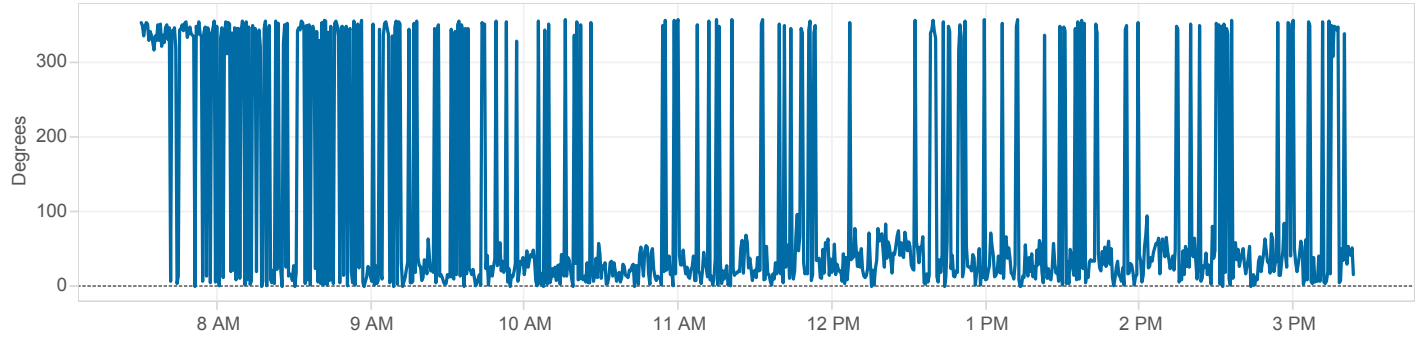
Houston, TX Meteorological Data

April 2, 2016

Wind Speed

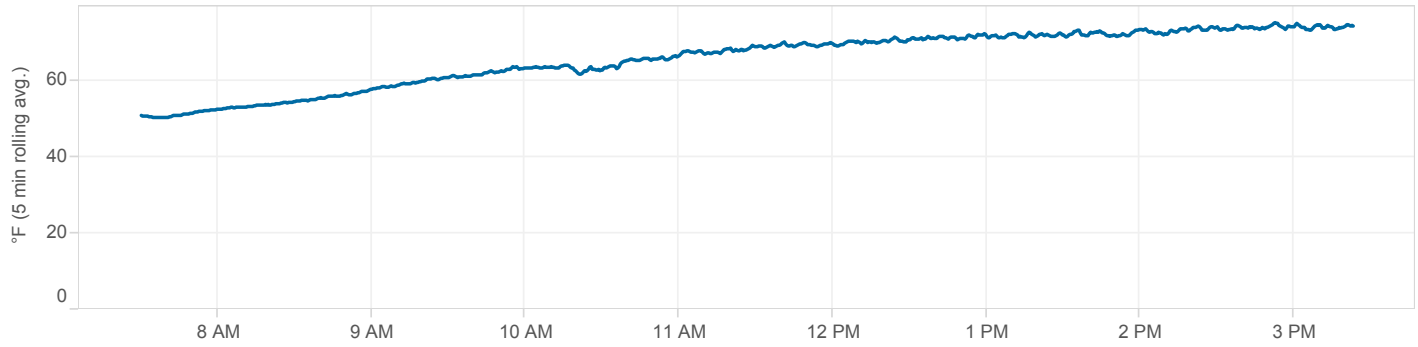


Wind Direction

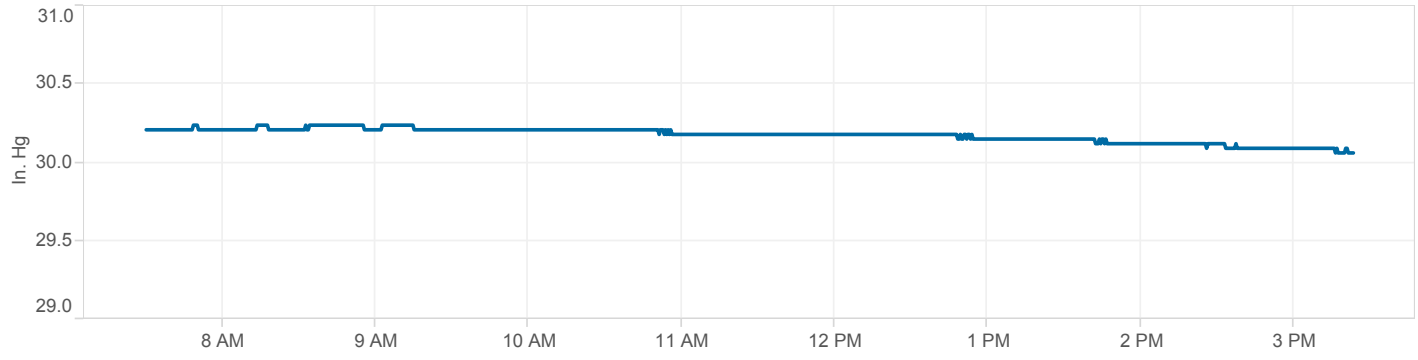


Wind direction reported in degrees where 0 degrees is equivalent to a cardinal direction of North and 180 degrees is equivalent to South

Temperature



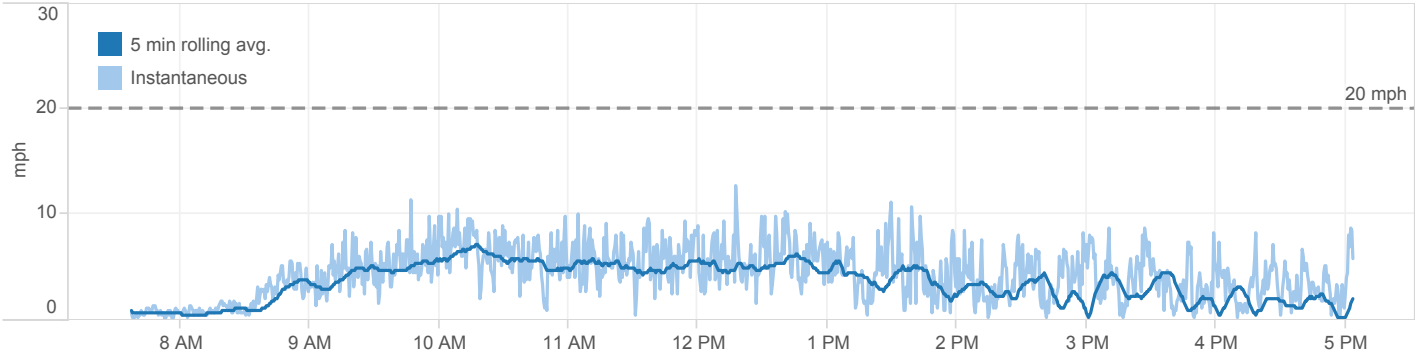
Barometric Pressure



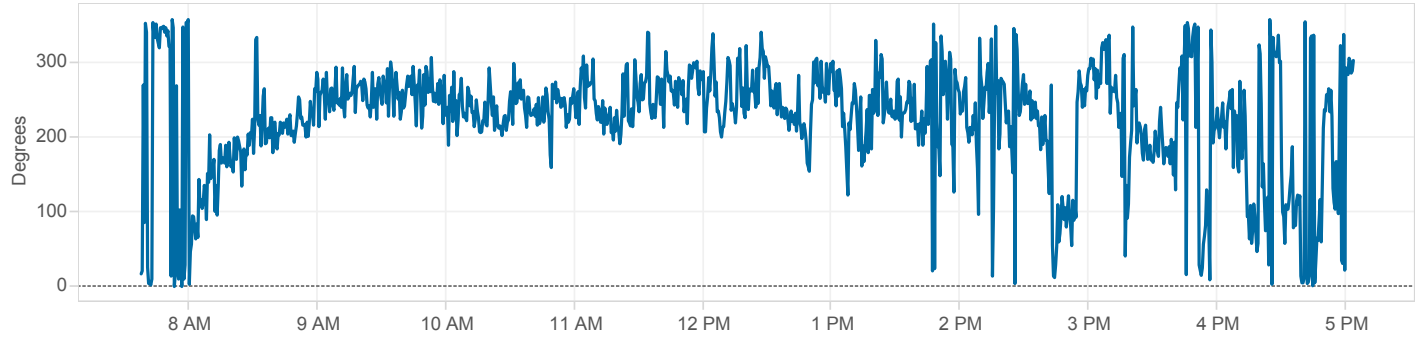
Houston, TX Meteorological Data

April 4, 2016

Wind Speed

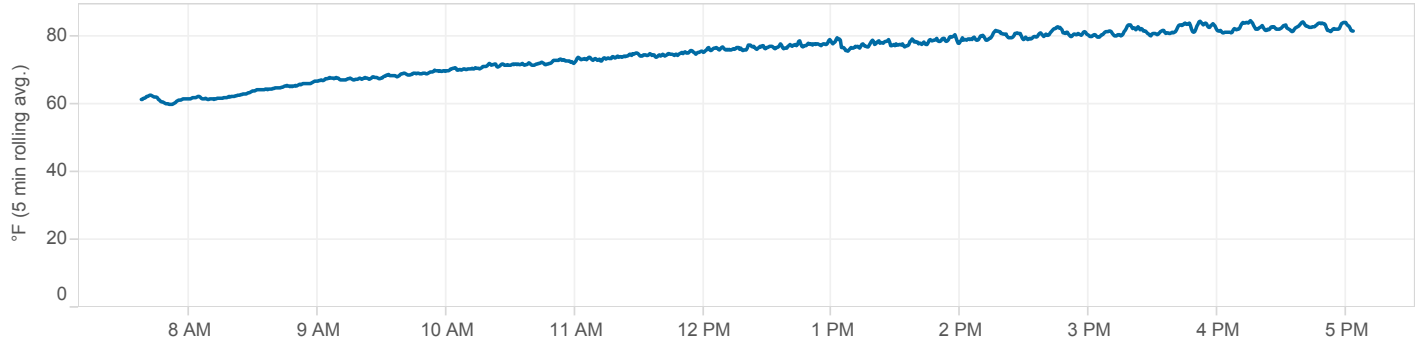


Wind Direction

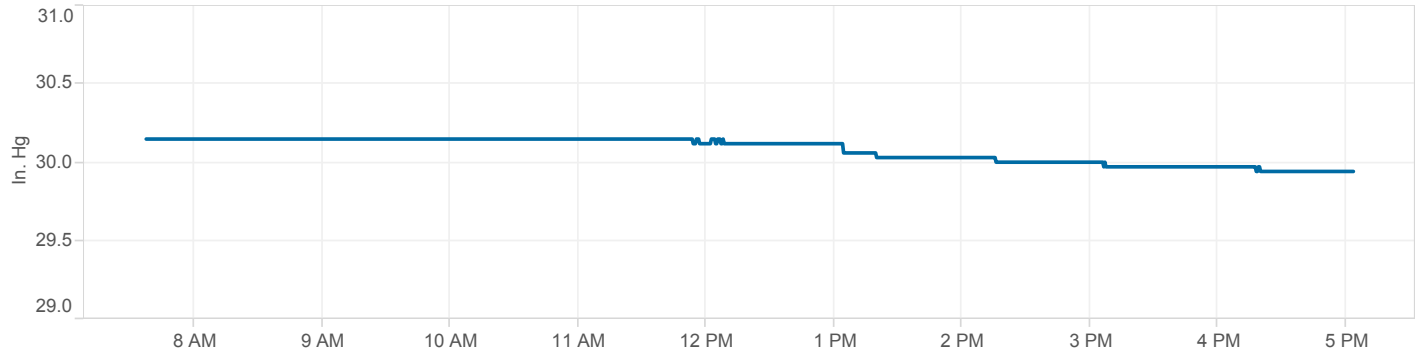


Wind direction reported in degrees where 0 degrees is equivalent to a cardinal direction of North and 180 degrees is equivalent to South

Temperature



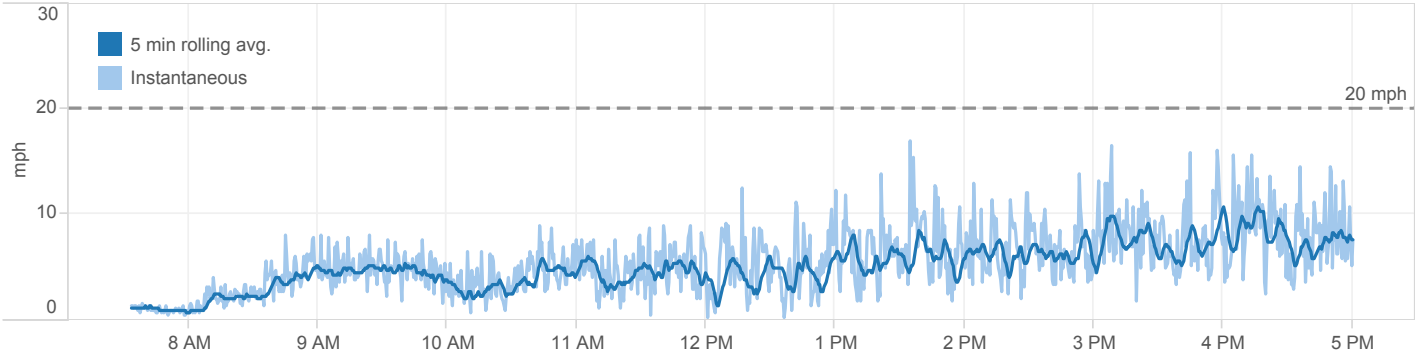
Barometric Pressure



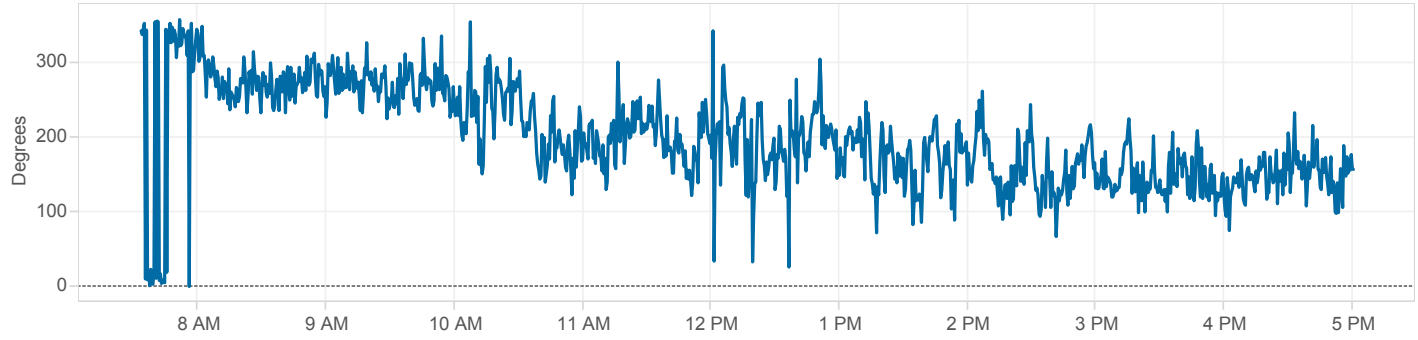
Houston, TX Meteorological Data

April 5, 2016

Wind Speed

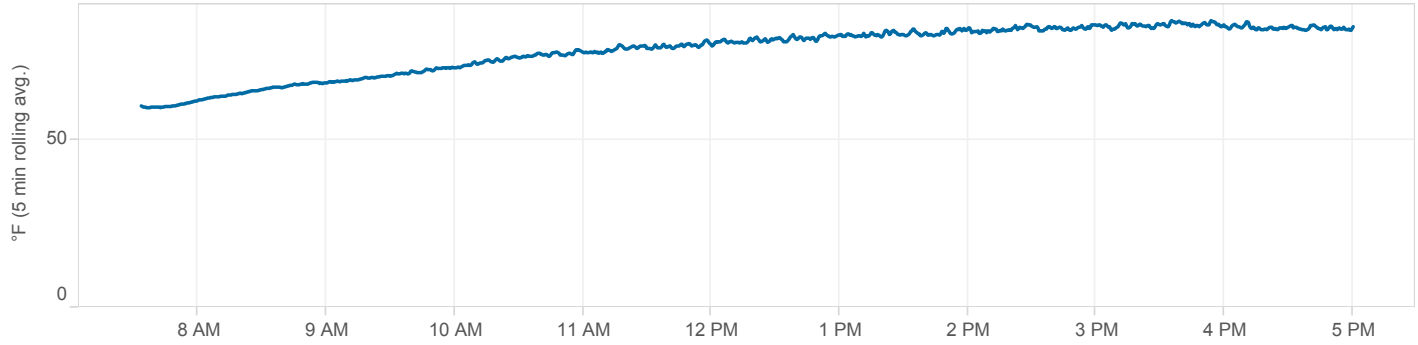


Wind Direction

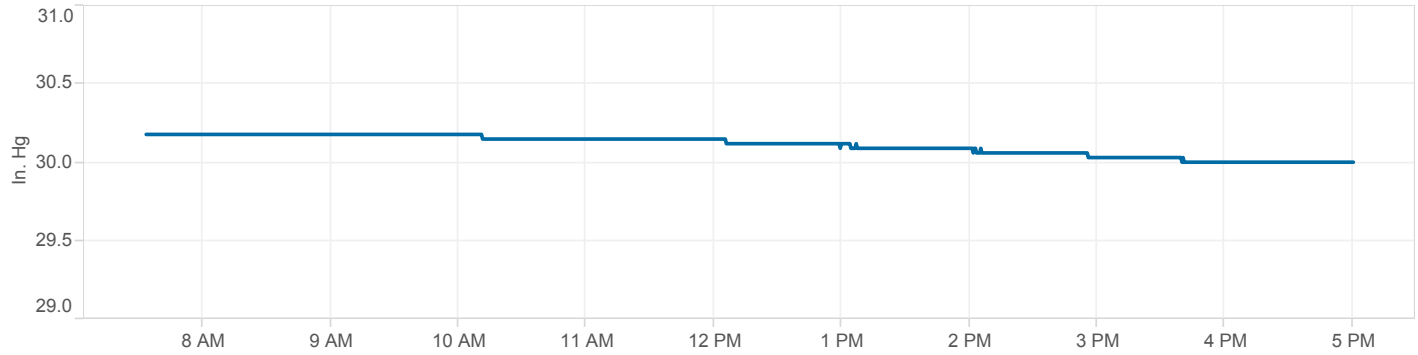


Wind direction reported in degrees where 0 degrees is equivalent to a cardinal direction of North and 180 degrees is equivalent to South

Temperature



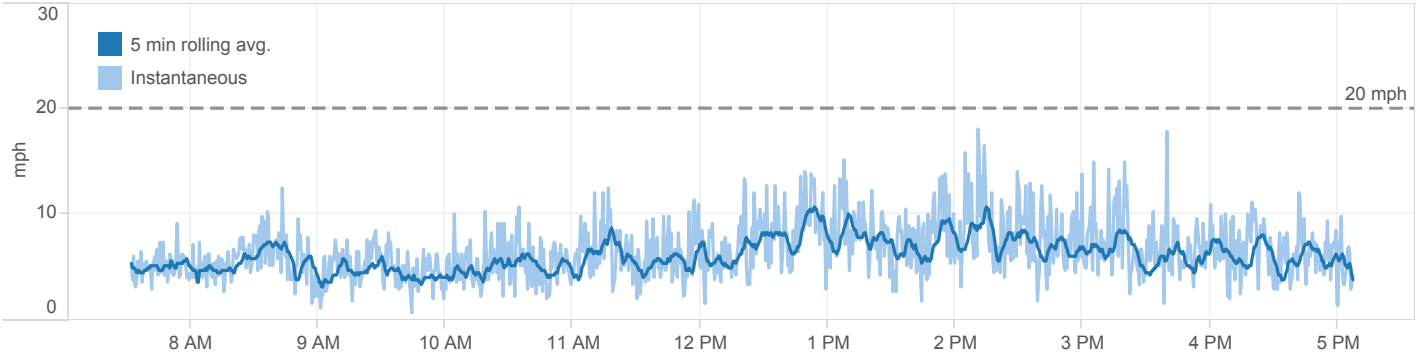
Barometric Pressure



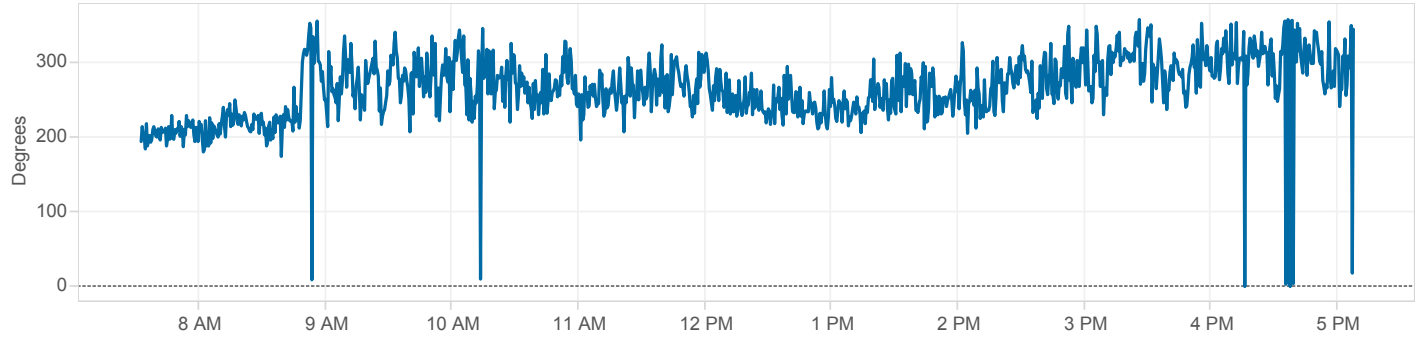
Houston, TX Meteorological Data

April 6, 2016

Wind Speed

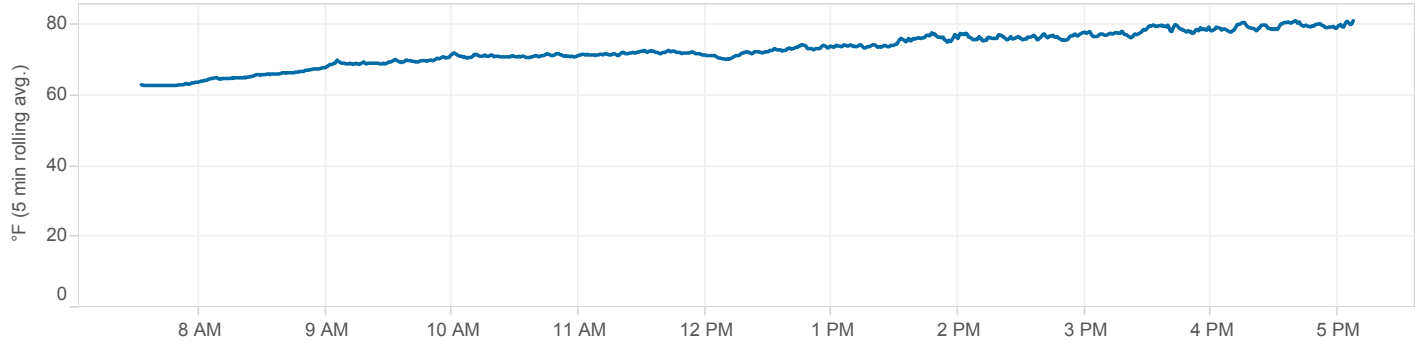


Wind Direction

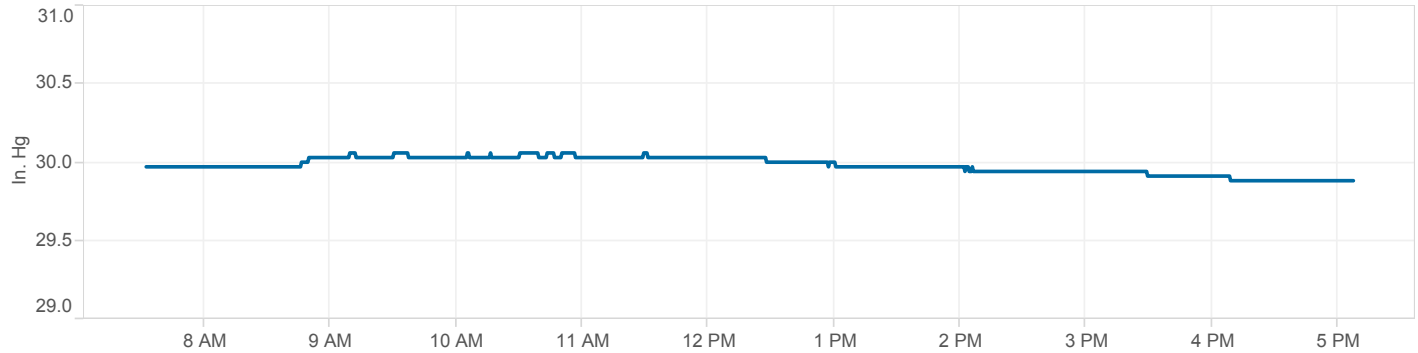


Wind direction reported in degrees where 0 degrees is equivalent to a cardinal direction of North and 180 degrees is equivalent to South

Temperature



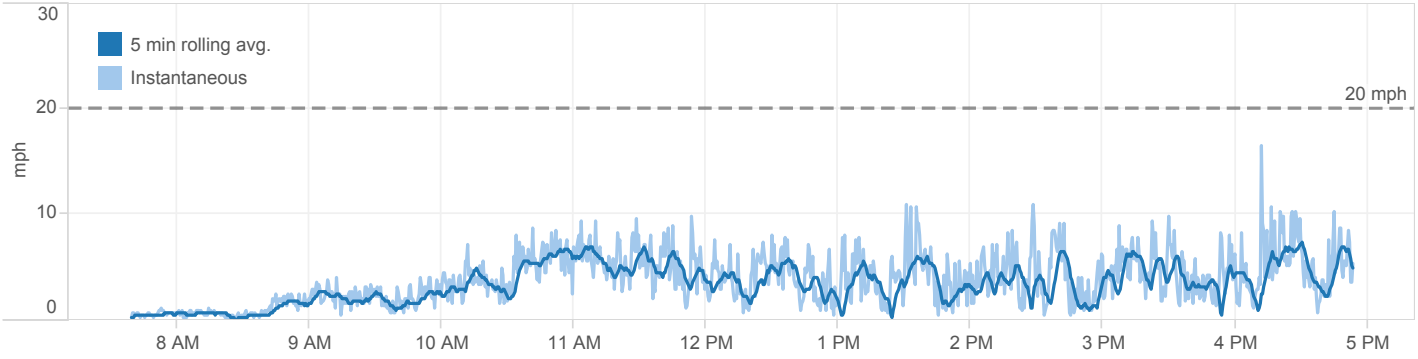
Barometric Pressure



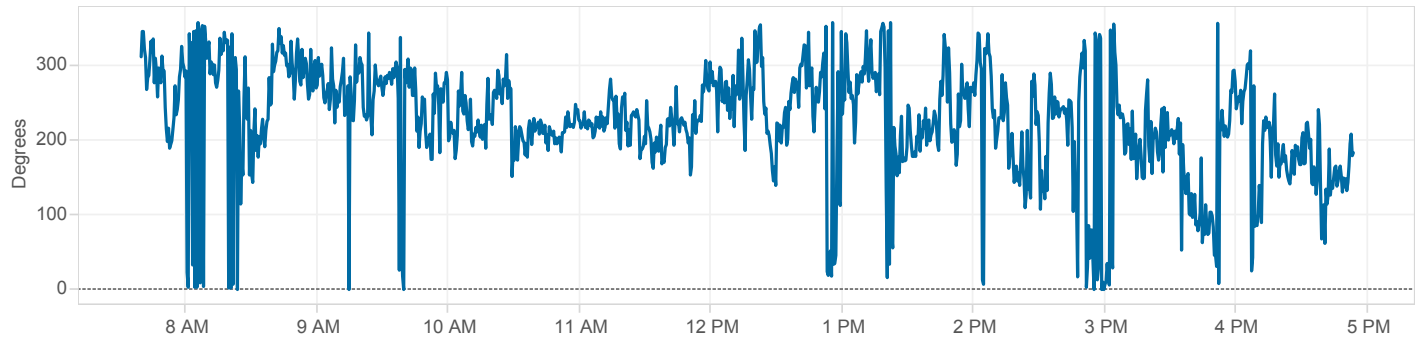
Houston, TX Meteorological Data

April 7, 2016

Wind Speed

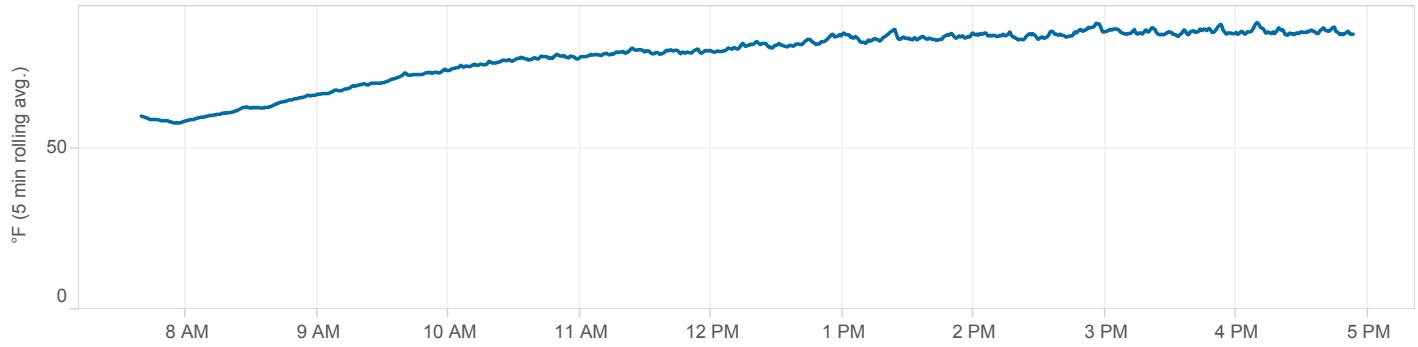


Wind Direction

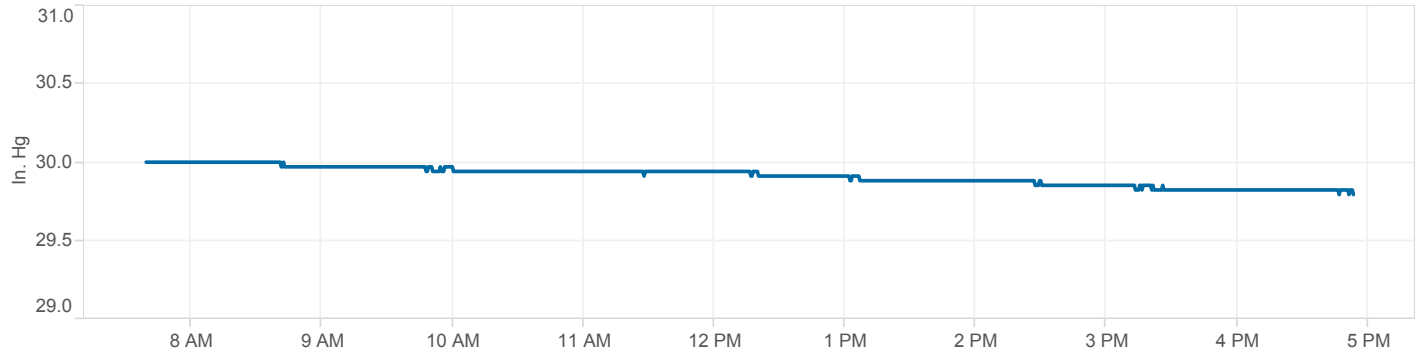


Wind direction reported in degrees where 0 degrees is equivalent to a cardinal direction of North and 180 degrees is equivalent to South

Temperature



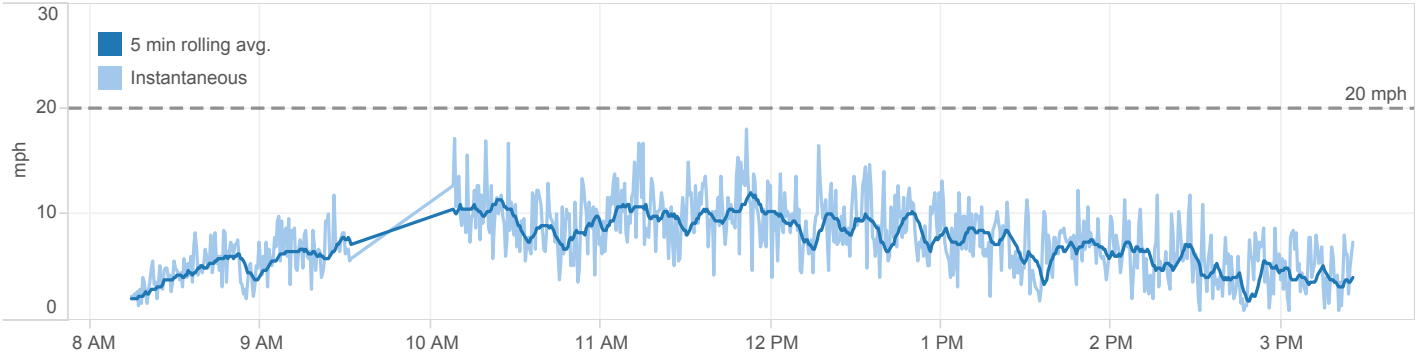
Barometric Pressure



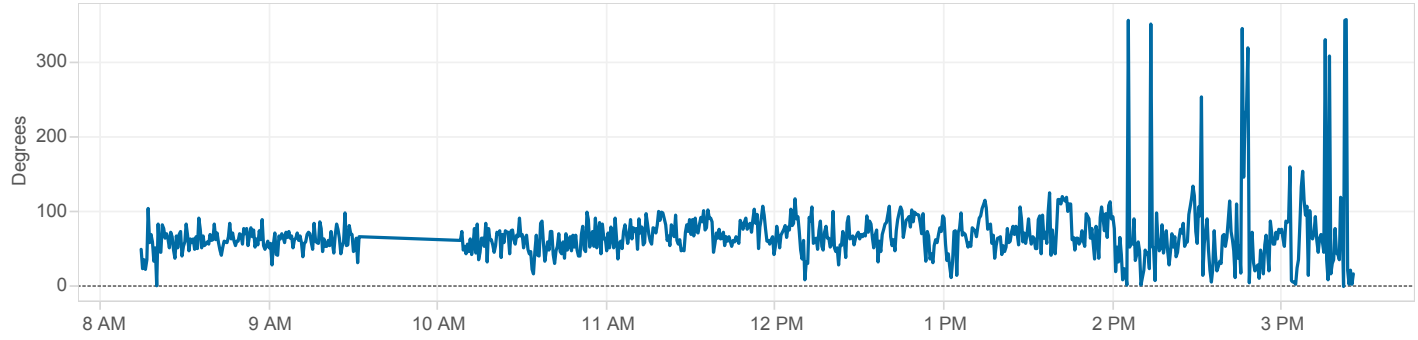
Houston, TX Meteorological Data

April 8, 2016

Wind Speed

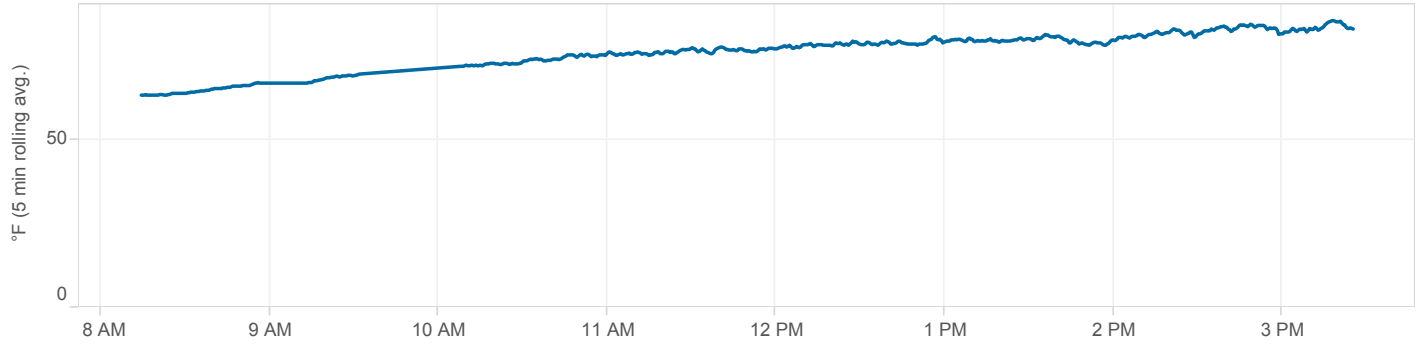


Wind Direction

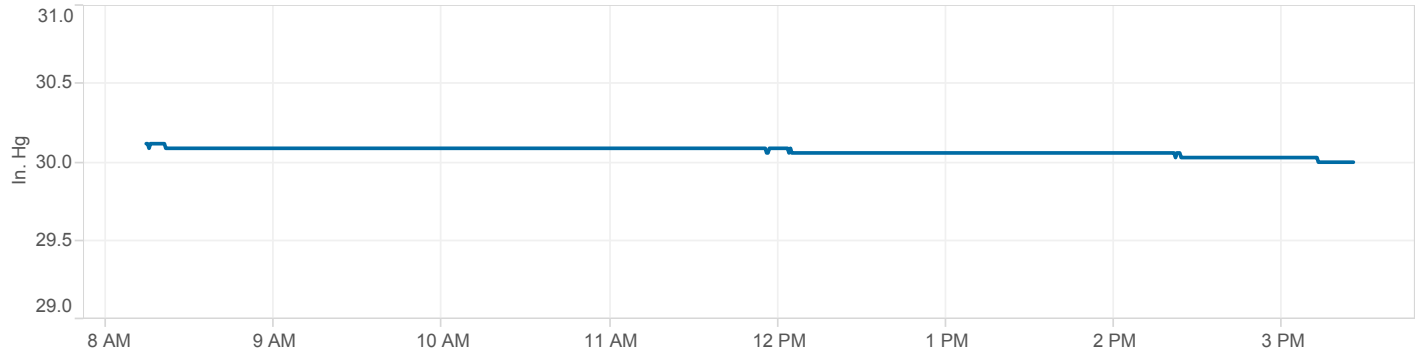


Wind direction reported in degrees where 0 degrees is equivalent to a cardinal direction of North and 180 degrees is equivalent to South

Temperature



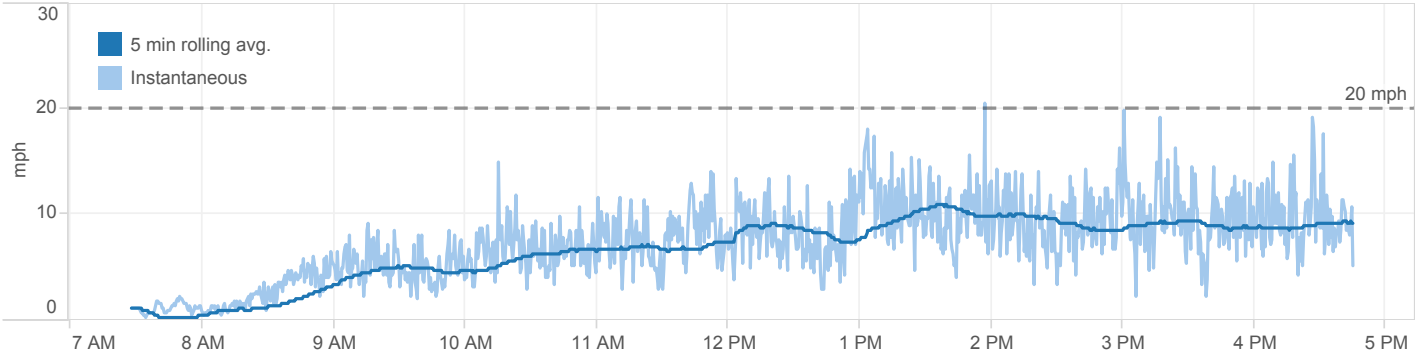
Barometric Pressure



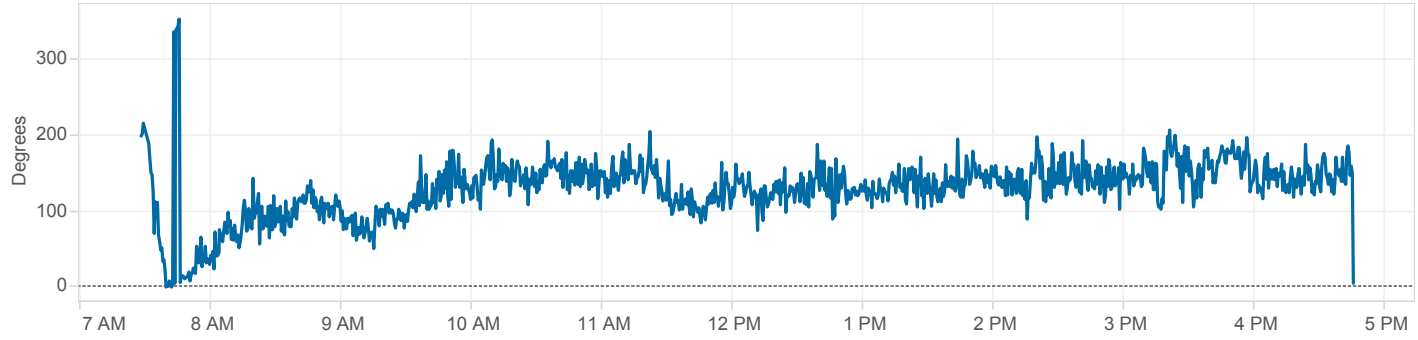
Houston, TX Meteorological Data

April 9, 2016

Wind Speed

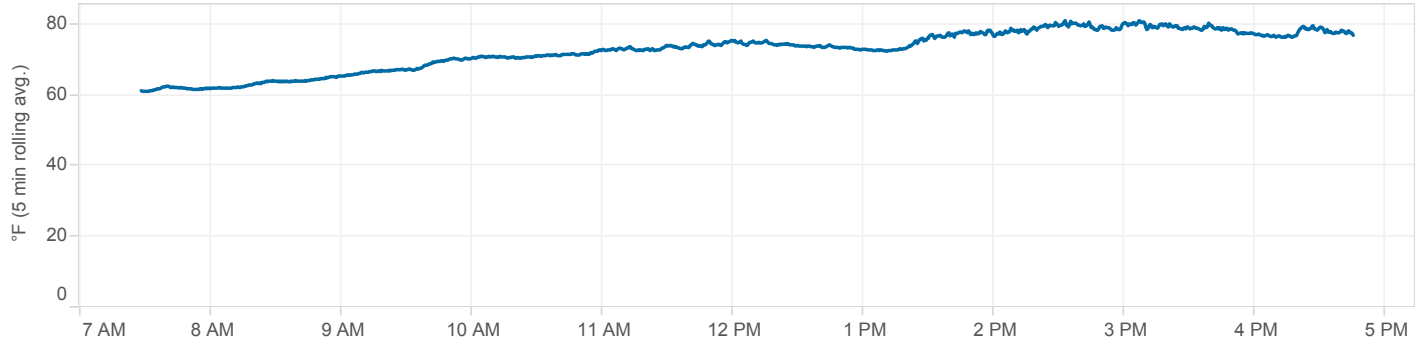


Wind Direction

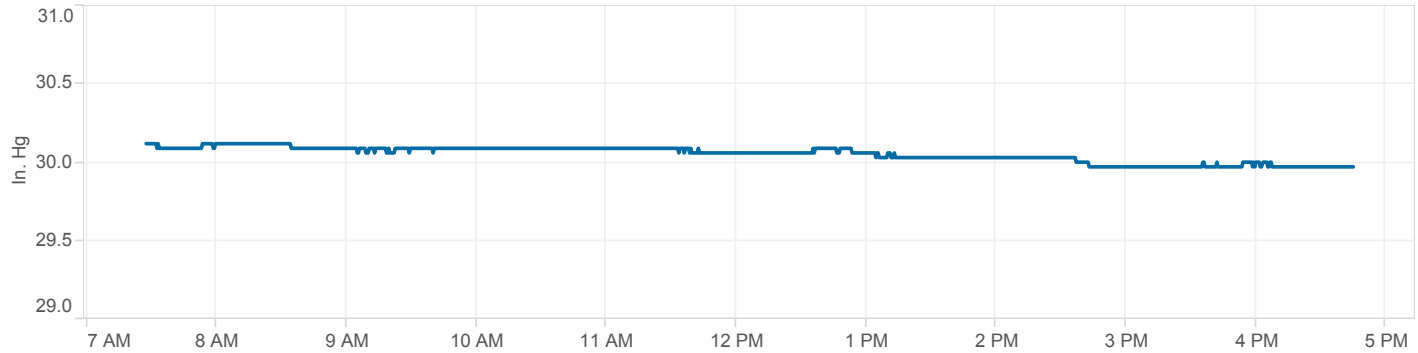


Wind direction reported in degrees where 0 degrees is equivalent to a cardinal direction of North and 180 degrees is equivalent to South

Temperature



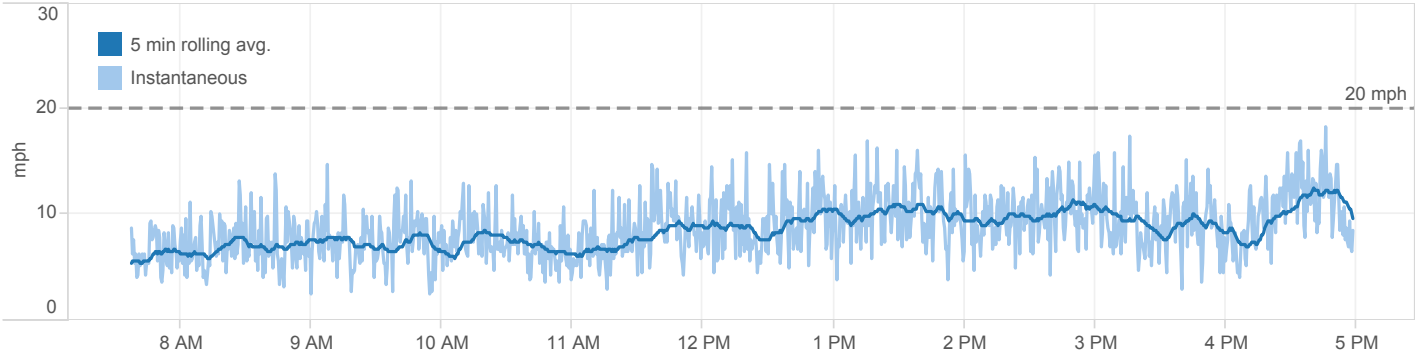
Barometric Pressure



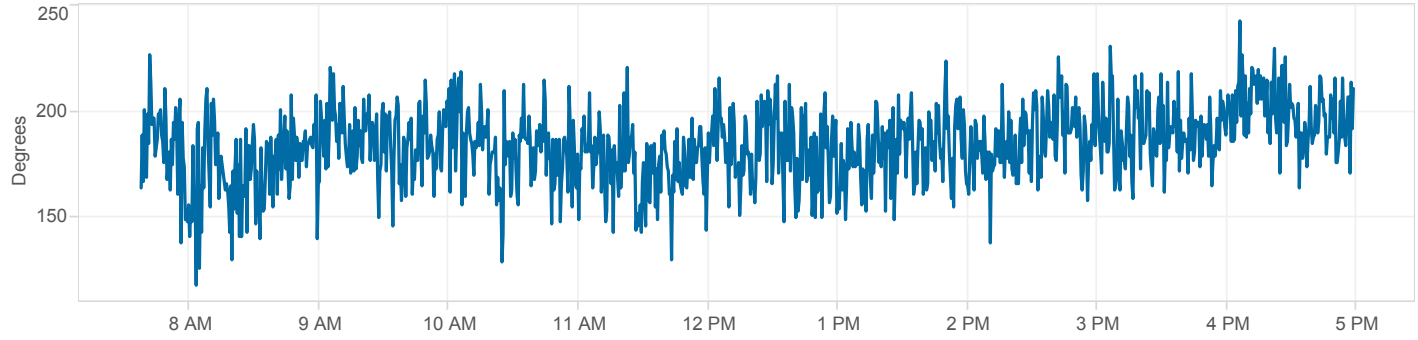
Houston, TX Meteorological Data

April 11, 2016

Wind Speed

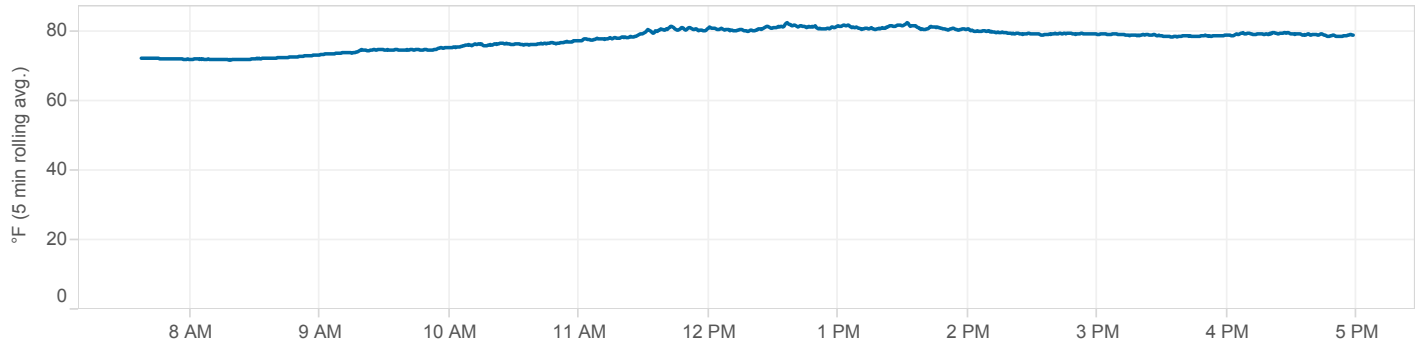


Wind Direction

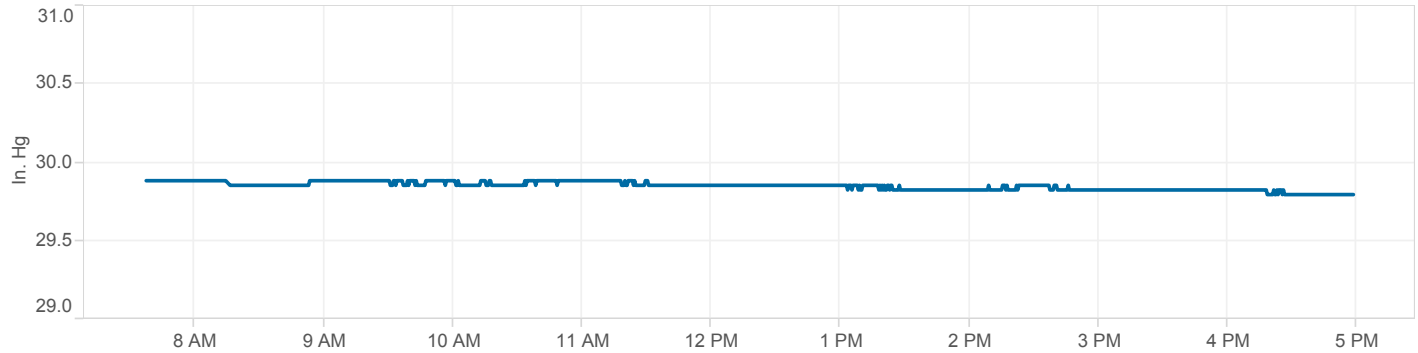


Wind direction reported in degrees where 0 degrees is equivalent to a cardinal direction of North and 180 degrees is equivalent to South

Temperature



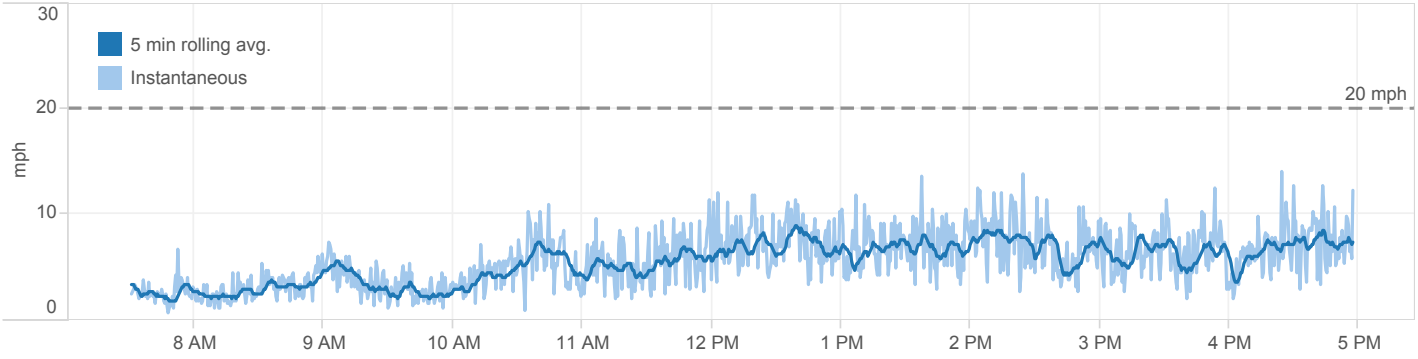
Barometric Pressure



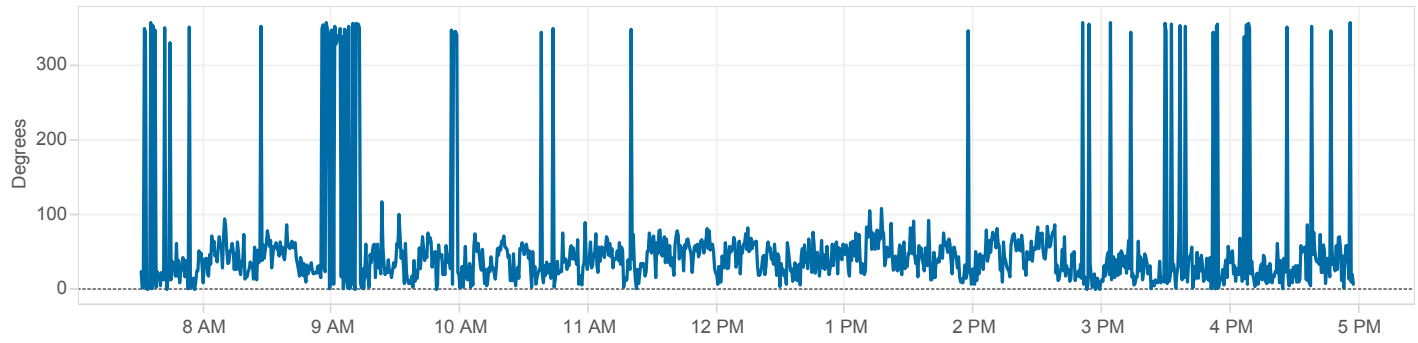
Houston, TX Meteorological Data

April 12, 2016

Wind Speed

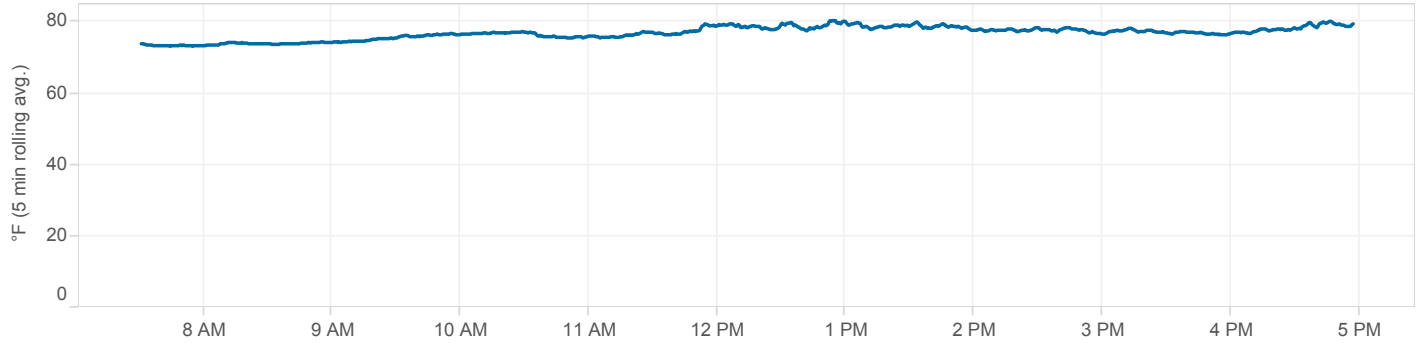


Wind Direction

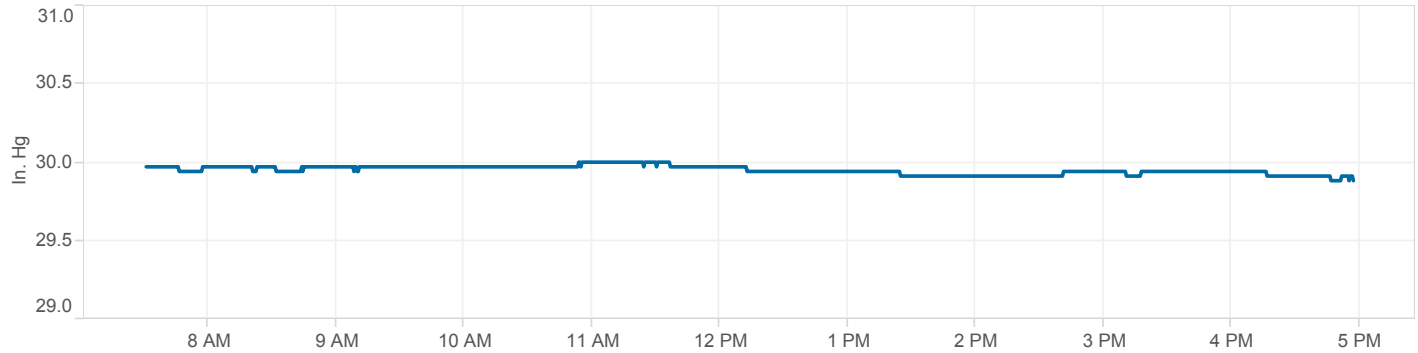


Wind direction reported in degrees where 0 degrees is equivalent to a cardinal direction of North and 180 degrees is equivalent to South

Temperature



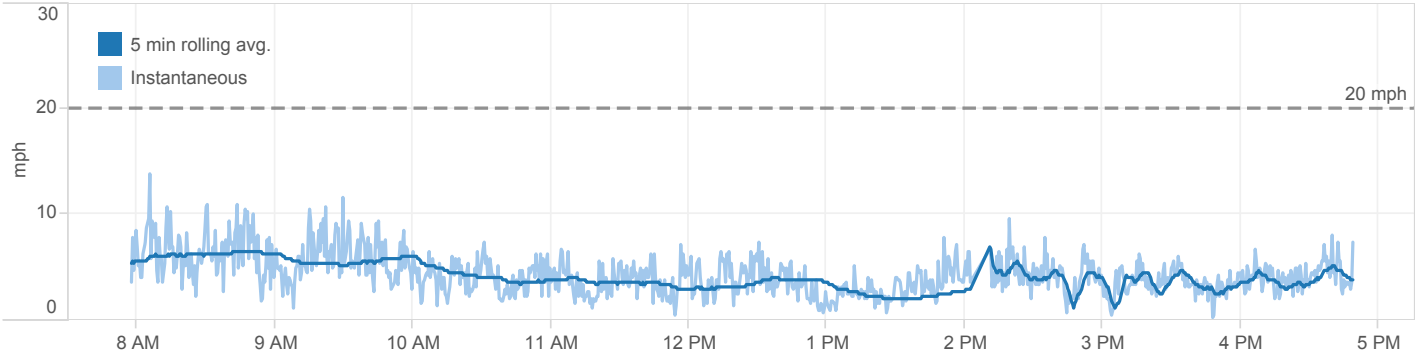
Barometric Pressure



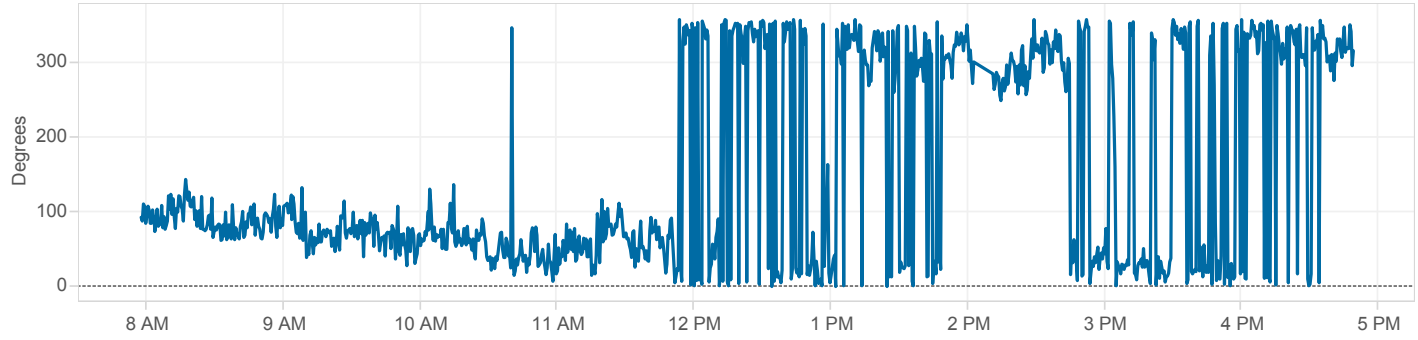
Houston, TX Meteorological Data

April 13, 2016

Wind Speed

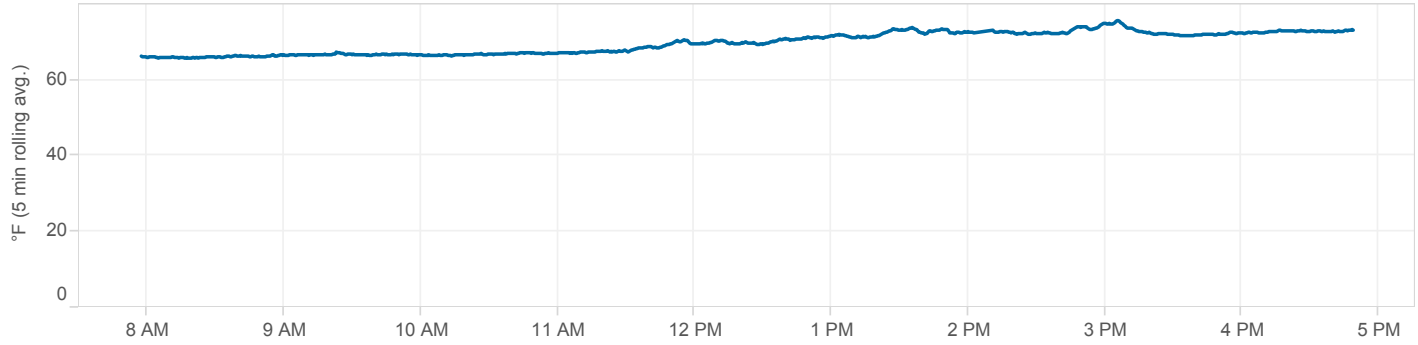


Wind Direction

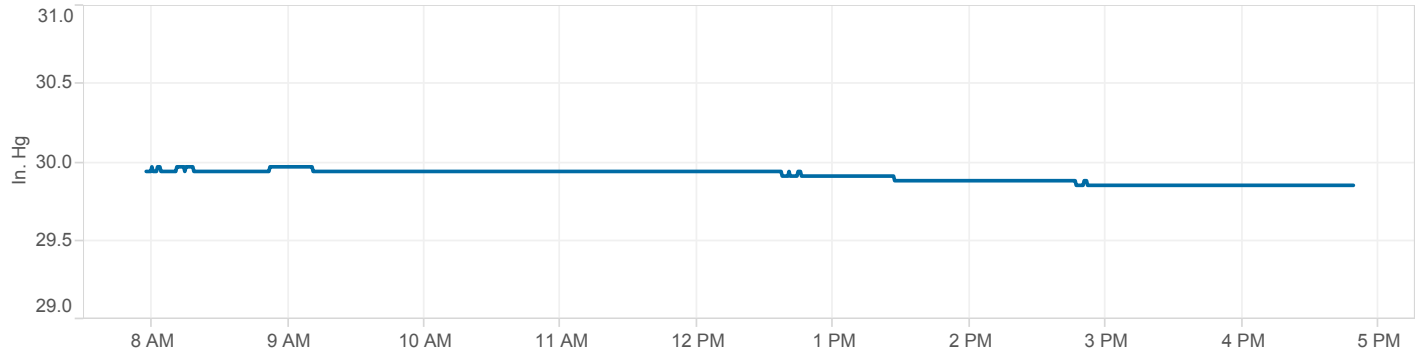


Wind direction reported in degrees where 0 degrees is equivalent to a cardinal direction of North and 180 degrees is equivalent to South

Temperature



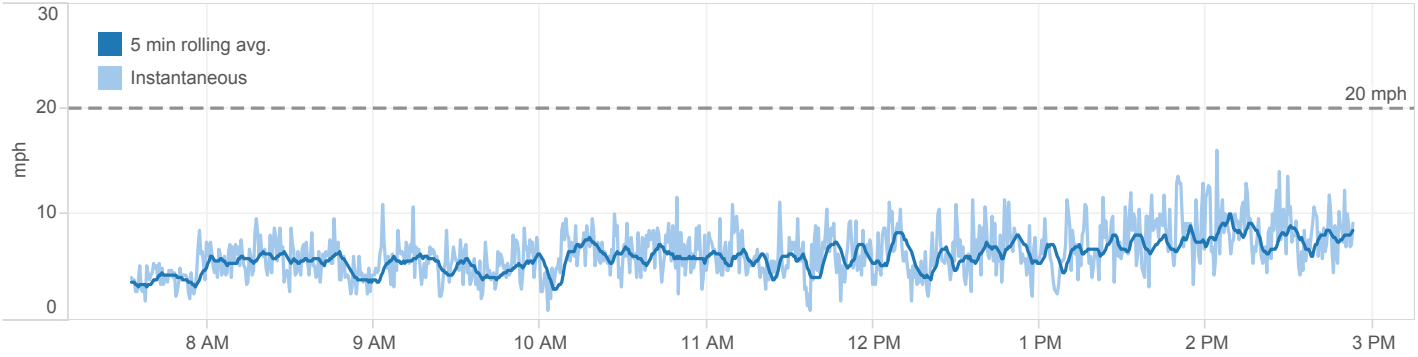
Barometric Pressure



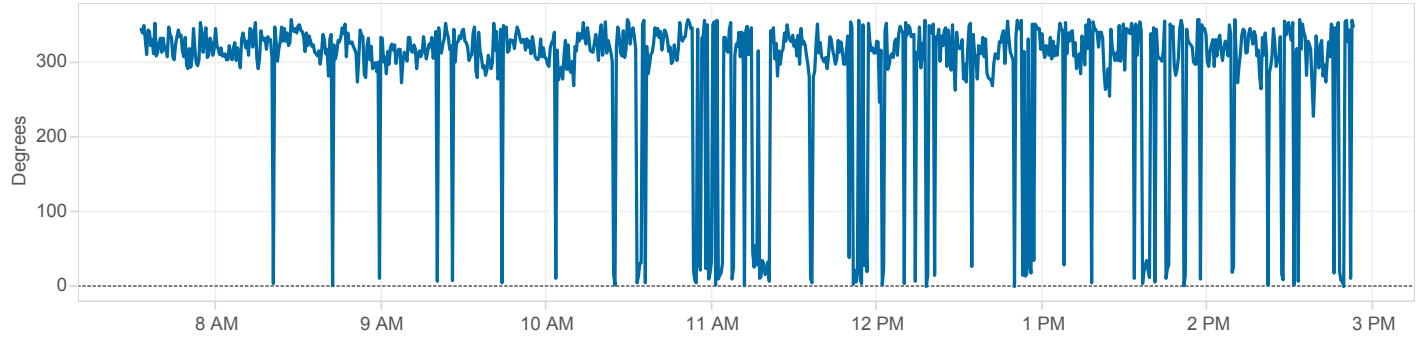
Houston, TX Meteorological Data

April 14, 2016

Wind Speed

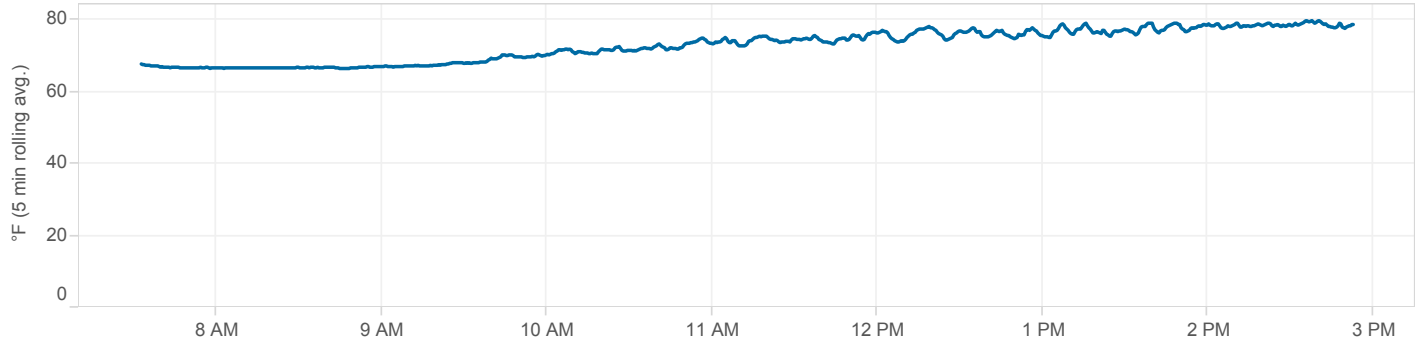


Wind Direction

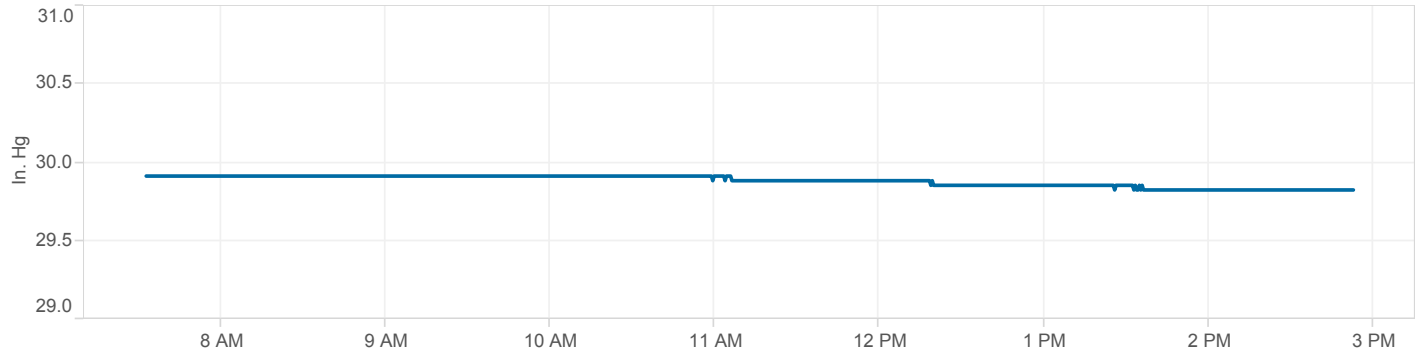


Wind direction reported in degrees where 0 degrees is equivalent to a cardinal direction of North and 180 degrees is equivalent to South

Temperature



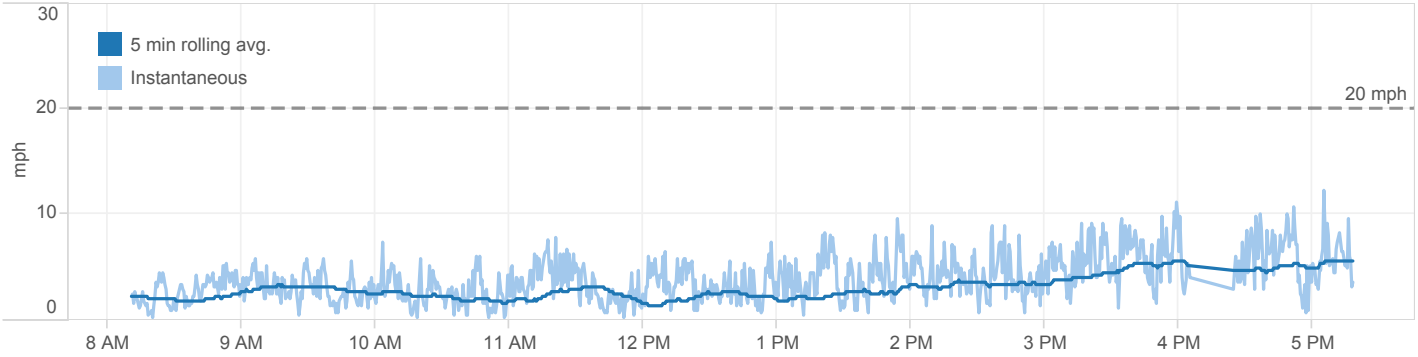
Barometric Pressure



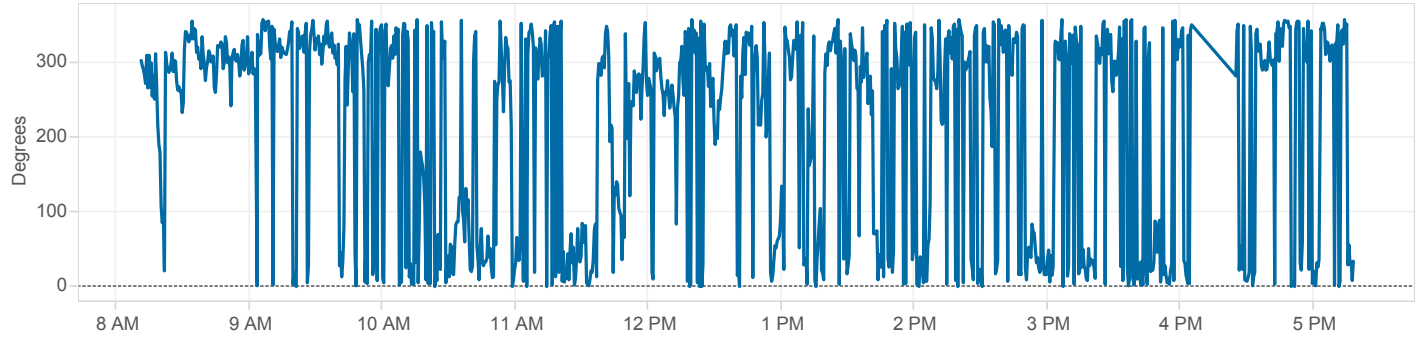
Houston, TX Meteorological Data

April 15, 2016

Wind Speed



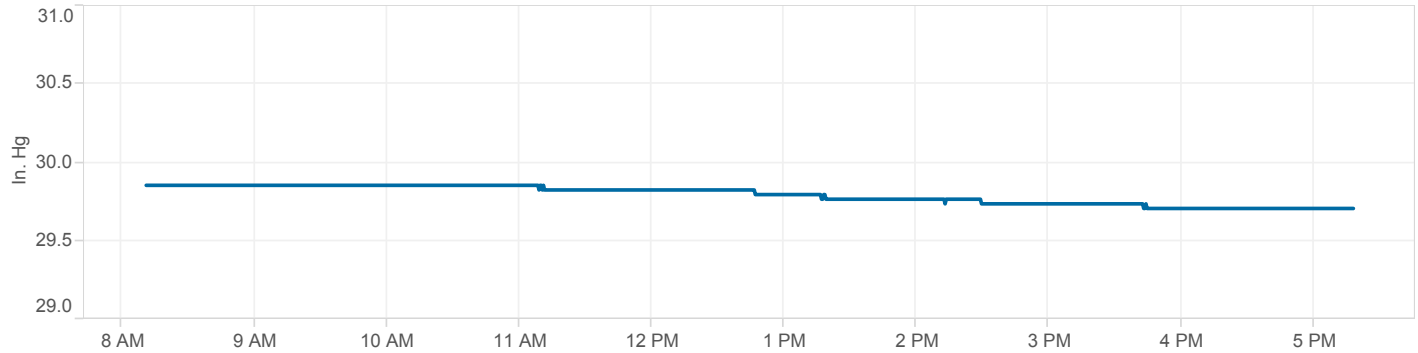
Wind Direction



Wind direction reported in degrees where 0 degrees is equivalent to a cardinal direction of North and 180 degrees is equivalent to South

Temperature

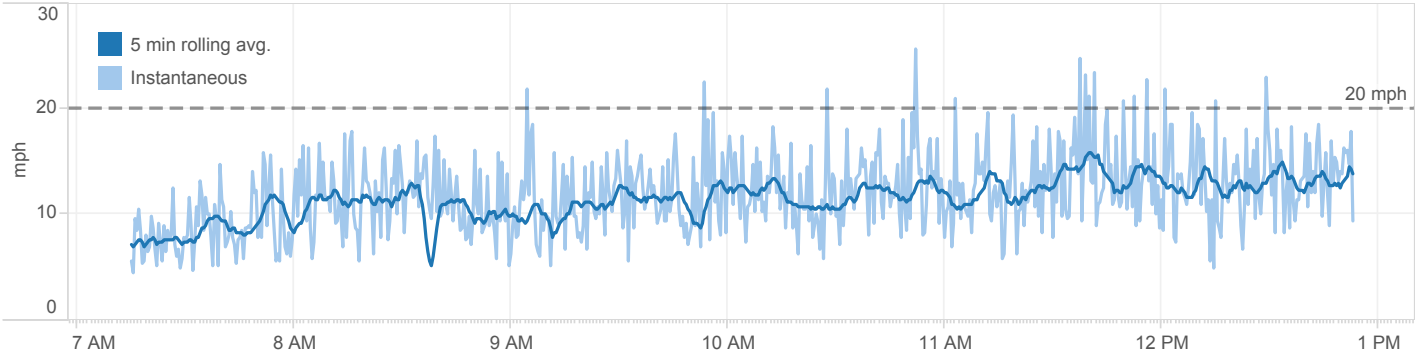
Barometric Pressure



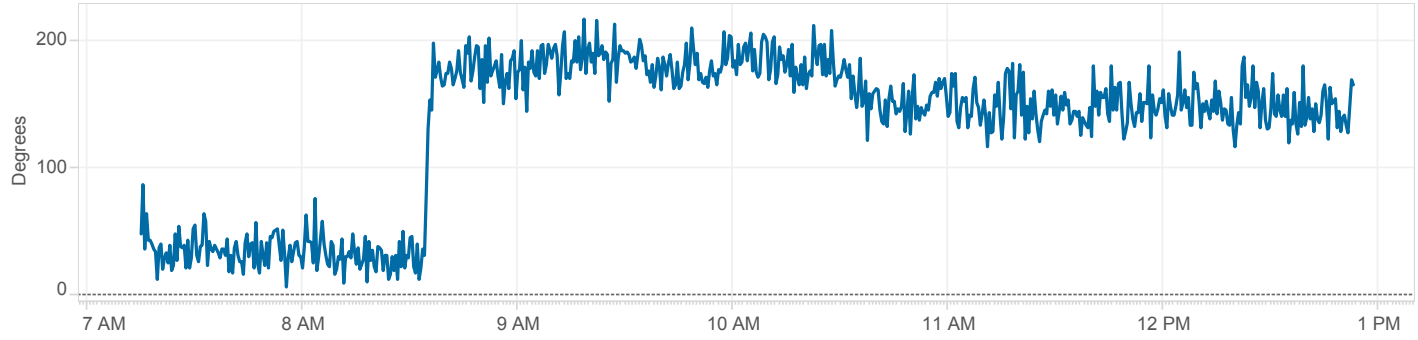
Houston, TX Meteorological Data

April 16, 2016

Wind Speed

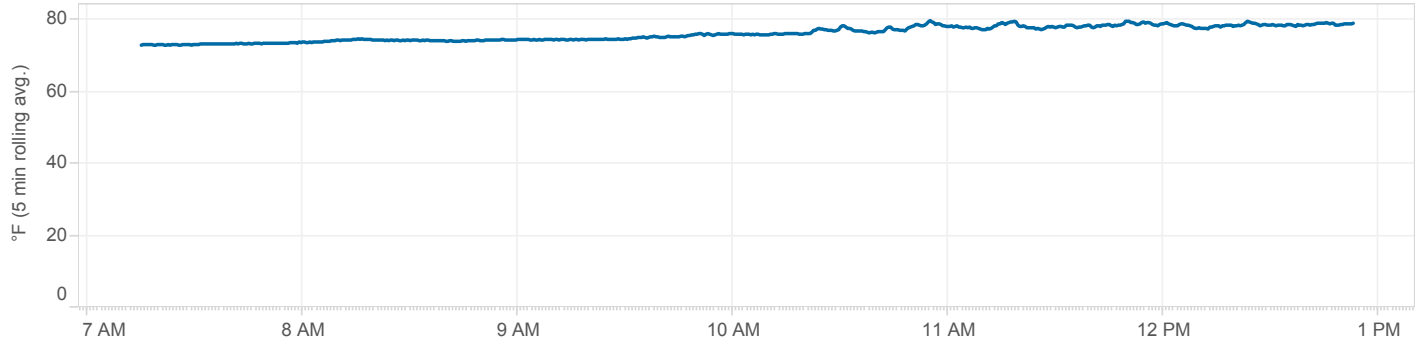


Wind Direction

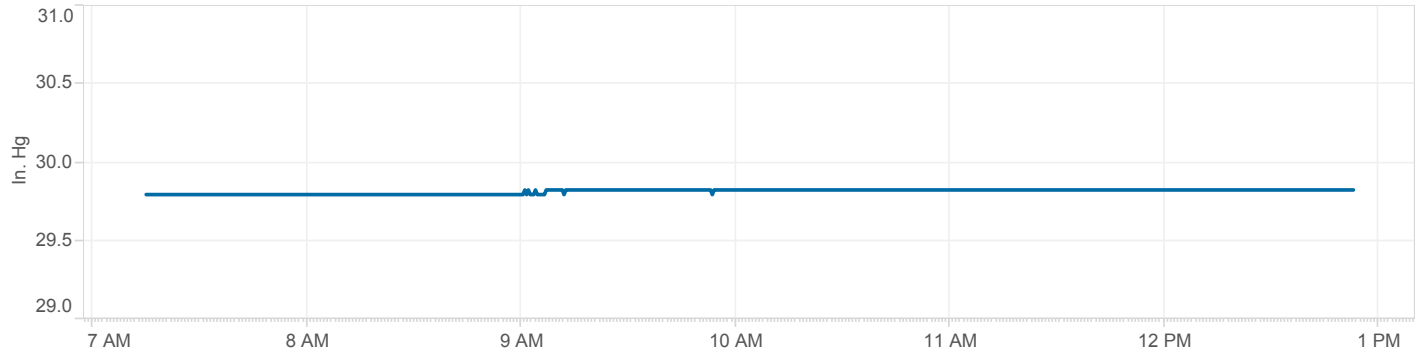


Wind direction reported in degrees where 0 degrees is equivalent to a cardinal direction of North and 180 degrees is equivalent to South

Temperature



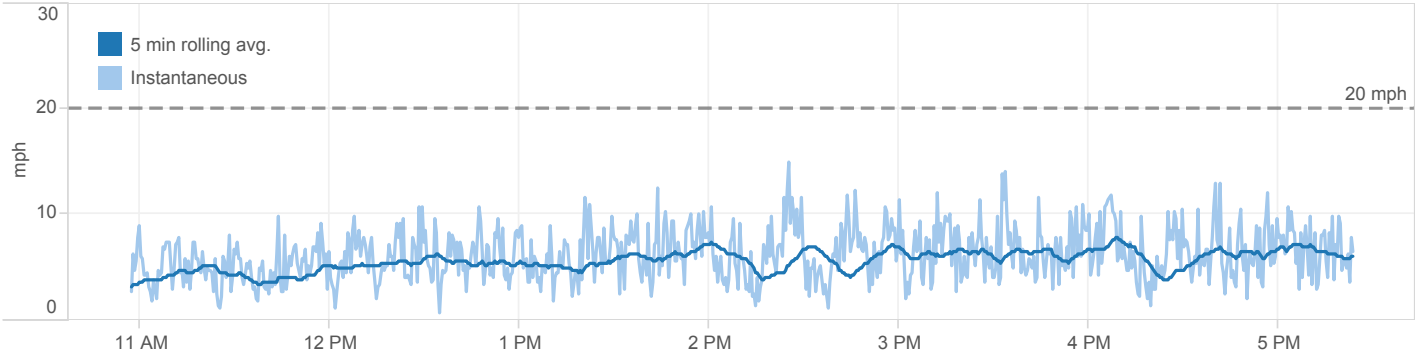
Barometric Pressure



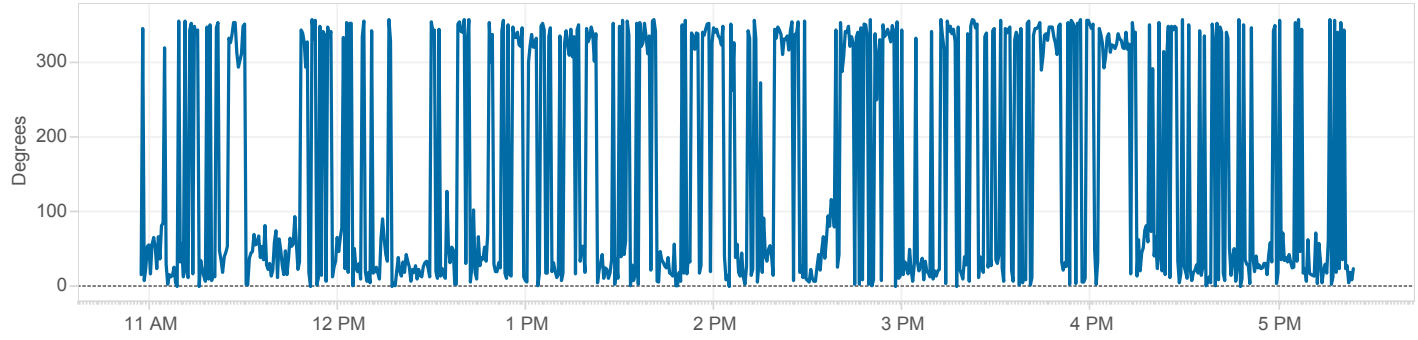
Houston, TX Meteorological Data

April 22, 2016

Wind Speed

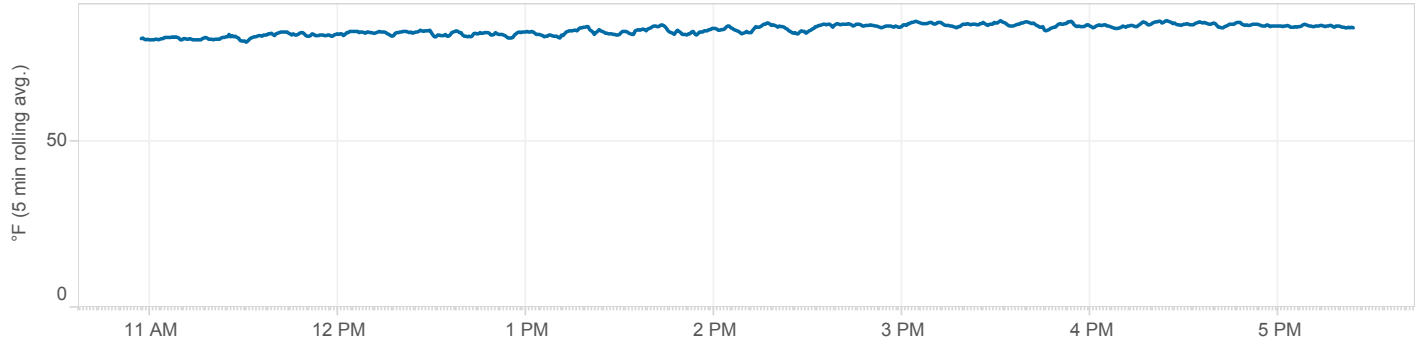


Wind Direction

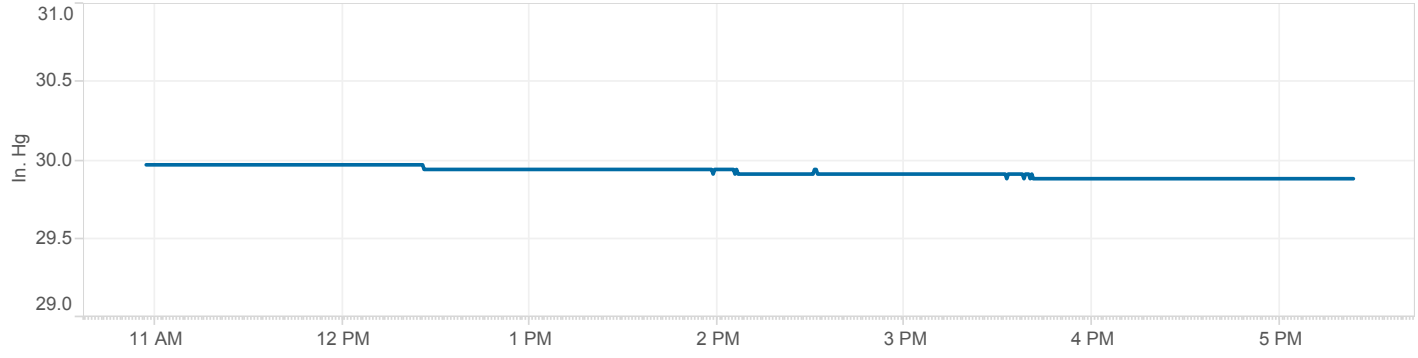


Wind direction reported in degrees where 0 degrees is equivalent to a cardinal direction of North and 180 degrees is equivalent to South

Temperature



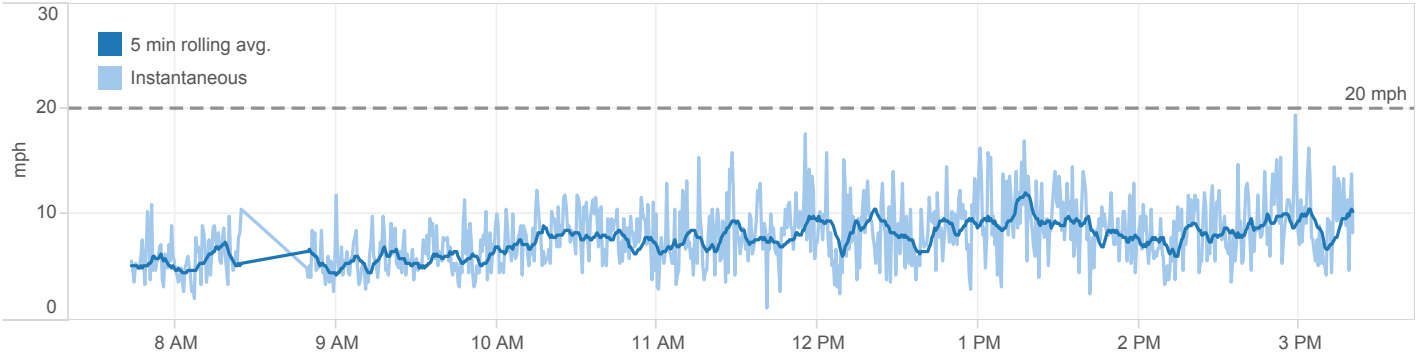
Barometric Pressure



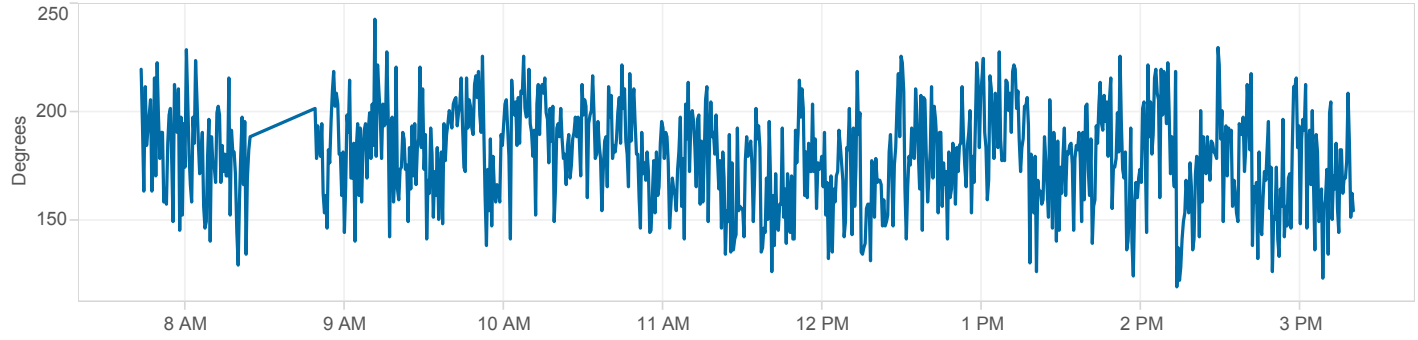
Houston, TX Meteorological Data

April 26, 2016

Wind Speed

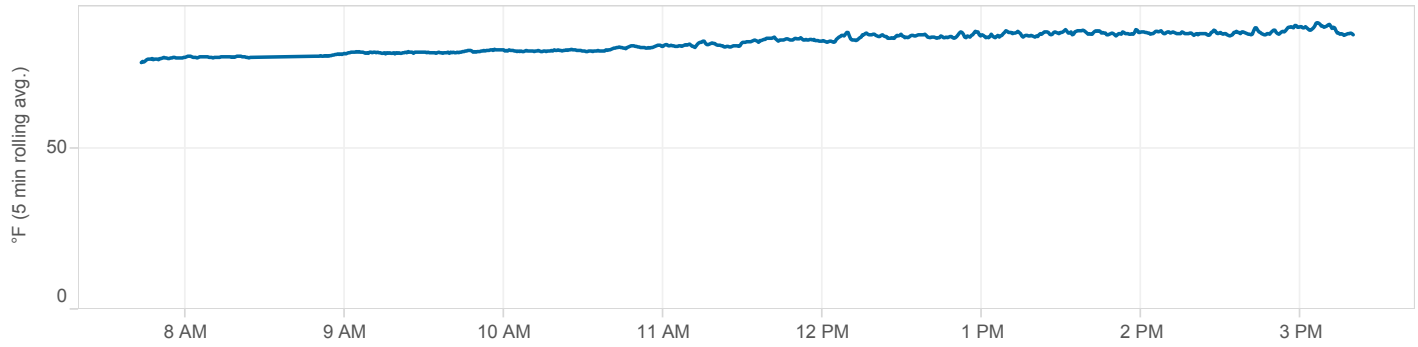


Wind Direction

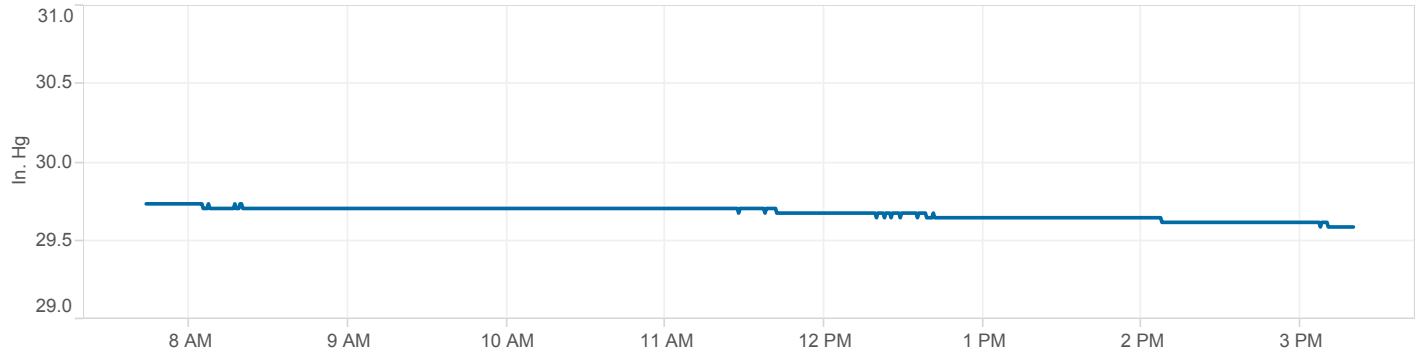


Wind direction reported in degrees where 0 degrees is equivalent to a cardinal direction of North and 180 degrees is equivalent to South

Temperature



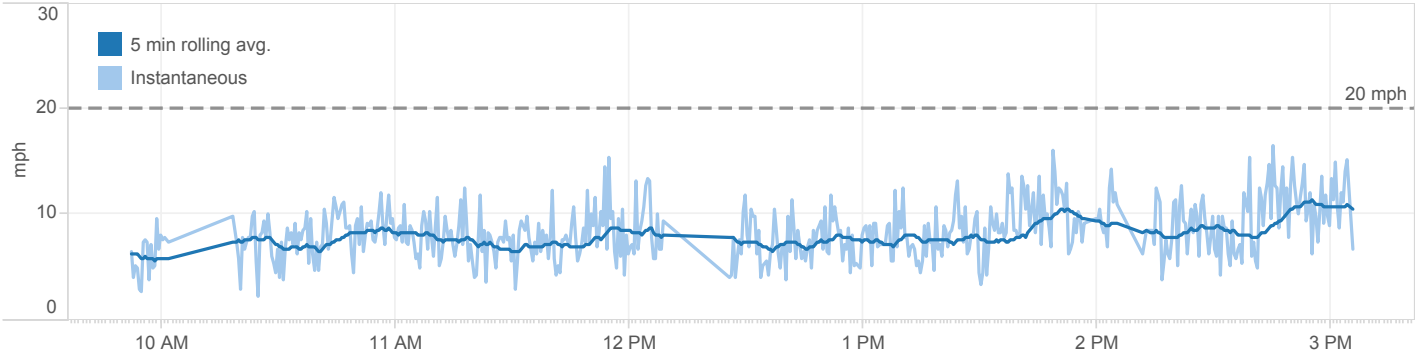
Barometric Pressure



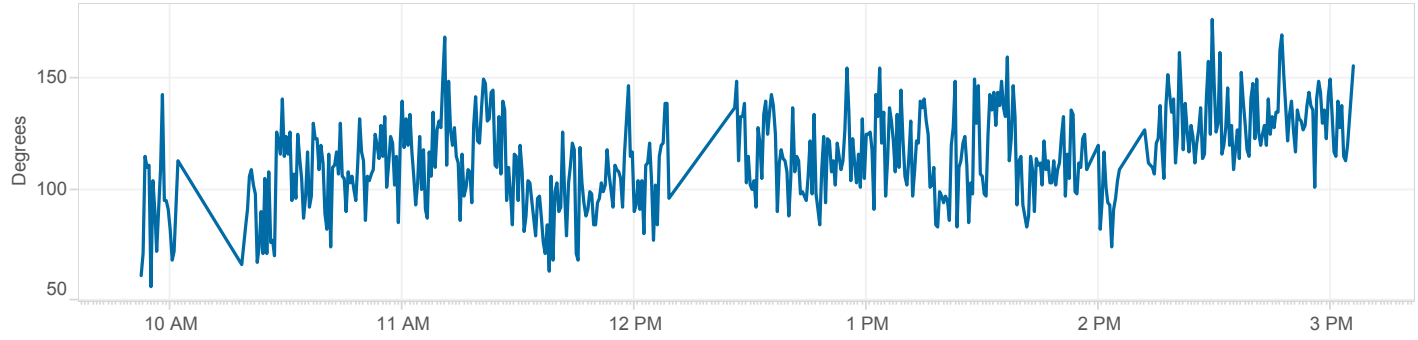
Houston, TX Meteorological Data

April 28, 2016

Wind Speed

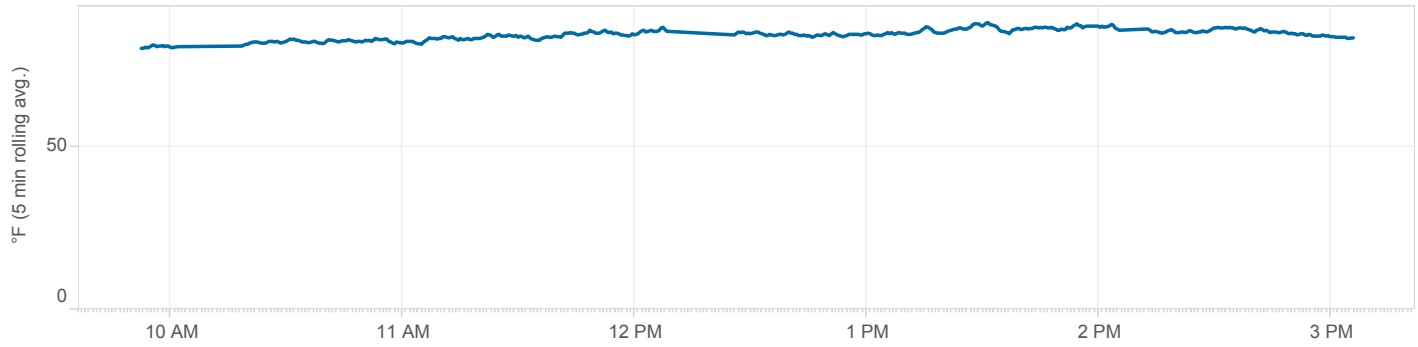


Wind Direction

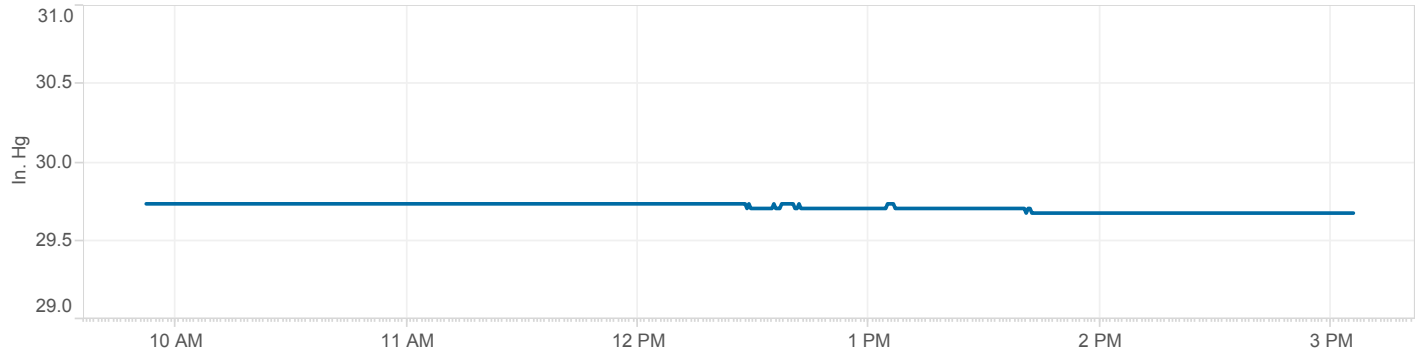


Wind direction reported in degrees where 0 degrees is equivalent to a cardinal direction of North and 180 degrees is equivalent to South

Temperature



Barometric Pressure



Attachment F

Laboratory Reports

See Attached CD for
Laboratory Reports

Mr. Charles Connolly
Center for Toxicology & Env. Health LLC
5120 North Shore Drive
North Little Rock, AR 72118

February 16, 2016

DOH ELAP #11626 Account# 13913 Login# L367095
AIHA-LAP #100324

Dear Mr. Connolly:

Enclosed are the analytical results for the samples received by our laboratory on February 15, 2016. All test results meet the quality control requirements of AIHA-LAP and NELAC unless otherwise stated in this report. All samples on the chain of custody were received in good condition unless otherwise noted.

Results in this report are based on the sampling data provided by the client and refer only to the samples as they were received at the laboratory. Unless otherwise requested, all samples will be discarded 14 days from the date of this report, with the exception of IOMs, which will be cleaned and disposed of after seven calendar days.

Current Scopes of Accreditation can be viewed at www.galsonlabs.com in the accreditations section under the "about Galson" tab.

Please contact Pamela Weaver at (888) 432-5227, if you would like any additional information regarding this report. Thank you for using SGS Galson Laboratories.

Sincerely,

SGS Galson Laboratories

Lisa Swab
Laboratory Director

Enclosure(s)

Galson Laboratories, Inc. is now a part of SGS, the world's leading inspection, verification, testing, and certification company. As part of our transition to SGS, you will begin to see some formatting changes with reports that will improve the presentation of data and allow for the transition to the new logo.

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FAX: (315) 437-0571
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LABORATORY ANALYSIS REPORT

Client : Center for Toxicology & Env. H
Site : NS
Project No. : 107907
Date Sampled : 10-FEB-16 - 11-FEB-16
Date Received : 15-FEB-16

Account No.: 13913
Login No. : L367095
Date Analyzed : 15-FEB-16
Report ID : 922284

Client ID : HOTX0210PNAH001 **Lab ID : L367095-5** **Air Volume : 907.2 Liter**
Date Sampled : 02/10/16 **Date Analyzed : 02/15/16**

Parameter	LOQ ug	Filter ug	Front ug	Back ug	Total ug	Conc mg/m3	ppm
1-Nitropyrene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Acenaphthene	0.3	<0.3	<0.3	<0.3	<0.3	<0.0004	<0.00006
Acenaphthylene	0.3	<0.3	<0.3	<0.3	<0.3	<0.0003	<0.00006
Anthracene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00005
Benzo(a)anthracene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00005
Benzo(a)pyrene	0.3	<0.3	<0.3	<0.3	<0.5	<0.0005	<0.00005
Benzo(b)fluoranthene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0005	<0.00004
Benzo(e)pyrene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0005	<0.00005
Benzo(g,h,i)perylene	0.3	<0.3	<0.3	<0.3	<0.5	<0.0006	<0.00005
Benzo(k)fluoranthene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0005	<0.00004
Chrysene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00005
Dibenz(a,h)anthracene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0005	<0.00004
Fluoranthene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00005
Fluorene	0.3	<0.3	<0.3	<0.3	<0.3	<0.0004	<0.00005
Indeno(1,2,3-cd)pyrene	0.3	<0.3	<0.3	<0.3	<0.5	<0.0005	<0.00005

COMMENTS: Please see attached lab footnote report for any applicable footnotes.

Collection Media: FilterTube
Date : 16-FEB-16

Submitted by: MWJ
NYS DOH # : 11626

Approved by: nkp
Supervisor: MWJ QC by: KSB

< -Less Than mg -Milligrams m3 -Cubic Meters kg -Kilograms NA -Not Applicable ND -Not Detected
> -Greater Than ug -Micrograms l -Liters NS -Not Specified ppm -Parts per Million LOQ-Limit of Quantitation

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LABORATORY ANALYSIS REPORT

Client : Center for Toxicology & Env. H
Site : NS
Project No. : 107907
Date Sampled : 10-FEB-16 - 11-FEB-16
Date Received : 15-FEB-16

Account No.: 13913
Login No. : L367095
Date Analyzed : 15-FEB-16
Report ID : 922284

Client ID : HOTX0210PNAH001 **Lab ID : L367095-5** **Air Volume : 907.2 Liter**
Date Sampled : 02/10/16 **Date Analyzed : 02/15/16**

Parameter	LOQ ug	Filter ug	Front ug	Back ug	Total ug	Conc mg/m3	ppm
Naphthalene	0.3	<0.3	0.3	<0.3	0.4	0.0004	0.00008
Phenanthrene	0.3	<0.3	<0.3	<0.3	<0.3	<0.0004	<0.00005
Pyrene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00005

COMMENTS: Please see attached lab footnote report for any applicable footnotes.

Collection Media: FilterTube
Date : 16-FEB-16

Submitted by: MWJ
NYS DOH # : 11626

Approved by: nkp
Supervisor: MWJ QC by: KSB

< -Less Than mg -Milligrams m3 -Cubic Meters kg -Kilograms NA -Not Applicable ND -Not Detected
> -Greater Than ug -Micrograms l -Liters NS -Not Specified ppm -Parts per Million LOQ-Limit of Quantitation

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LABORATORY ANALYSIS REPORT

Client : Center for Toxicology & Env. H
Site : NS
Project No. : 107907
Date Sampled : 10-FEB-16 - 11-FEB-16
Date Received : 15-FEB-16

Account No.: 13913
Login No. : L367095
Date Analyzed : 15-FEB-16
Report ID : 922284

Client ID : HOTX0210PNAH003 **Lab ID : L367095-6** **Air Volume : 897.6 Liter**
Date Sampled : 02/10/16 **Date Analyzed : 02/15/16**

Parameter	LOQ ug	Filter ug	Front ug	Back ug	Total ug	Conc mg/m3	ppm
1-Nitropyrene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Acenaphthene	0.3	<0.3	<0.3	<0.3	<0.3	<0.0004	<0.00006
Acenaphthylene	0.3	<0.3	<0.3	<0.3	<0.3	<0.0003	<0.00006
Anthracene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00005
Benzo(a)anthracene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00005
Benzo(a)pyrene	0.3	<0.3	<0.3	<0.3	<0.5	<0.0005	<0.00005
Benzo(b)fluoranthene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0005	<0.00004
Benzo(e)pyrene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0005	<0.00005
Benzo(g,h,i)perylene	0.3	<0.3	<0.3	<0.3	<0.5	<0.0006	<0.00005
Benzo(k)fluoranthene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0005	<0.00004
Chrysene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00005
Dibenz(a,h)anthracene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0005	<0.00004
Fluoranthene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00005
Fluorene	0.3	<0.3	<0.3	<0.3	<0.3	<0.0004	<0.00005
Indeno(1,2,3-cd)pyrene	0.3	<0.3	<0.3	<0.3	<0.5	<0.0005	<0.00005

COMMENTS: Please see attached lab footnote report for any applicable footnotes.

Collection Media: FilterTube
Date : 16-FEB-16

Submitted by: MWJ
NYS DOH # : 11626

Approved by: nkp
Supervisor: MWJ QC by: KSB

< -Less Than mg -Milligrams m3 -Cubic Meters kg -Kilograms NA -Not Applicable ND -Not Detected
> -Greater Than ug -Micrograms l -Liters NS -Not Specified ppm -Parts per Million LOQ-Limit of Quantitation

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LABORATORY ANALYSIS REPORT

Client : Center for Toxicology & Env. H
Site : NS
Project No. : 107907
Date Sampled : 10-FEB-16 - 11-FEB-16
Date Received : 15-FEB-16

Account No.: 13913
Login No. : L367095
Date Analyzed : 15-FEB-16
Report ID : 922284

Client ID : HOTX0210PNAH003 **Lab ID : L367095-6** **Air Volume : 897.6 Liter**
Date Sampled : 02/10/16 **Date Analyzed : 02/15/16**

Parameter	LOQ ug	Filter ug	Front ug	Back ug	Total ug	Conc mg/m3	ppm
Naphthalene	0.3	<0.3	<0.3	<0.3	<0.3	<0.0004	<0.00007
Phenanthrene	0.3	<0.3	<0.3	<0.3	<0.3	<0.0004	<0.00005
Pyrene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00005

COMMENTS: Please see attached lab footnote report for any applicable footnotes.

Collection Media: FilterTube
Date : 16-FEB-16

Submitted by: MWJ
NYS DOH # : 11626

Approved by: nkp
Supervisor: MWJ QC by: KSB

< -Less Than mg -Milligrams m3 -Cubic Meters kg -Kilograms NA -Not Applicable ND -Not Detected
> -Greater Than ug -Micrograms l -Liters NS -Not Specified ppm -Parts per Million LOQ-Limit of Quantitation

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LABORATORY ANALYSIS REPORT

Client : Center for Toxicology & Env. H
Site : NS
Project No. : 107907
Date Sampled : 10-FEB-16 - 11-FEB-16
Date Received : 15-FEB-16

Account No.: 13913
Login No. : L367095
Date Analyzed : 15-FEB-16
Report ID : 922284

Client ID : HOTX0210PNAH004 **Lab ID : L367095-7** **Air Volume : NA**
Date Sampled : 02/10/16 **Date Analyzed : 02/15/16**

Parameter	LOQ ug	Filter ug	Front ug	Back ug	Total ug	Conc mg/m3	ppm
1-Nitropyrene	0.3	<0.3	<0.3	<0.3	<0.4	NA	NA
Acenaphthene	0.3	<0.3	<0.3	<0.3	<0.3	NA	NA
Acenaphthylene	0.3	<0.3	<0.3	<0.3	<0.3	NA	NA
Anthracene	0.3	<0.3	<0.3	<0.3	<0.4	NA	NA
Benzo(a)anthracene	0.3	<0.3	<0.3	<0.3	<0.4	NA	NA
Benzo(a)pyrene	0.3	<0.3	<0.3	<0.3	<0.5	NA	NA
Benzo(b)fluoranthene	0.3	<0.3	<0.3	<0.3	<0.4	NA	NA
Benzo(e)pyrene	0.3	<0.3	<0.3	<0.3	<0.4	NA	NA
Benzo(g,h,i)perylene	0.3	<0.3	<0.3	<0.3	<0.5	NA	NA
Benzo(k)fluoranthene	0.3	<0.3	<0.3	<0.3	<0.4	NA	NA
Chrysene	0.3	<0.3	<0.3	<0.3	<0.4	NA	NA
Dibenz(a,h)anthracene	0.3	<0.3	<0.3	<0.3	<0.4	NA	NA
Fluoranthene	0.3	<0.3	<0.3	<0.3	<0.4	NA	NA
Fluorene	0.3	<0.3	<0.3	<0.3	<0.3	NA	NA
Indeno(1,2,3-cd)pyrene	0.3	<0.3	<0.3	<0.3	<0.5	NA	NA

COMMENTS: Please see attached lab footnote report for any applicable footnotes.

Collection Media: FilterTube
Date : 16-FEB-16

Submitted by: MWJ
NYS DOH # : 11626

Approved by: nkp
Supervisor: MWJ QC by: KSB

< -Less Than mg -Milligrams m3 -Cubic Meters kg -Kilograms NA -Not Applicable ND -Not Detected
> -Greater Than ug -Micrograms l -Liters NS -Not Specified ppm -Parts per Million LOQ-Limit of Quantitation

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LABORATORY ANALYSIS REPORT

Client : Center for Toxicology & Env. H
Site : NS
Project No. : 107907
Date Sampled : 10-FEB-16 - 11-FEB-16
Date Received : 15-FEB-16

Account No.: 13913
Login No. : L367095
Date Analyzed : 15-FEB-16
Report ID : 922284

Client ID : HOTX0210PNAH004 **Lab ID : L367095-7** **Air Volume : NA**
Date Sampled : 02/10/16 **Date Analyzed : 02/15/16**

Parameter	LOQ ug	Filter ug	Front ug	Back ug	Total ug	Conc mg/m3	ppm
Naphthalene	0.3	<0.3	<0.3	<0.3	<0.3	NA	NA
Phenanthrene	0.3	<0.3	<0.3	<0.3	<0.3	NA	NA
Pyrene	0.3	<0.3	<0.3	<0.3	<0.4	NA	NA

COMMENTS: Please see attached lab footnote report for any applicable footnotes.

Collection Media: FilterTube
Date : 16-FEB-16

Submitted by: MWJ
NYS DOH # : 11626

Approved by: nkp
Supervisor: MWJ QC by: KSB

< -Less Than mg -Milligrams m3 -Cubic Meters kg -Kilograms NA -Not Applicable ND -Not Detected
> -Greater Than ug -Micrograms l -Liters NS -Not Specified ppm -Parts per Million LOQ-Limit of Quantitation

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LABORATORY ANALYSIS REPORT

Client : Center for Toxicology & Env. H
Site : NS
Project No. : 107907
Date Sampled : 10-FEB-16 - 11-FEB-16
Date Received : 15-FEB-16

Account No.: 13913
Login No. : L367095
Date Analyzed : 15-FEB-16
Report ID : 922284

Client ID : HOTX0211PNAH001 **Lab ID : L367095-12** **Air Volume : 953.3 Liter**
Date Sampled : 02/11/16 **Date Analyzed : 02/15/16**

Parameter	LOQ ug	Filter ug	Front ug	Back ug	Total ug	Conc mg/m3	ppm
1-Nitropyrene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Acenaphthene	0.3	<0.3	<0.3	<0.3	<0.3	<0.0003	<0.00006
Acenaphthylene	0.3	<0.3	<0.3	<0.3	<0.3	<0.0003	<0.00005
Anthracene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00005
Benzo(a)anthracene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Benzo(a)pyrene	0.3	<0.3	<0.3	<0.3	<0.5	<0.0005	<0.00005
Benzo(b)fluoranthene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Benzo(e)pyrene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0005	<0.00004
Benzo(g,h,i)perylene	0.3	<0.3	<0.3	<0.3	<0.5	<0.0005	<0.00005
Benzo(k)fluoranthene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Chrysene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Dibenz(a,h)anthracene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Fluoranthene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00005
Fluorene	0.3	<0.3	<0.3	<0.3	<0.3	<0.0003	<0.00005
Indeno(1,2,3-cd)pyrene	0.3	<0.3	<0.3	<0.3	<0.5	<0.0005	<0.00004

COMMENTS: Please see attached lab footnote report for any applicable footnotes.

Collection Media: FilterTube
Date : 16-FEB-16

Submitted by: MWJ
NYS DOH # : 11626

Approved by: nkp
Supervisor: MWJ QC by: KSB

< -Less Than mg -Milligrams m3 -Cubic Meters kg -Kilograms NA -Not Applicable ND -Not Detected
> -Greater Than ug -Micrograms l -Liters NS -Not Specified ppm -Parts per Million LOQ-Limit of Quantitation

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LABORATORY ANALYSIS REPORT

Client : Center for Toxicology & Env. H
Site : NS
Project No. : 107907
Date Sampled : 10-FEB-16 - 11-FEB-16
Date Received : 15-FEB-16

Account No.: 13913
Login No. : L367095
Date Analyzed : 15-FEB-16
Report ID : 922284

Client ID : HOTX0211PNAH001 **Lab ID : L367095-12** **Air Volume : 953.3 Liter**
Date Sampled : 02/11/16 **Date Analyzed : 02/15/16**

Parameter	LOQ ug	Filter ug	Front ug	Back ug	Total ug	Conc mg/m3	ppm
Naphthalene	0.3	<0.3	<0.3	<0.3	<0.3	<0.0003	<0.00007
Phenanthrene	0.3	<0.3	<0.3	<0.3	<0.3	<0.0004	<0.00005
Pyrene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00005

COMMENTS: Please see attached lab footnote report for any applicable footnotes.

Collection Media: FilterTube
Date : 16-FEB-16

Submitted by: MWJ
NYS DOH # : 11626

Approved by: nkp
Supervisor: MWJ QC by: KSB

< -Less Than mg -Milligrams m3 -Cubic Meters kg -Kilograms NA -Not Applicable ND -Not Detected
> -Greater Than ug -Micrograms l -Liters NS -Not Specified ppm -Parts per Million LOQ-Limit of Quantitation

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LABORATORY ANALYSIS REPORT

Client : Center for Toxicology & Env. H
Site : NS
Project No. : 107907
Date Sampled : 10-FEB-16 - 11-FEB-16
Date Received : 15-FEB-16

Account No.: 13913
Login No. : L367095
Date Analyzed : 15-FEB-16
Report ID : 922284

Client ID : HOTX0211PNAH002 **Lab ID : L367095-13** **Air Volume : 836.6 Liter**
Date Sampled : 02/11/16 **Date Analyzed : 02/15/16**

Parameter	LOQ ug	Filter ug	Front ug	Back ug	Total ug	Conc mg/m3	ppm
1-Nitropyrene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Acenaphthene	0.3	<0.3	<0.3	<0.3	<0.3	<0.0004	<0.00006
Acenaphthylene	0.3	<0.3	<0.3	<0.3	<0.3	<0.0004	<0.00006
Anthracene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00006
Benzo(a)anthracene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0005	<0.00005
Benzo(a)pyrene	0.3	<0.3	<0.3	<0.3	<0.5	<0.0005	<0.00005
Benzo(b)fluoranthene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0005	<0.00005
Benzo(e)pyrene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0005	<0.00005
Benzo(g,h,i)perylene	0.3	<0.3	<0.3	<0.3	<0.5	<0.0006	<0.00005
Benzo(k)fluoranthene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0005	<0.00005
Chrysene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0005	<0.00005
Dibenz(a,h)anthracene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0005	<0.00004
Fluoranthene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00005
Fluorene	0.3	<0.3	<0.3	<0.3	<0.3	<0.0004	<0.00006
Indeno(1,2,3-cd)pyrene	0.3	<0.3	<0.3	<0.3	<0.5	<0.0006	<0.00005

COMMENTS: Please see attached lab footnote report for any applicable footnotes.

Collection Media: FilterTube
Date : 16-FEB-16

Submitted by: MWJ
NYS DOH # : 11626

Approved by: nkp
Supervisor: MWJ QC by: KSB

< -Less Than mg -Milligrams m3 -Cubic Meters kg -Kilograms NA -Not Applicable ND -Not Detected
> -Greater Than ug -Micrograms l -Liters NS -Not Specified ppm -Parts per Million LOQ-Limit of Quantitation

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LABORATORY ANALYSIS REPORT

Client : Center for Toxicology & Env. H
Site : NS
Project No. : 107907
Date Sampled : 10-FEB-16 - 11-FEB-16
Date Received : 15-FEB-16

Account No.: 13913
Login No. : L367095
Date Analyzed : 15-FEB-16
Report ID : 922284

Client ID : HOTX0211PNAH002 **Lab ID : L367095-13** **Air Volume : 836.6 Liter**
Date Sampled : 02/11/16 **Date Analyzed : 02/15/16**

Parameter	LOQ ug	Filter ug	Front ug	Back ug	Total ug	Conc mg/m3	ppm
Naphthalene	0.3	<0.3	0.5	<0.3	0.6	0.0007	0.0001
Phenanthrene	0.3	<0.3	<0.3	<0.3	<0.3	<0.0004	<0.00006
Pyrene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00005

COMMENTS: Please see attached lab footnote report for any applicable footnotes.

Collection Media: FilterTube
Date : 16-FEB-16

Submitted by: MWJ
NYS DOH # : 11626

Approved by: nkp
Supervisor: MWJ QC by: KSB

< -Less Than mg -Milligrams m3 -Cubic Meters kg -Kilograms NA -Not Applicable ND -Not Detected
> -Greater Than ug -Micrograms l -Liters NS -Not Specified ppm -Parts per Million LOQ-Limit of Quantitation

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LABORATORY ANALYSIS REPORT

Client : Center for Toxicology & Env. H
Site : NS
Project No. : 107907
Date Sampled : 10-FEB-16 - 11-FEB-16
Date Received : 15-FEB-16

Account No.: 13913
Login No. : L367095
Date Analyzed : 15-FEB-16
Report ID : 922284

Client ID : HOTX0211PNAH003 **Lab ID : L367095-14** **Air Volume : 954.8 Liter**
Date Sampled : 02/11/16 **Date Analyzed : 02/15/16**

Parameter	LOQ ug	Filter ug	Front ug	Back ug	Total ug	Conc mg/m3	ppm
1-Nitropyrene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Acenaphthene	0.3	<0.3	<0.3	<0.3	<0.3	<0.0003	<0.00006
Acenaphthylene	0.3	<0.3	<0.3	<0.3	<0.3	<0.0003	<0.00005
Anthracene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00005
Benzo(a)anthracene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Benzo(a)pyrene	0.3	<0.3	<0.3	<0.3	<0.5	<0.0005	<0.00005
Benzo(b)fluoranthene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Benzo(e)pyrene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0005	<0.00004
Benzo(g,h,i)perylene	0.3	<0.3	<0.3	<0.3	<0.5	<0.0005	<0.00005
Benzo(k)fluoranthene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Chrysene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Dibenz(a,h)anthracene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Fluoranthene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00005
Fluorene	0.3	<0.3	<0.3	<0.3	<0.3	<0.0003	<0.00005
Indeno(1,2,3-cd)pyrene	0.3	<0.3	<0.3	<0.3	<0.5	<0.0005	<0.00004

COMMENTS: Please see attached lab footnote report for any applicable footnotes.

Collection Media: FilterTube
Date : 16-FEB-16

Submitted by: MWJ
NYS DOH # : 11626

Approved by: nkp
Supervisor: MWJ QC by: KSB

< -Less Than mg -Milligrams m3 -Cubic Meters kg -Kilograms NA -Not Applicable ND -Not Detected
> -Greater Than ug -Micrograms l -Liters NS -Not Specified ppm -Parts per Million LOQ-Limit of Quantitation

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LABORATORY ANALYSIS REPORT

Client : Center for Toxicology & Env. H
Site : NS
Project No. : 107907
Date Sampled : 10-FEB-16 - 11-FEB-16
Date Received : 15-FEB-16

Account No.: 13913
Login No. : L367095
Date Analyzed : 15-FEB-16
Report ID : 922284

Client ID : HOTX0211PNAH003 **Lab ID : L367095-14** **Air Volume : 954.8 Liter**
Date Sampled : 02/11/16 **Date Analyzed : 02/15/16**

Parameter	LOQ ug	Filter ug	Front ug	Back ug	Total ug	Conc mg/m3	ppm
Naphthalene	0.3	<0.3	<0.3	<0.3	<0.3	<0.0003	<0.00007
Phenanthrene	0.3	<0.3	<0.3	<0.3	<0.3	<0.0004	<0.00005
Pyrene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00005

COMMENTS: Please see attached lab footnote report for any applicable footnotes.

Collection Media: FilterTube
Date : 16-FEB-16

Submitted by: MWJ
NYS DOH # : 11626

Approved by: nkp
Supervisor: MWJ QC by: KSB

< -Less Than mg -Milligrams m3 -Cubic Meters kg -Kilograms NA -Not Applicable ND -Not Detected
> -Greater Than ug -Micrograms l -Liters NS -Not Specified ppm -Parts per Million LOQ-Limit of Quantitation

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LABORATORY ANALYSIS REPORT

Client : Center for Toxicology & Env. H
Site : NS
Project No. : 107907
Date Sampled : 10-FEB-16 - 11-FEB-16
Date Received : 15-FEB-16

Account No.: 13913
Login No. : L367095
Date Analyzed : 15-FEB-16
Report ID : 922284

Client ID : HOTX0211PNAH004 **Lab ID : L367095-15** **Air Volume : NA**
Date Sampled : 02/11/16 **Date Analyzed : 02/15/16**

Parameter	LOQ ug	Filter ug	Front ug	Back ug	Total ug	Conc mg/m3	ppm
1-Nitropyrene	0.3	<0.3	<0.3	<0.3	<0.4	NA	NA
Acenaphthene	0.3	<0.3	<0.3	<0.3	<0.3	NA	NA
Acenaphthylene	0.3	<0.3	<0.3	<0.3	<0.3	NA	NA
Anthracene	0.3	<0.3	<0.3	<0.3	<0.4	NA	NA
Benzo(a)anthracene	0.3	<0.3	<0.3	<0.3	<0.4	NA	NA
Benzo(a)pyrene	0.3	<0.3	<0.3	<0.3	<0.5	NA	NA
Benzo(b)fluoranthene	0.3	<0.3	<0.3	<0.3	<0.4	NA	NA
Benzo(e)pyrene	0.3	<0.3	<0.3	<0.3	<0.4	NA	NA
Benzo(g,h,i)perylene	0.3	<0.3	<0.3	<0.3	<0.5	NA	NA
Benzo(k)fluoranthene	0.3	<0.3	<0.3	<0.3	<0.4	NA	NA
Chrysene	0.3	<0.3	<0.3	<0.3	<0.4	NA	NA
Dibenz(a,h)anthracene	0.3	<0.3	<0.3	<0.3	<0.4	NA	NA
Fluoranthene	0.3	<0.3	<0.3	<0.3	<0.4	NA	NA
Fluorene	0.3	<0.3	<0.3	<0.3	<0.3	NA	NA
Indeno(1,2,3-cd)pyrene	0.3	<0.3	<0.3	<0.3	<0.5	NA	NA

COMMENTS: Please see attached lab footnote report for any applicable footnotes.

Collection Media: FilterTube
Date : 16-FEB-16

Submitted by: MWJ
NYS DOH # : 11626

Approved by: nkp
Supervisor: MWJ QC by: KSB

< -Less Than mg -Milligrams m3 -Cubic Meters kg -Kilograms NA -Not Applicable ND -Not Detected
> -Greater Than ug -Micrograms l -Liters NS -Not Specified ppm -Parts per Million LOQ-Limit of Quantitation

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LABORATORY ANALYSIS REPORT

Client : Center for Toxicology & Env. H
Site : NS
Project No. : 107907
Date Sampled : 10-FEB-16 - 11-FEB-16
Date Received : 15-FEB-16

Account No.: 13913
Login No. : L367095
Date Analyzed : 15-FEB-16
Report ID : 922284

Client ID : HOTX0211PNAH004 **Lab ID : L367095-15** **Air Volume : NA**
Date Sampled : 02/11/16 **Date Analyzed : 02/15/16**

Parameter	LOQ ug	Filter ug	Front ug	Back ug	Total ug	Conc mg/m3	ppm
Naphthalene	0.3	<0.3	<0.3	<0.3	<0.3	NA	NA
Phenanthrene	0.3	<0.3	<0.3	<0.3	<0.3	NA	NA
Pyrene	0.3	<0.3	<0.3	<0.3	<0.4	NA	NA

COMMENTS: Please see attached lab footnote report for any applicable footnotes.

Collection Media: FilterTube
Date : 16-FEB-16

Submitted by: MWJ
NYS DOH # : 11626

Approved by: nkp
Supervisor: MWJ QC by: KSB

< -Less Than mg -Milligrams m3 -Cubic Meters kg -Kilograms NA -Not Applicable ND -Not Detected
> -Greater Than ug -Micrograms l -Liters NS -Not Specified ppm -Parts per Million LOQ-Limit of Quantitation

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LABORATORY ANALYSIS REPORT

Client : Center for Toxicology & Env. H
Site : NS
Project No. : 107907
Date Sampled : 10-FEB-16 - 11-FEB-16
Date Received : 15-FEB-16

Account No.: 13913
Login No. : L367095
Date Analyzed : 16-FEB-16
Report ID : 922326

Client ID : HOTX0210PM001 **Lab ID : L367095-1** **Air Volume : 1001.1 Liter**
Date Sampled : 02/10/16 **Date Analyzed : 02/16/16**

Parameter	LOQ mg	Total mg	Conc mg/m3
Particulate Matter - PM10	0.050	0.084	0.084

COMMENTS: Please see attached lab footnote report for any applicable footnotes.

Collection Media: PVC PW 37mm
Date : 16-FEB-16

Submitted by: PAH
NYS DOH # : 11626

Approved by: KRK
Supervisor: CRI QC by: KSB

< -Less Than mg -Milligrams m3 -Cubic Meters kg -Kilograms NA -Not Applicable ND -Not Detected
> -Greater Than ug -Micrograms l -Liters NS -Not Specified ppm -Parts per Million LOQ-Limit of Quantitation

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LABORATORY ANALYSIS REPORT

Client : Center for Toxicology & Env. H
Site : NS
Project No. : 107907
Date Sampled : 10-FEB-16 - 11-FEB-16
Date Received : 15-FEB-16

Account No.: 13913
Login No. : L367095
Date Analyzed : 16-FEB-16
Report ID : 922326

Client ID : HOTX0210PM002 **Lab ID : L367095-2** **Air Volume : 1006.6 Liter**
Date Sampled : 02/10/16 **Date Analyzed : 02/16/16**

Parameter	LOQ mg	Total mg	Conc mg/m3
Particulate Matter - PM10	0.050	0.17	0.17

COMMENTS: Please see attached lab footnote report for any applicable footnotes.

Collection Media: PVC PW 37mm
Date : 16-FEB-16

Submitted by: PAH
NYS DOH # : 11626

Approved by: KRK
Supervisor: CRI QC by: KSB

< -Less Than mg -Milligrams m3 -Cubic Meters kg -Kilograms NA -Not Applicable ND -Not Detected
> -Greater Than ug -Micrograms l -Liters NS -Not Specified ppm -Parts per Million LOQ-Limit of Quantitation

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LABORATORY ANALYSIS REPORT

Client	: Center for Toxicology & Env. H	Account No.:	13913
Site	: NS	Login No. :	L367095
Project No.	: 107907		
Date Sampled	: 10-FEB-16 - 11-FEB-16	Date Analyzed :	16-FEB-16
Date Received	: 15-FEB-16	Report ID :	922326

Client ID : HOTX0210PM003 **Lab ID : L367095-3** **Air Volume : 1001.3 Liter**
Date Sampled : 02/10/16 **Date Analyzed : 02/16/16**

Parameter	LOQ mg	Total mg	Conc mg/m3
Particulate Matter - PM10	0.050	<0.050	<0.050

COMMENTS: Please see attached lab footnote report for any applicable footnotes.

Collection Media: PVC PW 37mm Submitted by: PAH Approved by: KRK
Date : 16-FEB-16 NYS DOH # : 11626 Supervisor: CRI QC by: KSB

< -Less Than mg -Milligrams m3 -Cubic Meters kg -Kilograms NA -Not Applicable ND -Not Detected
> -Greater Than ug -Micrograms l -Liters NS -Not Specified ppm -Parts per Million LOQ-Limit of Quantitation

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LABORATORY ANALYSIS REPORT

Client	: Center for Toxicology & Env. H	Account No.:	13913
Site	: NS	Login No. :	L367095
Project No.	: 107907		
Date Sampled	: 10-FEB-16 - 11-FEB-16	Date Analyzed :	16-FEB-16
Date Received	: 15-FEB-16	Report ID :	922326

Client ID : HOTX0210PM004 **Lab ID : L367095-4** **Air Volume : NA**
Date Sampled : 02/10/16 **Date Analyzed : 02/16/16**

Parameter	LOQ mg	Total mg	Conc mg/m3
Particulate Matter - PM10	0.050	<0.050	NA

COMMENTS: Please see attached lab footnote report for any applicable footnotes.

Collection Media: PVC PW 37mm Submitted by: PAH Approved by: KRK
Date : 16-FEB-16 NYS DOH # : 11626 Supervisor: CRI QC by: KSB

< -Less Than mg -Milligrams m3 -Cubic Meters kg -Kilograms NA -Not Applicable ND -Not Detected
> -Greater Than ug -Micrograms l -Liters NS -Not Specified ppm -Parts per Million LOQ-Limit of Quantitation

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LABORATORY ANALYSIS REPORT

Client	: Center for Toxicology & Env. H	Account No.:	13913
Site	: NS	Login No. :	L367095
Project No.	: 107907		
Date Sampled	: 10-FEB-16 - 11-FEB-16	Date Analyzed :	16-FEB-16
Date Received	: 15-FEB-16	Report ID :	922326

Client ID : HOTX0211PM001 **Lab ID : L367095-8** **Air Volume : 1013.2 Liter**
Date Sampled : 02/11/16 **Date Analyzed : 02/16/16**

Parameter	LOQ mg	Total mg	Conc mg/m3
Particulate Matter - PM10	0.050	0.052	0.051

COMMENTS: Please see attached lab footnote report for any applicable footnotes.

Collection Media: PVC PW 37mm Submitted by: PAH Approved by: KRK
Date : 16-FEB-16 NYS DOH # : 11626 Supervisor: CRI QC by: KSB

< -Less Than mg -Milligrams m3 -Cubic Meters kg -Kilograms NA -Not Applicable ND -Not Detected
> -Greater Than ug -Micrograms l -Liters NS -Not Specified ppm -Parts per Million LOQ-Limit of Quantitation

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LABORATORY ANALYSIS REPORT

Client : Center for Toxicology & Env. H
Site : NS
Project No. : 107907
Date Sampled : 10-FEB-16 - 11-FEB-16
Date Received : 15-FEB-16

Account No.: 13913
Login No. : L367095
Date Analyzed : 16-FEB-16
Report ID : 922326

Client ID : HOTX0211PM002 **Lab ID : L367095-9** **Air Volume : 968.3 Liter**
Date Sampled : 02/11/16 **Date Analyzed : 02/16/16**

Parameter	LOQ mg	Total mg	Conc mg/m3
Particulate Matter - PM10	0.050	<0.050	<0.052

COMMENTS: Please see attached lab footnote report for any applicable footnotes.

Collection Media: PVC PW 37mm
Date : 16-FEB-16

Submitted by: PAH
NYS DOH # : 11626

Approved by: KRK
Supervisor: CRI QC by: KSB

< -Less Than mg -Milligrams m3 -Cubic Meters kg -Kilograms NA -Not Applicable ND -Not Detected
> -Greater Than ug -Micrograms l -Liters NS -Not Specified ppm -Parts per Million LOQ-Limit of Quantitation

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LABORATORY ANALYSIS REPORT

Client	: Center for Toxicology & Env. H	Account No.:	13913
Site	: NS	Login No. :	L367095
Project No.	: 107907		
Date Sampled	: 10-FEB-16 - 11-FEB-16	Date Analyzed :	16-FEB-16
Date Received	: 15-FEB-16	Report ID :	922326

Client ID : HOTX0211PM003 **Lab ID : L367095-10** **Air Volume : 969.8 Liter**
Date Sampled : 02/11/16 **Date Analyzed : 02/16/16**

Parameter	LOQ mg	Total mg	Conc mg/m3
Particulate Matter - PM10	0.050	<0.050	<0.052

COMMENTS: Please see attached lab footnote report for any applicable footnotes.

Collection Media: PVC PW 37mm Submitted by: PAH Approved by: KRK
Date : 16-FEB-16 NYS DOH # : 11626 Supervisor: CRI QC by: KSB

< -Less Than mg -Milligrams m3 -Cubic Meters kg -Kilograms NA -Not Applicable ND -Not Detected
> -Greater Than ug -Micrograms l -Liters NS -Not Specified ppm -Parts per Million LOQ-Limit of Quantitation

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LABORATORY ANALYSIS REPORT

Client	: Center for Toxicology & Env. H	Account No.:	13913
Site	: NS	Login No. :	L367095
Project No.	: 107907		
Date Sampled	: 10-FEB-16 - 11-FEB-16	Date Analyzed :	16-FEB-16
Date Received	: 15-FEB-16	Report ID :	922326

Client ID : HOTX0211PM004 **Lab ID : L367095-11** **Air Volume : NA**
Date Sampled : 02/11/16 **Date Analyzed : 02/16/16**

Parameter	LOQ mg	Total mg	Conc mg/m3
Particulate Matter - PM10	0.050	<0.050	NA

COMMENTS: Please see attached lab footnote report for any applicable footnotes.

Collection Media: PVC PW 37mm Submitted by: PAH Approved by: KRK
Date : 16-FEB-16 NYS DOH # : 11626 Supervisor: CRI QC by: KSB

< -Less Than mg -Milligrams m3 -Cubic Meters kg -Kilograms NA -Not Applicable ND -Not Detected
> -Greater Than ug -Micrograms l -Liters NS -Not Specified ppm -Parts per Million LOQ-Limit of Quantitation

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LABORATORY FOOTNOTE REPORT

Client Name : Center for Toxicology & Env. Health LLC
Site :
Project No. : 107907

Date Sampled : 10-FEB-16 - 11-FEB-16 Account No.: 13913
Date Received: 15-FEB-16 Login No. : L367095
Date Analyzed: 15-FEB-16 - 16-FEB-16

Unless otherwise noted below, all quality control results associated with the samples were within established control limits or did not impact reported results.

WARNING: The sample(s) to which the findings recorded herein (the "Findings") relate was(were) drawn and / or provided by the Client or by a third party acting at the Client's direction. The Findings constitute no warranty of the sample's representativeness of any goods and strictly relate to the sample(s). The Company accepts no liability with regard to the origin or source from which the sample(s) is/are said to be extracted.

Unrounded results are carried through the calculations that yield the final result and the final result is rounded to the number of significant figures appropriate to the accuracy of the analytical method. Please note that results appearing in the columns preceeding the final result column may have been rounded and therefore, if carried through the calculations, may not yield an identical final result to the one reported.

The stated LOQs for each analyte represent the demonstrated LOQ concentrations prior to correction for desorption efficiency (if applicable).

Unless otherwise noted below, reported results have not been blank corrected for any field blank or method blank.

L367095 (Report ID: 922284):
Results corrected for compound and matrix-specific desorption efficiencies.
SOPs: il-n5506(12)

L367095 (Report ID: 922284):
Accuracy and mean recovery data presented below is based on a 95% confidence interval (k=2).
The estimated uncertainty applies to the media, technology, and SOP referenced in this report and does not account for the uncertainty associated with the sampling process.

Parameter	Accuracy	Mean Recovery
1-Nitropyrene	+/-16%	107%
Acenaphthene	+/-14.4%	104%
Acenaphthylene	+/-11.7%	100%
Anthracene	+/-15.7%	114%
Benzo(a)anthracene	+/-16.1%	110%
Benzo(a)pyrene	+/-26%	115%

< -Less Than mg -Milligrams m3 -Cubic Meters kg -Kilograms ppm -Parts per Million
> -Greater Than ug -Micrograms l -Liters NS -Not Specified ND -Not Detected NA -Not Applicable

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Client Name : Center for Toxicology & Env. Health LLC
Site :
Project No. : 107907

Date Sampled : 10-FEB-16 - 11-FEB-16 Account No.: 13913
Date Received: 15-FEB-16 Login No. : L367095
Date Analyzed: 15-FEB-16 - 16-FEB-16

Benzo(b)fluoranthene	+/-19%	113%
Benzo(e)pyrene	+/-19.2%	111%
Benzo(g,h,i)perylene	+/-20.2%	112%
Benzo(k)fluoranthene	+/-15.5%	109%
Chrysene	+/-14%	108%
Dibenz(a,h)anthracene	+/-15.6%	103%
Fluoranthene	+/-16.2%	110%
Fluorene	+/-12.4%	109%
Indeno(1,2,3-cd)pyrene	+/-19.5%	113%
Naphthalene	+/-13.3%	105%
Phenanthrene	+/-13.4%	108%
Pyrene	+/-14.6%	112%

Parameter	Method	PEL
1-Nitropyrene	mod. NIOSH 5506; HPLC/UV	NA
Acenaphthene	mod. NIOSH 5506; HPLC/UV	NA
Acenaphthylene	mod. NIOSH 5506; HPLC/UV	NA
Anthracene	mod. NIOSH 5506; HPLC/UV	NA
Benzo(a)anthracene	mod. NIOSH 5506; HPLC/UV	NA
Benzo(a)pyrene	mod. NIOSH 5506; HPLC/UV	0.2 mg/m3 (TWA)
Benzo(b)fluoranthene	mod. NIOSH 5506; HPLC/UV	NA
Benzo(e)pyrene	mod. NIOSH 5506; HPLC/UV	NA
Benzo(g,h,i)perylene	mod. NIOSH 5506; HPLC/UV	NA
Benzo(k)fluoranthene	mod. NIOSH 5506; HPLC/UV	NA
Chrysene	mod. NIOSH 5506; HPLC/UV	0.2 mg/m3 (TWA)
Dibenz(a,h)anthracene	mod. NIOSH 5506; HPLC/UV	NA
Fluoranthene	mod. NIOSH 5506; HPLC/UV	NA
Fluorene	mod. NIOSH 5506; HPLC/UV	NA
Indeno(1,2,3-cd)pyrene	mod. NIOSH 5506; HPLC/UV	NA
Naphthalene	mod. NIOSH 5506; HPLC/UV	10 ppm (TWA)
Phenanthrene	mod. NIOSH 5506; HPLC/UV	NA
Pyrene	mod. NIOSH 5506; HPLC/UV	NA

L367095 (Report ID: 922326):
SOPs: GRAV-SOP-5(15), GRAV-SOP-6(15)

< -Less Than mg -Milligrams m3 -Cubic Meters kg -Kilograms ppm -Parts per Million
> -Greater Than ug -Micrograms l -Liters NS -Not Specified ND -Not Detected NA -Not Applicable

GALSON LABORATORIES

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LABORATORY FOOTNOTE REPORT

Client Name : Center for Toxicology & Env. Health LLC
Site :
Project No. : 107907

Date Sampled : 10-FEB-16 - 11-FEB-16 Account No.: 13913
Date Received: 15-FEB-16 Login No. : L367095
Date Analyzed: 15-FEB-16 - 16-FEB-16

L367095 (Report ID: 922326):
Gravimetric analytical accuracy of the sampling media is -0.005 +/- 0.007 mg (average blank weight change +/- 95% confidence interval or k=2). The estimated uncertainly applies to the media, technology, and SOP(s) referenced in this report and does not account for any uncertainty associated with the sampling process.

< -Less Than mg -Milligrams m3 -Cubic Meters kg -Kilograms ppm -Parts per Million
> -Greater Than ug -Micrograms l -Liters NS -Not Specified ND -Not Detected NA -Not Applicable

GRAVIMETRICS QC SUMMARY REPORT

Login: L367095
Matnum: 306
Matrix: PVC PW 37mm
Instrument Description: Mettler XP6, M4
Method: mod. EPA Method IP-10A; Gravimetric
Reporting Level (mg): 0.050 mg
Analysis: Particulate Matter - PM10

Type	Sample #	Analysis Date	True Value (mg)	Found Value (mg)	Difference (mg)	Control Limit (mg)
CCV	WG339044-1	2/16/2016 08:56:00	19.948	19.948	0.000	0.008
BLANK	WG339044-4	2/16/2016 09:01:00	10.166	10.164	-0.002	-0.015
CCV	WG339044-5	2/16/2016 09:02:00	19.948	19.949	0.001	0.008
CCV	WG339053-10	2/16/2016 10:37:00	19.948	19.949	0.001	0.008
CCV	WG339053-12	2/16/2016 10:49:00	19.948	19.954	0.006	0.008

Type	Sample #	Analysis Date	Sample Result (mg)	Duplicate Result (mg)	Abs. Val. of mg Difference	Control Limit (mg)
DUP	WG339053-11	2/16/2016 10:39:00	0.084	0.085	0.001	0.004

Dup Workgroup number	**Sample number**
WG339053-11	L367095-1

ORGANICS QC RECOVERY REPORT

Work Group WG338942

Sample: WG338942-1 **Spikelot:** IH603243-4
QC Type: DLS **Raw File:**
Analysis date 02/15/16 10:40:55 **Approval Status:** YES
Instrument: LC5

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
NAPHTHALENE	.093593	.099	94.5	70.0 to 130.				
BENZO(A)ANTHRACENE	.093895	.099	94.8	70.0 to 130.				
CHRYSENE	.103708	.099	105	70.0 to 130.				
BENZO(E)PYRENE	.111765	.1	112	70.0 to 130.				
BENZO(B)FLUORANTHENE	.104076	.099	105	70.0 to 130.				
BENZO(K)FLUORANTHENE	.121561	.099	123	70.0 to 130.				
BENZO(A)PYRENE	.116390	.099	118	70.0 to 130.				
DIBENZ(A,H)ANTHRACENE	.102160	.099	103	70.0 to 130.				
BENZO(G,H,I)PERYLENE	.099630	.099	101	70.0 to 130.				
INDENO-1,2,3-CD-PYRENE	.096802	.099	97.8	70.0 to 130.				
ACENAPHTHYLENE	.090228	.099	91.1	70.0 to 130.				
ACENAPHTHENE	.090538	.1	90.5	70.0 to 130.				
FLUORENE	.088492	.098	90.3	70.0 to 130.				
PHENANTHRENE	.095851	.098	97.8	70.0 to 130.				
ANTHRACENE	.120927	.099	122	70.0 to 130.				
FLUORANTHENE	.085012	.098	86.7	70.0 to 130.				
1-NITROPYRENE	.075232	.099	76	70.0 to 130.				
PYRENE	.072918	.099	73.7	70.0 to 130.				

Sample: WG338942-2 **Spikelot:** IH603243-3
QC Type: CCV **Raw File:**
Analysis date 02/15/16 11:00:53 **Approval Status:** YES
Instrument: LC5

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
NAPHTHALENE	4.92593	4.95	99.5	88.5 to 120.				
PYRENE	5.23151	4.95	106	92.5 to 125.				
BENZO(A)ANTHRACENE	5.21853	4.95	105	93.7 to 119.				
CHRYSENE	5.04657	4.95	102	88.3 to 120.				
BENZO(E)PYRENE	5.14765	4.9995	103	90.6 to 127.				
BENZO(B)FLUORANTHENE	5.19216	4.95	105	93.8 to 125.				
BENZO(K)FLUORANTHENE	5.04510	4.95	102	88.6 to 118.				
BENZO(A)PYRENE	5.33883	4.95	108	80.0 to 138.				
DIBENZ(A,H)ANTHRACENE	5.01945	4.95	101	86.7 to 122.				
BENZO(G,H,I)PERYLENE	5.09191	4.95	103	87.6 to 124.				
INDENO-1,2,3-CD-PYRENE	5.25532	4.95	106	94.8 to 127.				

ORGANICS QC RECOVERY REPORT

Work Group WG338942

Sample: WG338942-2 **Spikelot:** IH603243-3
QC Type: CCV **Raw File:**
Analysis date 02/15/16 11:00:53 **Approval Status:** YES
Instrument: LC5

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
ACENAPHTHYLENE	5.00420	4.95	101	89.8 to 117.				
ACENAPHTHENE	5.07421	4.9995	101	88.1 to 121.				
FLUORENE	5.09338	4.9	104	92.7 to 123.				
PHENANTHRENE	5.07713	4.9	104	91.1 to 120.				
ANTHRACENE	5.93749	4.95	120	85.6 to 123.				
FLUORANTHENE	5.02140	4.9	102	92.0 to 120.				
1-NITROPYRENE	4.86546	4.95	98.3	86.8 to 123.				

Sample: WG338941-2 **Spikelot:** NA
QC Type: MBLANK **Raw File:**
Analysis date 02/15/16 12:00:46 **Approval Status:** YES
Instrument: LC5

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
FLUORANTHENE(FRONT)	.138100	<.3						
FLUORANTHENE(BACK)	.081200	<.3						
BENZO(K)FLUORANTHENE(FRONT)	.036653	<.3						
BENZO(K)FLUORANTHENE(BACK)	0	<.3						
ACENAPHTHENE(FRONT)	0	<.3						
ACENAPHTHENE(BACK)	0	<.3						
ACENAPHTHYLENE(FRONT)	0	<.3						
ACENAPHTHYLENE(BACK)	0	<.3						
ANTHRACENE(FRONT)	0	<.3						
ANTHRACENE(BACK)	0	<.3						
BENZO(A)ANTHRACENE(FRONT)	0	<.3						
BENZO(A)ANTHRACENE(BACK)	0	<.3						
BENZO(A)PYRENE(FRONT)	0	<.3						
BENZO(A)PYRENE(BACK)	0	<.3						
BENZO(B)FLUORANTHENE(FRONT)	0	<.3						
BENZO(B)FLUORANTHENE(BACK)	0	<.3						
BENZO(E)PYRENE(FRONT)	0	<.3						
BENZO(E)PYRENE(BACK)	0	<.3						
BENZO(G,H,I)PERYLENE(FRONT)	0	<.3						
BENZO(G,H,I)PERYLENE(BACK)	0	<.3						
CHRYSENE(FRONT)	0	<.3						
CHRYSENE(BACK)	.079961	<.3						

ORGANICS QC RECOVERY REPORT

Work Group WG338942

Sample: WG338941-2 **Spikelot:** NA
QC Type: MBLANK **Raw File:**
Analysis date 02/15/16 12:00:46 **Approval Status:** YES
Instrument: LC5

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
DIBENZ(A,H)ANTHRACENE(FRONT)	0	<.3						
DIBENZ(A,H)ANTHRACENE(BACK)	0	<.3						
FLUORENE(FRONT)	0	<.3						
FLUORENE(BACK)	0	<.3						
INDENO-1,2,3-CD-PYRENE(FRONT)	0	<.3						
INDENO-1,2,3-CD-PYRENE(BACK)	0	<.3						
NAPHTHALENE(FRONT)	0	<.3						
NAPHTHALENE(BACK)	0	<.3						
1-NITROPYRENE(FRONT)	0	<.3						
1-NITROPYRENE(BACK)	0	<.3						
PHENANTHRENE(FRONT)	0	<.3						
PHENANTHRENE(BACK)	0	<.3						
PYRENE(FRONT)	0	<.3						
PYRENE(BACK)	0	<.3						

Sample: WG338941-3 **Spikelot:** IH603243
QC Type: BS **Raw File:**
Analysis date 02/15/16 12:40:41 **Approval Status:** YES
Instrument: LC5

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
NAPHTHALENE	4.80273	4.95	97		98	85.2 to 125		
BENZO(A)ANTHRACENE	4.94739	4.95	99.9		102	85.3 to 134		
CHRYSENE	4.82145	4.95	97.4		99.4	86.7 to 129		
BENZO(E)PYRENE	4.80996	4.9995	96.2		98.2	82.4 to 140		
BENZO(B)FLUORANTHENE	4.62005	4.95	93.3		96.2	85.0 to 142		
BENZO(K)FLUORANTHENE	4.57310	4.95	92.4		95.2	85.3 to 132		
BENZO(A)PYRENE	4.81448	4.95	97.3		99.2	76.5 to 154		
DIBENZ(A,H)ANTHRACENE	4.91476	4.95	99.3		100	79.8 to 127		
BENZO(G,H,I)PERYLENE	4.70850	4.95	95.1		99.1	81.7 to 142		
INDENO-1,2,3-CD-PYRENE	4.71596	4.95	95.3		96.2	83.3 to 142		
ACENAPHTHYLENE	4.91007	4.95	99.2		97.2	82.8 to 118		
ACENAPHTHENE	4.89143	4.9995	97.8		95.9	82.3 to 125		
FLUORENE	4.82177	4.9	98.4		101	90.7 to 128		
PHENANTHRENE	4.68157	4.9	95.5		97.5	87.8 to 128		
ANTHRACENE	5.44674	4.95	110		112	90.2 to 137		

ORGANICS QC RECOVERY REPORT

Work Group WG338942

Sample: WG338941-3 **Spikelot:** IH603243
QC Type: BS **Raw File:**
Analysis date 02/15/16 12:40:41 **Approval Status:** YES
Instrument: LC5

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
FLUORANTHENE	4.62002	4.9	94.3		96.2	85.5 to 134		
1-NITROPYRENE	4.16000	4.95	84		84.9	82.7 to 131		
PYRENE	4.50518	4.95	91		91.9	89.7 to 134		

Sample: WG338941-4 **Spikelot:** IH603243
QC Type: BSD **Raw File:**
Analysis date 02/15/16 13:00:38 **Approval Status:** YES
Instrument: LC5

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
NAPHTHALENE	4.78172	4.95	96.6		97.6	85.2 to 125	.409	-10 to 10.0
BENZO(A)ANTHRACENE	5.03535	4.95	102		104	85.3 to 134	-1.94	-10 to 10.0
CHRYSENE	4.86000	4.95	98.2		100	86.7 to 129	-.602	-10 to 10.0
BENZO(E)PYRENE	4.98092	4.9995	99.6		102	82.4 to 140	-3.8	-10 to 10.0
BENZO(B)FLUORANTHENE	5.00123	4.95	101		104	85.0 to 142	-7.79	-10 to 10.0
BENZO(K)FLUORANTHENE	4.88650	4.95	98.7		102	85.3 to 132	-6.9	-10 to 10.0
BENZO(A)PYRENE	5.12574	4.95	104		106	76.5 to 154	-6.63	-10 to 10.0
DIBENZ(A,H)ANTHRACENE	4.80797	4.95	97.1		98.1	79.8 to 127	1.92	-11.5 to 9.8
BENZO(G,H,I)PERYLENE	4.51765	4.95	91.3		95.1	81.7 to 142	4.12	-10 to 10.0
INDENO-1,2,3-CD-PYRENE	4.67207	4.95	94.4		95.3	83.3 to 142	.94	-10 to 10.0
ACENAPHTHYLENE	4.61931	4.95	93.3		91.5	82.8 to 118	6.04	-10 to 10.0
ACENAPHTHENE	4.87332	4.9995	97.5		95.6	82.3 to 125	.313	-10 to 10.0
FLUORENE	4.87258	4.9	99.4		103	90.7 to 128	-1.96	-10 to 10.0
PHENANTHRENE	4.87963	4.9	99.6		102	87.8 to 128	-4.51	-10 to 10.0
ANTHRACENE	5.75073	4.95	116		119	90.2 to 137	-6.06	-10 to 10.0
FLUORANTHENE	4.92927	4.9	101		103	85.5 to 134	-6.83	-10 to 10.0
1-NITROPYRENE	4.71680	4.95	95.3		96.3	82.7 to 131	-12.6	-10 to 10.0
PYRENE	5.00139	4.95	101		102	89.7 to 134	-10.4	-10.4 to 8.9

Sample: WG338941-5 **Spikelot:** IH603243
QC Type: BS **Raw File:**
Analysis date 02/15/16 13:20:39 **Approval Status:** YES
Instrument: LC5

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
NAPHTHALENE	4.57300	4.95	92.4		100	85.2 to 125		
BENZO(A)ANTHRACENE	4.12082	4.95	83.2		107	85.3 to 134		

ORGANICS QC RECOVERY REPORT

Work Group WG338942

Sample: WG338941-5 **Spikelot:** IH603243
QC Type: BS **Raw File:**
Analysis date 02/15/16 13:20:39 **Approval Status:** YES
Instrument: LC5

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
CHRYSENE	3.94531	4.95	79.7		104	86.7 to 129		
BENZO(E)PYRENE	3.63226	4.9995	72.7		107	82.4 to 140		
BENZO(B)FLUORANTHENE	3.81647	4.95	77.1		107	85.0 to 142		
BENZO(K)FLUORANTHENE	3.79290	4.95	76.6		106	85.3 to 132		
BENZO(A)PYRENE	3.68881	4.95	74.5		113	76.5 to 154		
DIBENZ(A,H)ANTHRACENE	3.55569	4.95	71.8		99.8	79.8 to 127		
BENZO(G,H,I)PERYLENE	3.03335	4.95	61.3		104	81.7 to 142		
INDENO-1,2,3-CD-PYRENE	3.32037	4.95	67.1		105	83.3 to 142		
ACENAPHTHYLENE	4.85218	4.95	98		102	82.8 to 118		
ACENAPHTHENE	4.49831	4.9995	90		100	82.3 to 125		
FLUORENE	4.46367	4.9	91.1		101	90.7 to 128		
PHENANTHRENE	4.32509	4.9	88.3		103	87.8 to 128		
ANTHRACENE	5.12756	4.95	104		122	90.2 to 137		
FLUORANTHENE	4.36296	4.9	89		107	85.5 to 134		
1-NITROPYRENE	4.13941	4.95	83.6		99.6	82.7 to 131		
PYRENE	4.08991	4.95	82.6		101	89.7 to 134		

Sample: WG338941-6 **Spikelot:** IH603243
QC Type: BSD **Raw File:**
Analysis date 02/15/16 13:40:38 **Approval Status:** YES
Instrument: LC5

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
NAPHTHALENE	4.56101	4.95	92.1		100	85.2 to 125	0	-10 to 10.0
PYRENE	4.26804	4.95	86.2		105	89.7 to 134	-3.88	-10.4 to 8.9
BENZO(A)ANTHRACENE	4.25673	4.95	86		110	85.3 to 134	-2.76	-10 to 10.0
CHRYSENE	4.03185	4.95	81.5		106	86.7 to 129	-1.9	-10 to 10.0
BENZO(E)PYRENE	3.69803	4.9995	74		109	82.4 to 140	-1.85	-10 to 10.0
BENZO(B)FLUORANTHENE	3.90464	4.95	78.9		110	85.0 to 142	-2.76	-10 to 10.0
BENZO(K)FLUORANTHENE	3.86171	4.95	78		108	85.3 to 132	-1.87	-10 to 10.0
BENZO(A)PYRENE	3.80241	4.95	76.8		116	76.5 to 154	-2.62	-10 to 10.0
DIBENZ(A,H)ANTHRACENE	3.57360	4.95	72.2		100	79.8 to 127	-.2	-11.5 to 9.8
BENZO(G,H,I)PERYLENE	3.31304	4.95	66.9		113	81.7 to 142	-8.29	-10 to 10.0
INDENO-1,2,3-CD-PYRENE	3.38660	4.95	68.4		107	83.3 to 142	-1.89	-10 to 10.0
ACENAPHTHYLENE	4.59159	4.95	92.8		96.6	82.8 to 118	5.44	-10 to 10.0
ACENAPHTHENE	4.50759	4.9995	90.2		100	82.3 to 125	0	-10 to 10.0

ORGANICS QC RECOVERY REPORT

Work Group WG338942

Sample: WG338941-6 **Spikelot:** IH603243
QC Type: BSD **Raw File:**
Analysis date 02/15/16 13:40:38 **Approval Status:** YES
Instrument: LC5

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
FLUORENE	4.53715	4.9	92.6		103	90.7 to 128	-1.96	-10 to 10.0
PHENANTHRENE	4.41750	4.9	90.2		105	87.8 to 128	-1.92	-10 to 10.0
ANTHRACENE	5.10571	4.95	103		121	90.2 to 137	.823	-10 to 10.0
FLUORANTHENE	4.41118	4.9	90		108	85.5 to 134	-.93	-10 to 10.0
1-NITROPYRENE	4.17768	4.95	84.4		100	82.7 to 131	-.401	-10 to 10.0

Sample: WG338942-3 **Spikelot:** IH603243-3
QC Type: CCV **Raw File:**
Analysis date 02/15/16 17:41:50 **Approval Status:** YES
Instrument: LC5

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
NAPHTHALENE	4.93909	4.95	99.8	88.5 to 120.				
PYRENE	5.20615	4.95	105	92.5 to 125.				
BENZO(A)ANTHRACENE	5.22809	4.95	106	93.7 to 119.				
CHRYSENE	5.07651	4.95	103	88.3 to 120.				
BENZO(E)PYRENE	5.16870	4.9995	103	90.6 to 127.				
BENZO(B)FLUORANTHENE	5.21756	4.95	105	93.8 to 125.				
BENZO(K)FLUORANTHENE	5.08207	4.95	103	88.6 to 118.				
BENZO(A)PYRENE	5.43526	4.95	110	80.0 to 138.				
DIBENZ(A,H)ANTHRACENE	5.04283	4.95	102	86.7 to 122.				
BENZO(G,H,I)PERYLENE	5.15381	4.95	104	87.6 to 124.				
INDENO-1,2,3-CD-PYRENE	5.27772	4.95	107	94.8 to 127.				
ACENAPHTHYLENE	5.00927	4.95	101	89.8 to 117.				
ACENAPHTHENE	5.09142	4.9995	102	88.1 to 121.				
FLUORENE	5.09784	4.9	104	92.7 to 123.				
PHENANTHRENE	5.09002	4.9	104	91.1 to 120.				
ANTHRACENE	5.97453	4.95	121	85.6 to 123.				
FLUORANTHENE	5.03620	4.9	103	92.0 to 120.				
1-NITROPYRENE	4.92435	4.95	99.5	86.8 to 123.				

Sample: WG338942-4 **Spikelot:** IH603243-3
QC Type: CCV **Raw File:**
Analysis date 02/15/16 21:21:28 **Approval Status:** YES
Instrument: LC5

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits

ORGANICS QC RECOVERY REPORT

Work Group WG338942

Sample: WG338942-4 **Spikelot:** IH603243-3
QC Type: CCV **Raw File:**
Analysis date 02/15/16 21:21:28 **Approval Status:** YES
Instrument: LC5

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
NAPHTHALENE	4.95947	4.95	100	88.5 to 120.				
PYRENE	5.24040	4.95	106	92.5 to 125.				
BENZO(A)ANTHRACENE	5.23949	4.95	106	93.7 to 119.				
CHRYSENE	5.08727	4.95	103	88.3 to 120.				
BENZO(E)PYRENE	5.18921	4.9995	104	90.6 to 127.				
BENZO(B)FLUORANTHENE	5.25043	4.95	106	93.8 to 125.				
BENZO(K)FLUORANTHENE	5.09079	4.95	103	88.6 to 118.				
BENZO(A)PYRENE	5.42622	4.95	110	80.0 to 138.				
DIBENZ(A,H)ANTHRACENE	5.05174	4.95	102	86.7 to 122.				
BENZO(G,H,I)PERYLENE	5.17026	4.95	104	87.6 to 124.				
INDENO-1,2,3-CD-PYRENE	5.31350	4.95	107	94.8 to 127.				
ACENAPHTHYLENE	5.03512	4.95	102	89.8 to 117.				
ACENAPHTHENE	5.11088	4.9995	102	88.1 to 121.				
FLUORENE	5.12868	4.9	105	92.7 to 123.				
PHENANTHRENE	5.11896	4.9	104	91.1 to 120.				
ANTHRACENE	5.99418	4.95	121	85.6 to 123.				
FLUORANTHENE	5.05177	4.9	103	92.0 to 120.				
1-NITROPYRENE	4.94365	4.95	99.9	86.8 to 123.				

Sample: WG338942-5 **Spikelot:** IH603243-3
QC Type: CCV **Raw File:**
Analysis date 02/16/16 01:41:09 **Approval Status:** YES
Instrument: LC5

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
PHENANTHRENE	5.29213	4.9	108	91.1 to 120.				
ANTHRACENE	5.66852	4.95	115	85.6 to 123.				
NAPHTHALENE	5.11078	4.95	103	88.5 to 120.				
FLUORANTHENE	5.04776	4.9	103	92.0 to 120.				
1-NITROPYRENE	4.89098	4.95	98.8	86.8 to 123.				
PYRENE	4.74480	4.95	95.9	92.5 to 125.				
BENZO(A)ANTHRACENE	5.42742	4.95	110	93.7 to 119.				
CHRYSENE	5.23713	4.95	106	88.3 to 120.				
BENZO(E)PYRENE	4.72819	4.9995	94.6	90.6 to 127.				
BENZO(B)FLUORANTHENE	5.22975	4.95	106	93.8 to 125.				
BENZO(K)FLUORANTHENE	4.81832	4.95	97.3	88.6 to 118.				

ORGANICS QC RECOVERY REPORT

Work Group WG338942

Sample: WG338942-5 **Spikelot:** IH603243-3

QC Type: CCV **Raw File:**

Analysis date 02/16/16 01:41:09 **Approval Status:** YES

Instrument: LC5

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
ACENAPHTHYLENE	5.15056	4.95	104	89.8 to 117.				
BENZO(A)PYRENE	5.08116	4.95	103	80.0 to 138.				
DIBENZ(A,H)ANTHRACENE	5.00915	4.95	101	86.7 to 122.				
BENZO(G,H,I)PERYLENE	4.47631	4.95	90.4	87.6 to 124.				
INDENO-1,2,3-CD-PYRENE	5.02771	4.95	102	94.8 to 127.				
ACENAPHTHENE	4.76829	4.9995	95.4	88.1 to 121.				
FLUORENE	4.85865	4.9	99.2	92.7 to 123.				

5120 North Shore Drive
North Little Rock, AR 72118
Phone: (501) 801-8500
Fax: (501) 801-8501
Website: www.cteh.com

Center for Toxicology and Environmental Health L.L.C.
SAMPLE CHAIN OF CUSTODY AND ANALYSIS REQUEST FORM

Q 61

	Send Report To:	Send Invoice To:
Name	Charles Connolly cconnolly@cteh.com	Accounts Payable
Company	CTEH Mike Berg mberg@cteh.com	CTEH
Address	2000 Anders Lane Kemah, Texas 77565	5120 North Shore Drive North Little Rock, AR 72118
Phone	(281)535-2834	(501)801-8500
Fax	(281)535-0232	(501)801-8501
e-mail	labresults@cteh.com	lraccounting@cteh.com

CTEH Project #: 107907

Turnaround Requested:
Same Day ___Next Day (24 hour) ___Normal
X Other (Specify) 2-Day (Report on 2/15)

Complete Data Packet Requested X Yes ☐ No

775640081218
Date:02/15/16
Shipper:FEDEX
Initials:JB
Prep:UNKNOWN

Client Sample Identification	Other Sample Identification	Sample Size	Units (Check one) X L ___cm²	Sample Date	Sample Time (for non-air samples)	Initials	Mod. EPA IP-10A PM10	NIOSH 5506 PNAH								Matrix A = air B = bulk S = soil SW = wipe T = tape W = water
HOTX0210PM001	—	1001.1	L	2-10-16	—	CC	X									A
HOTX0210PM002	—	1006.6	L	2-10-16	—	CC	X									A
HOTX0210PM003	—	1001.3	L	2-10-16	—	CC	X									A
HOTX0210PM004	—	Blank	L	2-10-16	—	CC	X									A
HOTX0210PNAH001	—	907.2	L	2-10-16	—	CC		X								A
~~HOTX0210PNAH002~~ CC	—	~~0000~~	L	—	—	—	—	—	—	—	—	—	—	—	—	—
HOTX0210PNAH003	—	897.6	L	2-10-16	—	CC		X								A
HOTX0210PNAH004	—	Blank	L	2-10-16	—	CC		X								A
HOTX0211PM001	—	1013.2	L	2-11-16	—	CC	X									A
HOTX0211PM002	—	968.3	L	2-11-16	—	CC	X									A
HOTX0211PM003	—	969.8	L	2-11-16	—	CC	X									A
HOTX0211PM004	—	Blank	L	2-11-16	—	CC	X									A

RELINQUISHED BY	DATE/TIME	RECEIVED BY	DATE/TIME
	2-12-16 1600	FedEX	
		Zach Kling	2/15/16 0905

COMMENTS

Rec'd intact & all accounted for? Yes or No ZK
Rec'd w/custody seals intact? Yes or No N/A ZK
Rec'd in light sensitive packaging? Yes or No ZK
Rec'd with ice pack? Yes or No N/A ZK
Rec'd temperature compliant? Yes or No N/A ZK

5120 North Shore Drive
North Little Rock, AR 72118
Phone: (501) 801-8500
Fax: (501) 801-8501
Website: www.cteh.com

Center for Toxicology and Environmental Health L.L.C.
SAMPLE CHAIN OF CUSTODY AND ANALYSIS REQUEST FORM

	Send Report To:	Send Invoice To:
Name	Charles Connolly cconnolly@cteh.com	Accounts Payable
Company	CTEH Mike Berg mberg@cteh.com	CTEH
Address	2000 Anders Lane Kemah, Texas 77565	5120 North Shore Drive North Little Rock, AR 72118
Phone	(281)535-2834	(501)801-8500
Fax	(281)535-0232	(501)801-8501
e-mail	labresults@cteh.com	lraccounting@cteh.com

CTEH Project #: 107967

Turnaround Requested:
Same Day ___Next Day (24 hour) ___Normal
X Other (Specify) 2-Day (Report on 2/15)

Complete Data Packet Requested ☒ Yes ☐ No

Lab Contact Information:
Galson Laboratories
6601 Kirkville Road
E. Syracuse, NY 13057

Client Sample Identification	Other Sample Identification	Sample Size	Units (Check one) X L / ___cm²	Sample Date	Sample Time (for non-air samples)	Initials	NIOSH 5506 PNAH	Matrix (A = air, B = bulk, S = soil, SW = wipe, T = tape, W = water)
HOTX0211PNAH001	–	953.3	L	2-11-16	–	CC	X	A
HOTX0211PNAH002	–	836.6	L	2-11-16	–	CC	X	A
HOTX0211PNAH003	–	954.8	L	2-11-16	–	CC	X	A
HOTX0211PNAH004	–	Blank	–	2-11-16	–	CC	X	A

Rec'd intact & all accounted for? Yes or No ZK
Rec'd w/custody seals intact? Yes or No N/A ZK
Rec'd in light sensitive packaging? Yes or No ZK
Rec'd with ice pack? Yes or No N/A ZK
Rec'd temperature compliant? Yes or No N/A ZK

RELINQUISHED BY	DATE/TIME	RECEIVED BY	DATE/TIME	COMMENTS
	2-12-16 1600	FedEx		Samples Received in Light Sensitve Material: Yes or No
		Zach King	2/15/16 9:05	

Mr. Charles Connolly
Center for Toxicology & Env. Health LLC
5120 North Shore Drive
North Little Rock, AR 72118

February 17, 2016

DOH ELAP #11626 Account# 13913 Login# L367100
AIHA-LAP #100324

Dear Mr. Connolly:

Enclosed are the revised analytical results for the samples received by our laboratory on February 15, 2016. Per your request, all sample volumes have been corrected. Please note that this revision cancels and supercedes L367100 (report reference: 1) issued 02/16/16 by SGS Galson Laboratories. All test results meet the quality control requirements of AIHA-LAP and NELAC unless otherwise stated in this report. All samples on the chain of custody were received in good condition unless otherwise noted.

Results in this report are based on the sampling data provided by the client and refer only to the samples as they were received at the laboratory. Unless otherwise requested, all samples will be discarded 14 days from the date of this report, with the exception of IOMs, which will be cleaned and disposed of after seven calendar days.

Current Scopes of Accreditation can be viewed at www.galsonlabs.com in the accreditations section under the "about Galson" tab.

Please contact Pamela Weaver at (888) 432-5227, if you would like any additional information regarding this report. Thank you for using SGS Galson Laboratories.

Sincerely,

SGS Galson Laboratories

Lisa Swab
Laboratory Director

Enclosure(s)

Galson Laboratories, Inc. is now a part of SGS, the world's leading inspection, verification, testing, and certification company. As part of our transition to SGS, you will begin to see some formatting changes with reports that will improve the presentation of data and allow for the transition to the new logo.

SGS GALSON LABORATORIES

6601 Kirkville Road
East Syracuse, NY 13057
(315) 432-5227
FAX: (315) 437-0571
www.galsonlabs.com

LABORATORY ANALYSIS REPORT

Client : Center for Toxicology & Env. H
Site : NS
Project No. : 107907
Date Sampled : 12-FEB-16
Date Received : 15-FEB-16

Account No.: 13913
Login No. : L367100

Date Analyzed : 15-FEB-16 - 16-FEB-16
Report ID : 922389

Client ID : HOTX0212PNAH001 **Lab ID : L367100-4** **Air Volume : 958.416 Liter**
Date Sampled : 02/12/16 **Date Analyzed : 02/15/16**

Parameter	LOQ ug	Filter ug	Front ug	Back ug	Total ug	Conc mg/m3	ppm
1-Nitropyrene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Acenaphthene	0.3	<0.3	<0.3	<0.3	<0.3	<0.0003	<0.00006
Acenaphthylene	0.3	<0.3	<0.3	<0.3	<0.3	<0.0003	<0.00005
Anthracene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00005
Benzo(a)anthracene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Benzo(a)pyrene	0.3	<0.3	<0.3	<0.3	<0.5	<0.0005	<0.00005
Benzo(b)fluoranthene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Benzo(e)pyrene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0005	<0.00004
Benzo(g,h,i)perylene	0.3	<0.3	<0.3	<0.3	<0.5	<0.0005	<0.00005
Benzo(k)fluoranthene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Chrysene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Dibenz(a,h)anthracene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Fluoranthene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00005
Fluorene	0.3	<0.3	<0.3	<0.3	<0.3	<0.0003	<0.00005
Indeno(1,2,3-cd)pyrene	0.3	<0.3	<0.3	<0.3	<0.5	<0.0005	<0.00004

COMMENTS: Please see attached lab footnote report for any applicable footnotes.

Collection Media: FilterTube
Date : 17-FEB-16

Submitted by: EAW
NYS DOH # : 11626

Approved by: dnf
Supervisor: MWJ QC by: AMD

< -Less Than mg -Milligrams m3 -Cubic Meters kg -Kilograms NA -Not Applicable ND -Not Detected
> -Greater Than ug -Micrograms l -Liters NS -Not Specified ppm -Parts per Million LOQ-Limit of Quantitation

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East Syracuse, NY 13057
(315) 432-5227
FAX: (315) 437-0571
www.galsonlabs.com

LABORATORY ANALYSIS REPORT

Client : Center for Toxicology & Env. H
Site : NS
Project No. : 107907
Date Sampled : 12-FEB-16
Date Received : 15-FEB-16

Account No.: 13913
Login No. : L367100
Date Analyzed : 15-FEB-16 - 16-FEB-16
Report ID : 922389

Client ID : HOTX0212PNAH001 **Lab ID : L367100-4** **Air Volume : 958.416 Liter**
Date Sampled : 02/12/16 **Date Analyzed : 02/15/16**

Parameter	LOQ ug	Filter ug	Front ug	Back ug	Total ug	Conc mg/m3	ppm
Naphthalene	0.3	<0.3	<0.3	<0.3	<0.3	<0.0003	<0.00006
Phenanthrene	0.3	<0.3	<0.3	<0.3	<0.3	<0.0004	<0.00005
Pyrene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00005

COMMENTS: Please see attached lab footnote report for any applicable footnotes.

Collection Media: FilterTube
Date : 17-FEB-16

Submitted by: EAW
NYS DOH # : 11626

Approved by: dnf
Supervisor: MWJ QC by: AMD

< -Less Than mg -Milligrams m3 -Cubic Meters kg -Kilograms NA -Not Applicable ND -Not Detected
> -Greater Than ug -Micrograms l -Liters NS -Not Specified ppm -Parts per Million LOQ-Limit of Quantitation

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LABORATORY ANALYSIS REPORT

Client : Center for Toxicology & Env. H
Site : NS
Project No. : 107907
Date Sampled : 12-FEB-16
Date Received : 15-FEB-16

Account No.: 13913
Login No. : L367100
Date Analyzed : 15-FEB-16 - 16-FEB-16
Report ID : 922389

Client ID : HOTX0212PNAH002 **Lab ID : L367100-5** **Air Volume : 955.824 Liter**
Date Sampled : 02/12/16 **Date Analyzed : 02/15/16**

Parameter	LOQ ug	Filter ug	Front ug	Back ug	Total ug	Conc mg/m3	ppm
1-Nitropyrene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Acenaphthene	0.3	<0.3	<0.3	<0.3	<0.3	<0.0003	<0.00006
Acenaphthylene	0.3	<0.3	<0.3	<0.3	<0.3	<0.0003	<0.00005
Anthracene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00005
Benzo(a)anthracene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Benzo(a)pyrene	0.3	<0.3	<0.3	<0.3	<0.5	<0.0005	<0.00005
Benzo(b)fluoranthene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Benzo(e)pyrene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0005	<0.00004
Benzo(g,h,i)perylene	0.3	<0.3	<0.3	<0.3	<0.5	<0.0005	<0.00005
Benzo(k)fluoranthene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Chrysene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Dibenz(a,h)anthracene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Fluoranthene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00005
Fluorene	0.3	<0.3	<0.3	<0.3	<0.3	<0.0003	<0.00005
Indeno(1,2,3-cd)pyrene	0.3	<0.3	<0.3	<0.3	<0.5	<0.0005	<0.00004

COMMENTS: Please see attached lab footnote report for any applicable footnotes.

Collection Media: FilterTube
Date : 17-FEB-16

Submitted by: EAW
NYS DOH # : 11626

Approved by: dnf
Supervisor: MWJ QC by: AMD

< -Less Than mg -Milligrams m3 -Cubic Meters kg -Kilograms NA -Not Applicable ND -Not Detected
> -Greater Than ug -Micrograms l -Liters NS -Not Specified ppm -Parts per Million LOQ-Limit of Quantitation

SGS GALSON LABORATORIES

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East Syracuse, NY 13057
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FAX: (315) 437-0571
www.galsonlabs.com

LABORATORY ANALYSIS REPORT

Client : Center for Toxicology & Env. H
Site : NS
Project No. : 107907
Date Sampled : 12-FEB-16
Date Received : 15-FEB-16

Account No.: 13913
Login No. : L367100
Date Analyzed : 15-FEB-16 - 16-FEB-16
Report ID : 922389

Client ID : HOTX0212PNAH002 **Lab ID : L367100-5** **Air Volume : 955.824 Liter**
Date Sampled : 02/12/16 **Date Analyzed : 02/15/16**

Parameter	LOQ ug	Filter ug	Front ug	Back ug	Total ug	Conc mg/m3	ppm
Naphthalene	0.3	<0.3	<0.3	<0.3	<0.3	<0.0003	<0.00007
Phenanthrene	0.3	<0.3	<0.3	<0.3	<0.3	<0.0004	<0.00005
Pyrene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00005

COMMENTS: Please see attached lab footnote report for any applicable footnotes.

Collection Media: FilterTube
Date : 17-FEB-16

Submitted by: EAW
NYS DOH # : 11626

Approved by: dnf
Supervisor: MWJ QC by: AMD

< -Less Than mg -Milligrams m3 -Cubic Meters kg -Kilograms NA -Not Applicable ND -Not Detected
> -Greater Than ug -Micrograms l -Liters NS -Not Specified ppm -Parts per Million LOQ-Limit of Quantitation

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LABORATORY ANALYSIS REPORT

Client : Center for Toxicology & Env. H
Site : NS
Project No. : 107907
Date Sampled : 12-FEB-16
Date Received : 15-FEB-16

Account No.: 13913
Login No. : L367100

Date Analyzed : 15-FEB-16 - 16-FEB-16
Report ID : 922389

Client ID : HOTX0212PNAH003 **Lab ID : L367100-6** **Air Volume : 974.088 Liter**
Date Sampled : 02/12/16 **Date Analyzed : 02/16/16**

Parameter	LOQ ug	Filter ug	Front ug	Back ug	Total ug	Conc mg/m3	ppm
1-Nitropyrene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Acenaphthene	0.3	<0.3	<0.3	<0.3	<0.3	<0.0003	<0.00005
Acenaphthylene	0.3	<0.3	<0.3	<0.3	<0.3	<0.0003	<0.00005
Anthracene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00005
Benzo(a)anthracene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Benzo(a)pyrene	0.3	<0.3	<0.3	<0.3	<0.5	<0.0005	<0.00005
Benzo(b)fluoranthene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Benzo(e)pyrene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0005	<0.00004
Benzo(g,h,i)perylene	0.3	<0.3	<0.3	<0.3	<0.5	<0.0005	<0.00005
Benzo(k)fluoranthene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Chrysene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Dibenz(a,h)anthracene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Fluoranthene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Fluorene	0.3	<0.3	<0.3	<0.3	<0.3	<0.0003	<0.00005
Indeno(1,2,3-cd)pyrene	0.3	<0.3	<0.3	<0.3	<0.5	<0.0005	<0.00004

COMMENTS: Please see attached lab footnote report for any applicable footnotes.

Collection Media: FilterTube
Date : 17-FEB-16

Submitted by: EAW
NYS DOH # : 11626

Approved by: dnf
Supervisor: MWJ QC by: AMD

< -Less Than mg -Milligrams m3 -Cubic Meters kg -Kilograms NA -Not Applicable ND -Not Detected
> -Greater Than ug -Micrograms l -Liters NS -Not Specified ppm -Parts per Million LOQ-Limit of Quantitation

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LABORATORY ANALYSIS REPORT

Client : Center for Toxicology & Env. H
Site : NS
Project No. : 107907
Date Sampled : 12-FEB-16
Date Received : 15-FEB-16

Account No.: 13913
Login No. : L367100

Date Analyzed : 15-FEB-16 - 16-FEB-16
Report ID : 922389

Client ID : HOTX0212PNAH003 **Lab ID : L367100-6** **Air Volume : 974.088 Liter**
Date Sampled : 02/12/16 **Date Analyzed : 02/16/16**

Parameter	LOQ ug	Filter ug	Front ug	Back ug	Total ug	Conc mg/m3	ppm
Naphthalene	0.3	<0.3	0.5	<0.3	0.5	0.0005	0.0001
Phenanthrene	0.3	<0.3	<0.3	<0.3	<0.3	<0.0004	<0.00005
Pyrene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00005

COMMENTS: Please see attached lab footnote report for any applicable footnotes.

Collection Media: FilterTube
Date : 17-FEB-16

Submitted by: EAW
NYS DOH # : 11626

Approved by: dnf
Supervisor: MWJ QC by: AMD

< -Less Than mg -Milligrams m3 -Cubic Meters kg -Kilograms NA -Not Applicable ND -Not Detected
> -Greater Than ug -Micrograms l -Liters NS -Not Specified ppm -Parts per Million LOQ-Limit of Quantitation

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LABORATORY ANALYSIS REPORT

Client : Center for Toxicology & Env. H
Site : NS
Project No. : 107907
Date Sampled : 12-FEB-16
Date Received : 15-FEB-16

Account No.: 13913
Login No. : L367100
Date Analyzed : 15-FEB-16 - 16-FEB-16
Report ID : 922389

Client ID : HOTX0212PNAH004 **Lab ID : L367100-8** **Air Volume : NA**
Date Sampled : 02/12/16 **Date Analyzed : 02/16/16**

Parameter	LOQ ug	Filter ug	Front ug	Back ug	Total ug	Conc mg/m3	ppm
1-Nitropyrene	0.3	<0.3	<0.3	<0.3	<0.4	NA	NA
Acenaphthene	0.3	<0.3	<0.3	<0.3	<0.3	NA	NA
Acenaphthylene	0.3	<0.3	<0.3	<0.3	<0.3	NA	NA
Anthracene	0.3	<0.3	<0.3	<0.3	<0.4	NA	NA
Benzo(a)anthracene	0.3	<0.3	<0.3	<0.3	<0.4	NA	NA
Benzo(a)pyrene	0.3	<0.3	<0.3	<0.3	<0.5	NA	NA
Benzo(b)fluoranthene	0.3	<0.3	<0.3	<0.3	<0.4	NA	NA
Benzo(e)pyrene	0.3	<0.3	<0.3	<0.3	<0.4	NA	NA
Benzo(g,h,i)perylene	0.3	<0.3	<0.3	<0.3	<0.5	NA	NA
Benzo(k)fluoranthene	0.3	<0.3	<0.3	<0.3	<0.4	NA	NA
Chrysene	0.3	<0.3	<0.3	<0.3	<0.4	NA	NA
Dibenz(a,h)anthracene	0.3	<0.3	<0.3	<0.3	<0.4	NA	NA
Fluoranthene	0.3	<0.3	<0.3	<0.3	<0.4	NA	NA
Fluorene	0.3	<0.3	<0.3	<0.3	<0.3	NA	NA
Indeno(1,2,3-cd)pyrene	0.3	<0.3	<0.3	<0.3	<0.5	NA	NA

COMMENTS: Please see attached lab footnote report for any applicable footnotes.

Collection Media: FilterTube
Date : 17-FEB-16

Submitted by: EAW
NYS DOH # : 11626

Approved by: dnf
Supervisor: MWJ QC by: AMD

< -Less Than mg -Milligrams m3 -Cubic Meters kg -Kilograms NA -Not Applicable ND -Not Detected
> -Greater Than ug -Micrograms l -Liters NS -Not Specified ppm -Parts per Million LOQ-Limit of Quantitation

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LABORATORY ANALYSIS REPORT

Client : Center for Toxicology & Env. H
Site : NS
Project No. : 107907
Date Sampled : 12-FEB-16
Date Received : 15-FEB-16

Account No.: 13913
Login No. : L367100

Date Analyzed : 15-FEB-16 - 16-FEB-16
Report ID : 922389

Client ID : HOTX0212PNAH004 **Lab ID : L367100-8** **Air Volume : NA**
Date Sampled : 02/12/16 **Date Analyzed : 02/16/16**

Parameter	LOQ ug	Filter ug	Front ug	Back ug	Total ug	Conc mg/m3	ppm
Naphthalene	0.3	<0.3	<0.3	<0.3	<0.3	NA	NA
Phenanthrene	0.3	<0.3	<0.3	<0.3	<0.3	NA	NA
Pyrene	0.3	<0.3	<0.3	<0.3	<0.4	NA	NA

COMMENTS: Please see attached lab footnote report for any applicable footnotes.

Collection Media: FilterTube
Date : 17-FEB-16

Submitted by: EAW
NYS DOH # : 11626

Approved by: dnf
Supervisor: MWJ QC by: AMD

< -Less Than mg -Milligrams m3 -Cubic Meters kg -Kilograms NA -Not Applicable ND -Not Detected
> -Greater Than ug -Micrograms l -Liters NS -Not Specified ppm -Parts per Million LOQ-Limit of Quantitation

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LABORATORY ANALYSIS REPORT

Client : Center for Toxicology & Env. H
Site : NS
Project No. : 107907
Date Sampled : 12-FEB-16
Date Received : 15-FEB-16

Account No.: 13913
Login No. : L367100
Date Analyzed : 16-FEB-16
Report ID : 922213

Particulate Matter - PM10

	Sample ID	Lab ID	Air Vol liter	Total mg	Conc mg/m3
	HOTX0212PM001	L367100-1	1529.42	0.26	0.17
	HOTX0212PM002	L367100-2	1503.59	0.26	0.18
^	HOTX0212PM003	L367100-3	1445.6	0.25	0.18
	HOTX0212PM004	L367100-7	NA	<0.050	NA

COMMENTS: Please see attached lab footnote report for any applicable footnotes.

Level of quantitation: 0.050 mg
Analytical Method : mod. EPA Method IP-10A; Gravimetric
OSHA PEL : NA
Collection Media : PVC PW 37mm

Submitted by: MNS
Approved by : KRK
Date : 17-FEB-16
Supervisor: CRI

NYS DOH # : 11626
QC by: AMD

< -Less Than mg -Milligrams m3 -Cubic Meters kg -Kilograms NA -Not Applicable ND -Not Detected
> -Greater Than ug -Micrograms l -Liters NS -Not Specified ppm -Parts per Million

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LABORATORY FOOTNOTE REPORT

Client Name : Center for Toxicology & Env. Health LLC
Site :
Project No. : 107907

Date Sampled : 12-FEB-16 Account No.: 13913
Date Received: 15-FEB-16 Login No. : L367100
Date Analyzed: 15-FEB-16 - 16-FEB-16

Unless otherwise noted below, all quality control results associated with the samples were within established control limits or did not impact reported results.

WARNING: The sample(s) to which the findings recorded herein (the "Findings") relate was(were) drawn and / or provided by the Client or by a third party acting at the Client's direction. The Findings constitute no warranty of the sample's representativeness of any goods and strictly relate to the sample(s). The Company accepts no liability with regard to the origin or source from which the sample(s) is/are said to be extracted.

Unrounded results are carried through the calculations that yield the final result and the final result is rounded to the number of significant figures appropriate to the accuracy of the analytical method. Please note that results appearing in the columns preceeding the final result column may have been rounded and therefore, if carried through the calculations, may not yield an identical final result to the one reported.

The stated LOQs for each analyte represent the demonstrated LOQ concentrations prior to correction for desorption efficiency (if applicable).

Unless otherwise noted below, reported results have not been blank corrected for any field blank or method blank.

L367100 (Report ID: 922389):
SOPs: il-n5506(12)
Results corrected for matrix- and compound-specific desorption efficiencies.

L367100 (Report ID: 922389):
Accuracy and mean recovery data presented below is based on a 95% confidence interval (k=2).
The estimated uncertainty applies to the media, technology, and SOP referenced in this report and does not account for the uncertainty associated with the sampling process.

Parameter	Accuracy	Mean Recovery
1-Nitropyrene	+/-16%	107%
Acenaphthene	+/-14.4%	104%
Acenaphthylene	+/-11.7%	100%
Anthracene	+/-15.7%	114%
Benzo(a)anthracene	+/-16.1%	110%
Benzo(a)pyrene	+/-26%	115%

< -Less Than mg -Milligrams m3 -Cubic Meters kg -Kilograms ppm -Parts per Million
> -Greater Than ug -Micrograms l -Liters NS -Not Specified ND -Not Detected NA -Not Applicable

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Client Name : Center for Toxicology & Env. Health LLC
Site :
Project No. : 107907

Date Sampled : 12-FEB-16 Account No.: 13913
Date Received: 15-FEB-16 Login No. : L367100
Date Analyzed: 15-FEB-16 - 16-FEB-16

Benzo(b)fluoranthene	+/-19%	113%
Benzo(e)pyrene	+/-19.2%	111%
Benzo(g,h,i)perylene	+/-20.2%	112%
Benzo(k)fluoranthene	+/-15.5%	109%
Chrysene	+/-14%	108%
Dibenz(a,h)anthracene	+/-15.6%	103%
Fluoranthene	+/-16.2%	110%
Fluorene	+/-12.4%	109%
Indeno(1,2,3-cd)pyrene	+/-19.5%	113%
Naphthalene	+/-13.3%	105%
Phenanthrene	+/-13.4%	108%
Pyrene	+/-14.6%	112%

Parameter	Method	PEL
1-Nitropyrene	mod. NIOSH 5506; HPLC/UV	NA
Acenaphthene	mod. NIOSH 5506; HPLC/UV	NA
Acenaphthylene	mod. NIOSH 5506; HPLC/UV	NA
Anthracene	mod. NIOSH 5506; HPLC/UV	NA
Benzo(a)anthracene	mod. NIOSH 5506; HPLC/UV	NA
Benzo(a)pyrene	mod. NIOSH 5506; HPLC/UV	0.2 mg/m3 (TWA)
Benzo(b)fluoranthene	mod. NIOSH 5506; HPLC/UV	NA
Benzo(e)pyrene	mod. NIOSH 5506; HPLC/UV	NA
Benzo(g,h,i)perylene	mod. NIOSH 5506; HPLC/UV	NA
Benzo(k)fluoranthene	mod. NIOSH 5506; HPLC/UV	NA
Chrysene	mod. NIOSH 5506; HPLC/UV	0.2 mg/m3 (TWA)
Dibenz(a,h)anthracene	mod. NIOSH 5506; HPLC/UV	NA
Fluoranthene	mod. NIOSH 5506; HPLC/UV	NA
Fluorene	mod. NIOSH 5506; HPLC/UV	NA
Indeno(1,2,3-cd)pyrene	mod. NIOSH 5506; HPLC/UV	NA
Naphthalene	mod. NIOSH 5506; HPLC/UV	10 ppm (TWA)
Phenanthrene	mod. NIOSH 5506; HPLC/UV	NA
Pyrene	mod. NIOSH 5506; HPLC/UV	NA

L367100 (Report ID: 922213):
SOPs: GRAV-SOP-5(15), GRAV-SOP-6(15)

< -Less Than mg -Milligrams m3 -Cubic Meters kg -Kilograms ppm -Parts per Million
> -Greater Than ug -Micrograms l -Liters NS -Not Specified ND -Not Detected NA -Not Applicable

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LABORATORY FOOTNOTE REPORT

Client Name : Center for Toxicology & Env. Health LLC
Site :
Project No. : 107907

Date Sampled : 12-FEB-16 Account No.: 13913
Date Received: 15-FEB-16 Login No. : L367100
Date Analyzed: 15-FEB-16 - 16-FEB-16

L367100 (Report ID: 922213):
Gravimetric analytical accuracy of the sampling media is -0.005 +/- 0.007 mg (average blank weight change +/- 95% confidence interval or k=2). The estimated uncertainly applies to the media, technology, and SOP(s) referenced in this report and does not account for any uncertainty associated with the sampling process.

^L367100-3 (Report ID: 922213):
Filter was received torn. Reported result may be biased low.

< -Less Than mg -Milligrams m3 -Cubic Meters kg -Kilograms ppm -Parts per Million
> -Greater Than ug -Micrograms l -Liters NS -Not Specified ND -Not Detected NA -Not Applicable

GRAVIMETRICS QC SUMMARY REPORT

Login: L367100
Matnum: 306
Matrix: PVC PW 37mm
Instrument Description: Mettler XP6, M4
Method: mod. EPA Method IP-10A; Gravimetric
Reporting Level (mg): 0.050 mg
Analysis: Particulate Matter - PM10

Type	Sample #	Analysis Date	True Value (mg)	Found Value (mg)	Difference (mg)	Control Limit (mg)
CCV	WG339044-1	2/16/2016 08:56:00	19.948	19.948	0.000	0.008
BLANK	WG339044-4	2/16/2016 09:01:00	10.166	10.164	-0.002	-0.015
CCV	WG339044-5	2/16/2016 09:02:00	19.948	19.949	0.001	0.008
CCV	WG339095-1	2/16/2016 13:19:00	19.948	19.947	-0.001	0.008
CCV	WG339095-3	2/16/2016 13:23:00	19.948	19.945	-0.003	0.008

Type	Sample #	Analysis Date	Sample Result (mg)	Duplicate Result (mg)	Abs. Val. of mg Difference	Control Limit (mg)
DUP	WG339095-2	2/16/2016 13:20:00	0.264	0.266	0.002	0.004

Dup Workgroup number	**Sample number**
WG339095-2	L367100-1

ORGANICS QC RECOVERY REPORT

Work Group WG338942

Sample: WG338942-1 **Spikelot:** IH603243-4
QC Type: DLS **Raw File:**
Analysis date 02/15/16 10:40:55 **Approval Status:** YES
Instrument: LC5

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
NAPHTHALENE	.093593	.099	94.5	70.0 to 130.				
BENZO(A)ANTHRACENE	.093895	.099	94.8	70.0 to 130.				
CHRYSENE	.103708	.099	105	70.0 to 130.				
BENZO(E)PYRENE	.111765	.1	112	70.0 to 130.				
BENZO(B)FLUORANTHENE	.104076	.099	105	70.0 to 130.				
BENZO(K)FLUORANTHENE	.121561	.099	123	70.0 to 130.				
BENZO(A)PYRENE	.116390	.099	118	70.0 to 130.				
DIBENZ(A,H)ANTHRACENE	.102160	.099	103	70.0 to 130.				
BENZO(G,H,I)PERYLENE	.099630	.099	101	70.0 to 130.				
INDENO-1,2,3-CD-PYRENE	.096802	.099	97.8	70.0 to 130.				
ACENAPHTHYLENE	.090228	.099	91.1	70.0 to 130.				
ACENAPHTHENE	.090538	.1	90.5	70.0 to 130.				
FLUORENE	.088492	.098	90.3	70.0 to 130.				
PHENANTHRENE	.095851	.098	97.8	70.0 to 130.				
ANTHRACENE	.120927	.099	122	70.0 to 130.				
FLUORANTHENE	.085012	.098	86.7	70.0 to 130.				
1-NITROPYRENE	.075232	.099	76	70.0 to 130.				
PYRENE	.072918	.099	73.7	70.0 to 130.				

Sample: WG338942-2 **Spikelot:** IH603243-3
QC Type: CCV **Raw File:**
Analysis date 02/15/16 11:00:53 **Approval Status:** YES
Instrument: LC5

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
NAPHTHALENE	4.92593	4.95	99.5	88.5 to 120.				
PYRENE	5.23151	4.95	106	92.5 to 125.				
BENZO(A)ANTHRACENE	5.21853	4.95	105	93.7 to 119.				
CHRYSENE	5.04657	4.95	102	88.3 to 120.				
BENZO(E)PYRENE	5.14765	4.9995	103	90.6 to 127.				
BENZO(B)FLUORANTHENE	5.19216	4.95	105	93.8 to 125.				
BENZO(K)FLUORANTHENE	5.04510	4.95	102	88.6 to 118.				
BENZO(A)PYRENE	5.33883	4.95	108	80.0 to 138.				
DIBENZ(A,H)ANTHRACENE	5.01945	4.95	101	86.7 to 122.				
BENZO(G,H,I)PERYLENE	5.09191	4.95	103	87.6 to 124.				
INDENO-1,2,3-CD-PYRENE	5.25532	4.95	106	94.8 to 127.				

ORGANICS QC RECOVERY REPORT

Work Group WG338942

Sample: WG338942-2 **Spikelot:** IH603243-3
QC Type: CCV **Raw File:**
Analysis date 02/15/16 11:00:53 **Approval Status:** YES
Instrument: LC5

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
ACENAPHTHYLENE	5.00420	4.95	101	89.8 to 117.				
ACENAPHTHENE	5.07421	4.9995	101	88.1 to 121.				
FLUORENE	5.09338	4.9	104	92.7 to 123.				
PHENANTHRENE	5.07713	4.9	104	91.1 to 120.				
ANTHRACENE	5.93749	4.95	120	85.6 to 123.				
FLUORANTHENE	5.02140	4.9	102	92.0 to 120.				
1-NITROPYRENE	4.86546	4.95	98.3	86.8 to 123.				

Sample: WG338941-2 **Spikelot:** NA
QC Type: MBLANK **Raw File:**
Analysis date 02/15/16 12:00:46 **Approval Status:** YES
Instrument: LC5

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
FLUORANTHENE(FRONT)	.138100	<.3						
FLUORANTHENE(BACK)	.081200	<.3						
BENZO(K)FLUORANTHENE(FRONT)	.036653	<.3						
BENZO(K)FLUORANTHENE(BACK)	0	<.3						
ACENAPHTHENE(FRONT)	0	<.3						
ACENAPHTHENE(BACK)	0	<.3						
ACENAPHTHYLENE(FRONT)	0	<.3						
ACENAPHTHYLENE(BACK)	0	<.3						
ANTHRACENE(FRONT)	0	<.3						
ANTHRACENE(BACK)	0	<.3						
BENZO(A)ANTHRACENE(FRONT)	0	<.3						
BENZO(A)ANTHRACENE(BACK)	0	<.3						
BENZO(A)PYRENE(FRONT)	0	<.3						
BENZO(A)PYRENE(BACK)	0	<.3						
BENZO(B)FLUORANTHENE(FRONT)	0	<.3						
BENZO(B)FLUORANTHENE(BACK)	0	<.3						
BENZO(E)PYRENE(FRONT)	0	<.3						
BENZO(E)PYRENE(BACK)	0	<.3						
BENZO(G,H,I)PERYLENE(FRONT)	0	<.3						
BENZO(G,H,I)PERYLENE(BACK)	0	<.3						
CHRYSENE(FRONT)	0	<.3						
CHRYSENE(BACK)	.079961	<.3						

ORGANICS QC RECOVERY REPORT

Work Group WG338942

Sample: WG338941-2 **Spikelot:** NA
QC Type: MBLANK **Raw File:**
Analysis date 02/15/16 12:00:46 **Approval Status:** YES
Instrument: LC5

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
DIBENZ(A,H)ANTHRACENE(FRONT)	0	<.3						
DIBENZ(A,H)ANTHRACENE(BACK)	0	<.3						
FLUORENE(FRONT)	0	<.3						
FLUORENE(BACK)	0	<.3						
INDENO-1,2,3-CD-PYRENE(FRONT)	0	<.3						
INDENO-1,2,3-CD-PYRENE(BACK)	0	<.3						
NAPHTHALENE(FRONT)	0	<.3						
NAPHTHALENE(BACK)	0	<.3						
1-NITROPYRENE(FRONT)	0	<.3						
1-NITROPYRENE(BACK)	0	<.3						
PHENANTHRENE(FRONT)	0	<.3						
PHENANTHRENE(BACK)	0	<.3						
PYRENE(FRONT)	0	<.3						
PYRENE(BACK)	0	<.3						

Sample: WG338941-3 **Spikelot:** IH603243
QC Type: BS **Raw File:**
Analysis date 02/15/16 12:40:41 **Approval Status:** YES
Instrument: LC5

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
NAPHTHALENE	4.80273	4.95	97		98	85.2 to 125		
BENZO(A)ANTHRACENE	4.94739	4.95	99.9		102	85.3 to 134		
CHRYSENE	4.82145	4.95	97.4		99.4	86.7 to 129		
BENZO(E)PYRENE	4.80996	4.9995	96.2		98.2	82.4 to 140		
BENZO(B)FLUORANTHENE	4.62005	4.95	93.3		96.2	85.0 to 142		
BENZO(K)FLUORANTHENE	4.57310	4.95	92.4		95.2	85.3 to 132		
BENZO(A)PYRENE	4.81448	4.95	97.3		99.2	76.5 to 154		
DIBENZ(A,H)ANTHRACENE	4.91476	4.95	99.3		100	79.8 to 127		
BENZO(G,H,I)PERYLENE	4.70850	4.95	95.1		99.1	81.7 to 142		
INDENO-1,2,3-CD-PYRENE	4.71596	4.95	95.3		96.2	83.3 to 142		
ACENAPHTHYLENE	4.91007	4.95	99.2		97.2	82.8 to 118		
ACENAPHTHENE	4.89143	4.9995	97.8		95.9	82.3 to 125		
FLUORENE	4.82177	4.9	98.4		101	90.7 to 128		
PHENANTHRENE	4.68157	4.9	95.5		97.5	87.8 to 128		
ANTHRACENE	5.44674	4.95	110		112	90.2 to 137		

ORGANICS QC RECOVERY REPORT

Work Group WG338942

Sample: WG338941-3 **Spikelot:** IH603243
QC Type: BS **Raw File:**
Analysis date 02/15/16 12:40:41 **Approval Status:** YES
Instrument: LC5

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
FLUORANTHENE	4.62002	4.9	94.3		96.2	85.5 to 134		
1-NITROPYRENE	4.16000	4.95	84		84.9	82.7 to 131		
PYRENE	4.50518	4.95	91		91.9	89.7 to 134		

Sample: WG338941-4 **Spikelot:** IH603243
QC Type: BSD **Raw File:**
Analysis date 02/15/16 13:00:38 **Approval Status:** YES
Instrument: LC5

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
NAPHTHALENE	4.78172	4.95	96.6		97.6	85.2 to 125	.409	-10 to 10.0
BENZO(A)ANTHRACENE	5.03535	4.95	102		104	85.3 to 134	-1.94	-10 to 10.0
CHRYSENE	4.86000	4.95	98.2		100	86.7 to 129	-.602	-10 to 10.0
BENZO(E)PYRENE	4.98092	4.9995	99.6		102	82.4 to 140	-3.8	-10 to 10.0
BENZO(B)FLUORANTHENE	5.00123	4.95	101		104	85.0 to 142	-7.79	-10 to 10.0
BENZO(K)FLUORANTHENE	4.88650	4.95	98.7		102	85.3 to 132	-6.9	-10 to 10.0
BENZO(A)PYRENE	5.12574	4.95	104		106	76.5 to 154	-6.63	-10 to 10.0
DIBENZ(A,H)ANTHRACENE	4.80797	4.95	97.1		98.1	79.8 to 127	1.92	-11.5 to 9.87
BENZO(G,H,I)PERYLENE	4.51765	4.95	91.3		95.1	81.7 to 142	4.12	-10 to 10.0
INDENO-1,2,3-CD-PYRENE	4.67207	4.95	94.4		95.3	83.3 to 142	.94	-10 to 10.0
ACENAPHTHYLENE	4.61931	4.95	93.3		91.5	82.8 to 118	6.04	-10 to 10.0
ACENAPHTHENE	4.87332	4.9995	97.5		95.6	82.3 to 125	.313	-10 to 10.0
FLUORENE	4.87258	4.9	99.4		103	90.7 to 128	-1.96	-10 to 10.0
PHENANTHRENE	4.87963	4.9	99.6		102	87.8 to 128	-4.51	-10 to 10.0
ANTHRACENE	5.75073	4.95	116		119	90.2 to 137	-6.06	-10 to 10.0
FLUORANTHENE	4.92927	4.9	101		103	85.5 to 134	-6.83	-10 to 10.0
1-NITROPYRENE	4.71680	4.95	95.3		96.3	82.7 to 131	-12.6	-10 to 10.0
PYRENE	5.00139	4.95	101		102	89.7 to 134	-10.4	-10.4 to 8.96

Sample: WG338941-5 **Spikelot:** IH603243
QC Type: BS **Raw File:**
Analysis date 02/15/16 13:20:39 **Approval Status:** YES
Instrument: LC5

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
NAPHTHALENE	4.57300	4.95	92.4		100	85.2 to 125		
BENZO(A)ANTHRACENE	4.12082	4.95	83.2		107	85.3 to 134		

ORGANICS QC RECOVERY REPORT

Work Group WG338942

Sample: WG338941-5 **Spikelot:** IH603243
QC Type: BS **Raw File:**
Analysis date 02/15/16 13:20:39 **Approval Status:** YES
Instrument: LC5

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
CHRYSENE	3.94531	4.95	79.7		104	86.7 to 129		
BENZO(E)PYRENE	3.63226	4.9995	72.7		107	82.4 to 140		
BENZO(B)FLUORANTHENE	3.81647	4.95	77.1		107	85.0 to 142		
BENZO(K)FLUORANTHENE	3.79290	4.95	76.6		106	85.3 to 132		
BENZO(A)PYRENE	3.68881	4.95	74.5		113	76.5 to 154		
DIBENZ(A,H)ANTHRACENE	3.55569	4.95	71.8		99.8	79.8 to 127		
BENZO(G,H,I)PERYLENE	3.03335	4.95	61.3		104	81.7 to 142		
INDENO-1,2,3-CD-PYRENE	3.32037	4.95	67.1		105	83.3 to 142		
ACENAPHTHYLENE	4.85218	4.95	98		102	82.8 to 118		
ACENAPHTHENE	4.49831	4.9995	90		100	82.3 to 125		
FLUORENE	4.46367	4.9	91.1		101	90.7 to 128		
PHENANTHRENE	4.32509	4.9	88.3		103	87.8 to 128		
ANTHRACENE	5.12756	4.95	104		122	90.2 to 137		
FLUORANTHENE	4.36296	4.9	89		107	85.5 to 134		
1-NITROPYRENE	4.13941	4.95	83.6		99.6	82.7 to 131		
PYRENE	4.08991	4.95	82.6		101	89.7 to 134		

Sample: WG338941-6 **Spikelot:** IH603243
QC Type: BSD **Raw File:**
Analysis date 02/15/16 13:40:38 **Approval Status:** YES
Instrument: LC5

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
NAPHTHALENE	4.56101	4.95	92.1		100	85.2 to 125	0	-10 to 10.0
PYRENE	4.26804	4.95	86.2		105	89.7 to 134	-3.88	-10.4 to 8.96
BENZO(A)ANTHRACENE	4.25673	4.95	86		110	85.3 to 134	-2.76	-10 to 10.0
CHRYSENE	4.03185	4.95	81.5		106	86.7 to 129	-1.9	-10 to 10.0
BENZO(E)PYRENE	3.69803	4.9995	74		109	82.4 to 140	-1.85	-10 to 10.0
BENZO(B)FLUORANTHENE	3.90464	4.95	78.9		110	85.0 to 142	-2.76	-10 to 10.0
BENZO(K)FLUORANTHENE	3.86171	4.95	78		108	85.3 to 132	-1.87	-10 to 10.0
BENZO(A)PYRENE	3.80241	4.95	76.8		116	76.5 to 154	-2.62	-10 to 10.0
DIBENZ(A,H)ANTHRACENE	3.57360	4.95	72.2		100	79.8 to 127	-.2	-11.5 to 9.87
BENZO(G,H,I)PERYLENE	3.31304	4.95	66.9		113	81.7 to 142	-8.29	-10 to 10.0
INDENO-1,2,3-CD-PYRENE	3.38660	4.95	68.4		107	83.3 to 142	-1.89	-10 to 10.0
ACENAPHTHYLENE	4.59159	4.95	92.8		96.6	82.8 to 118	5.44	-10 to 10.0
ACENAPHTHENE	4.50759	4.9995	90.2		100	82.3 to 125	0	-10 to 10.0

ORGANICS QC RECOVERY REPORT

Work Group WG338942

Sample: WG338941-6 **Spikelot:** IH603243
QC Type: BSD **Raw File:**
Analysis date 02/15/16 13:40:38 **Approval Status:** YES
Instrument: LC5

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
FLUORENE	4.53715	4.9	92.6		103	90.7 to 128	-1.96	-10 to 10.0
PHENANTHRENE	4.41750	4.9	90.2		105	87.8 to 128	-1.92	-10 to 10.0
ANTHRACENE	5.10571	4.95	103		121	90.2 to 137	.823	-10 to 10.0
FLUORANTHENE	4.41118	4.9	90		108	85.5 to 134	-.93	-10 to 10.0
1-NITROPYRENE	4.17768	4.95	84.4		100	82.7 to 131	-.401	-10 to 10.0

Sample: WG338942-3 **Spikelot:** IH603243-3
QC Type: CCV **Raw File:**
Analysis date 02/15/16 17:41:50 **Approval Status:** YES
Instrument: LC5

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
NAPHTHALENE	4.93909	4.95	99.8	88.5 to 120.				
PYRENE	5.20615	4.95	105	92.5 to 125.				
BENZO(A)ANTHRACENE	5.22809	4.95	106	93.7 to 119.				
CHRYSENE	5.07651	4.95	103	88.3 to 120.				
BENZO(E)PYRENE	5.16870	4.9995	103	90.6 to 127.				
BENZO(B)FLUORANTHENE	5.21756	4.95	105	93.8 to 125.				
BENZO(K)FLUORANTHENE	5.08207	4.95	103	88.6 to 118.				
BENZO(A)PYRENE	5.43526	4.95	110	80.0 to 138.				
DIBENZ(A,H)ANTHRACENE	5.04283	4.95	102	86.7 to 122.				
BENZO(G,H,I)PERYLENE	5.15381	4.95	104	87.6 to 124.				
INDENO-1,2,3-CD-PYRENE	5.27772	4.95	107	94.8 to 127.				
ACENAPHTHYLENE	5.00927	4.95	101	89.8 to 117.				
ACENAPHTHENE	5.09142	4.9995	102	88.1 to 121.				
FLUORENE	5.09784	4.9	104	92.7 to 123.				
PHENANTHRENE	5.09002	4.9	104	91.1 to 120.				
ANTHRACENE	5.97453	4.95	121	85.6 to 123.				
FLUORANTHENE	5.03620	4.9	103	92.0 to 120.				
1-NITROPYRENE	4.92435	4.95	99.5	86.8 to 123.				

Sample: WG338942-4 **Spikelot:** IH603243-3
QC Type: CCV **Raw File:**
Analysis date 02/15/16 21:21:28 **Approval Status:** YES
Instrument: LC5

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits

ORGANICS QC RECOVERY REPORT

Work Group WG338942

Sample: WG338942-4 **Spikelot:** IH603243-3
QC Type: CCV **Raw File:**
Analysis date 02/15/16 21:21:28 **Approval Status:** YES
Instrument: LC5

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
NAPHTHALENE	4.95947	4.95	100	88.5 to 120.				
PYRENE	5.24040	4.95	106	92.5 to 125.				
BENZO(A)ANTHRACENE	5.23949	4.95	106	93.7 to 119.				
CHRYSENE	5.08727	4.95	103	88.3 to 120.				
BENZO(E)PYRENE	5.18921	4.9995	104	90.6 to 127.				
BENZO(B)FLUORANTHENE	5.25043	4.95	106	93.8 to 125.				
BENZO(K)FLUORANTHENE	5.09079	4.95	103	88.6 to 118.				
BENZO(A)PYRENE	5.42622	4.95	110	80.0 to 138.				
DIBENZ(A,H)ANTHRACENE	5.05174	4.95	102	86.7 to 122.				
BENZO(G,H,I)PERYLENE	5.17026	4.95	104	87.6 to 124.				
INDENO-1,2,3-CD-PYRENE	5.31350	4.95	107	94.8 to 127.				
ACENAPHTHYLENE	5.03512	4.95	102	89.8 to 117.				
ACENAPHTHENE	5.11088	4.9995	102	88.1 to 121.				
FLUORENE	5.12868	4.9	105	92.7 to 123.				
PHENANTHRENE	5.11896	4.9	104	91.1 to 120.				
ANTHRACENE	5.99418	4.95	121	85.6 to 123.				
FLUORANTHENE	5.05177	4.9	103	92.0 to 120.				
1-NITROPYRENE	4.94365	4.95	99.9	86.8 to 123.				

Sample: WG338942-5 **Spikelot:** IH603243-3
QC Type: CCV **Raw File:**
Analysis date 02/16/16 01:41:09 **Approval Status:** YES
Instrument: LC5

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
PHENANTHRENE	5.29213	4.9	108	91.1 to 120.				
ANTHRACENE	5.66852	4.95	115	85.6 to 123.				
NAPHTHALENE	5.11078	4.95	103	88.5 to 120.				
FLUORANTHENE	5.04776	4.9	103	92.0 to 120.				
1-NITROPYRENE	4.89098	4.95	98.8	86.8 to 123.				
PYRENE	4.74480	4.95	95.9	92.5 to 125.				
BENZO(A)ANTHRACENE	5.42742	4.95	110	93.7 to 119.				
CHRYSENE	5.23713	4.95	106	88.3 to 120.				
BENZO(E)PYRENE	4.72819	4.9995	94.6	90.6 to 127.				
BENZO(B)FLUORANTHENE	5.22975	4.95	106	93.8 to 125.				
BENZO(K)FLUORANTHENE	4.81832	4.95	97.3	88.6 to 118.				

ORGANICS QC RECOVERY REPORT

Work Group WG338942

Sample: WG338942-5 **Spikelot:** IH603243-3
QC Type: CCV **Raw File:**
Analysis date 02/16/16 01:41:09 **Approval Status:** YES
Instrument: LC5

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
ACENAPHTHYLENE	5.15056	4.95	104	89.8 to 117.				
BENZO(A)PYRENE	5.08116	4.95	103	80.0 to 138.				
DIBENZ(A,H)ANTHRACENE	5.00915	4.95	101	86.7 to 122.				
BENZO(G,H,I)PERYLENE	4.47631	4.95	90.4	87.6 to 124.				
INDENO-1,2,3-CD-PYRENE	5.02771	4.95	102	94.8 to 127.				
ACENAPHTHENE	4.76829	4.9995	95.4	88.1 to 121.				
FLUORENE	4.85865	4.9	99.2	92.7 to 123.				

Sample: WG338942-6 **Spikelot:** IH603243-4
QC Type: DLS **Raw File:**
Analysis date 02/16/16 08:49:07 **Approval Status:** YES
Instrument: LC5

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
NAPHTHALENE	.098993	.099	100	70.0 to 130.				
BENZO(A)ANTHRACENE	.094129	.099	95.1	70.0 to 130.				
CHRYSENE	.092974	.099	93.9	70.0 to 130.				
BENZO(E)PYRENE	.105196	.1	105	70.0 to 130.				
BENZO(B)FLUORANTHENE	.107070	.099	108	70.0 to 130.				
BENZO(K)FLUORANTHENE	.098533	.099	99.5	70.0 to 130.				
BENZO(A)PYRENE	.093316	.099	94.3	70.0 to 130.				
DIBENZ(A,H)ANTHRACENE	.106083	.099	107	70.0 to 130.				
BENZO(G,H,I)PERYLENE	.112447	.099	114	70.0 to 130.				
INDENO-1,2,3-CD-PYRENE	.091292	.099	92.2	70.0 to 130.				
ACENAPHTHYLENE	.101040	.099	102	70.0 to 130.				
ACENAPHTHENE	.099794	.1	99.8	70.0 to 130.				
FLUORENE	.091733	.098	93.6	70.0 to 130.				
PHENANTHRENE	.099681	.098	102	70.0 to 130.				
ANTHRACENE	.119889	.099	121	70.0 to 130.				
FLUORANTHENE	.089555	.098	91.4	70.0 to 130.				
1-NITROPYRENE	.071240	.099	72	70.0 to 130.				
PYRENE	.071987	.099	72.7	70.0 to 130.				

Sample: WG338942-7 **Spikelot:** IH603243-3
QC Type: CCV **Raw File:**
Analysis date 02/16/16 09:09:04 **Approval Status:** YES
Instrument: LC5

ORGANICS QC RECOVERY REPORT

Work Group WG338942

Sample: WG338942-7 **Spikelot:** IH603243-3
QC Type: CCV **Raw File:**
Analysis date 02/16/16 09:09:04 **Approval Status:** YES
Instrument: LC5

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
NAPHTHALENE	4.98763	4.95	101	88.5 to 120.				
PYRENE	5.29958	4.95	107	92.5 to 125.				
BENZO(A)ANTHRACENE	5.33046	4.95	108	93.7 to 119.				
CHRYSENE	5.14152	4.95	104	88.3 to 120.				
BENZO(E)PYRENE	5.23764	4.9995	105	90.6 to 127.				
BENZO(B)FLUORANTHENE	5.27990	4.95	107	93.8 to 125.				
BENZO(K)FLUORANTHENE	5.15353	4.95	104	88.6 to 118.				
BENZO(A)PYRENE	5.39670	4.95	109	80.0 to 138.				
DIBENZ(A,H)ANTHRACENE	5.09700	4.95	103	86.7 to 122.				
BENZO(G,H,I)PERYLENE	5.20671	4.95	105	87.6 to 124.				
ACENAPHTHYLENE	5.07397	4.95	103	89.8 to 117.				
INDENO-1,2,3-CD-PYRENE	5.36608	4.95	108	94.8 to 127.				
ACENAPHTHENE	5.15881	4.9995	103	88.1 to 121.				
FLUORENE	5.18046	4.9	106	92.7 to 123.				
PHENANTHRENE	5.14950	4.9	105	91.1 to 120.				
ANTHRACENE	6.04311	4.95	122	85.6 to 123.				
FLUORANTHENE	5.09856	4.9	104	92.0 to 120.				
1-NITROPYRENE	4.95964	4.95	100	86.8 to 123.				

Sample: WG338942-8 **Spikelot:** IH603243-3
QC Type: CCV **Raw File:**
Analysis date 02/16/16 10:08:59 **Approval Status:** YES
Instrument: LC5

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
NAPHTHALENE	4.99006	4.95	101	88.5 to 120.				
PYRENE	5.28202	4.95	107	92.5 to 125.				
BENZO(A)ANTHRACENE	5.28417	4.95	107	93.7 to 119.				
CHRYSENE	5.13155	4.95	104	88.3 to 120.				
BENZO(E)PYRENE	5.23930	4.9995	105	90.6 to 127.				
BENZO(B)FLUORANTHENE	5.28868	4.95	107	93.8 to 125.				
BENZO(K)FLUORANTHENE	5.15149	4.95	104	88.6 to 118.				
BENZO(A)PYRENE	5.44580	4.95	110	80.0 to 138.				
DIBENZ(A,H)ANTHRACENE	5.10111	4.95	103	86.7 to 122.				
BENZO(G,H,I)PERYLENE	5.19587	4.95	105	87.6 to 124.				
INDENO-1,2,3-CD-PYRENE	5.33900	4.95	108	94.8 to 127.				

ORGANICS QC RECOVERY REPORT

Work Group WG338942

Sample: WG338942-8 **Spikelot:** IH603243-3

QC Type: CCV **Raw File:**

Analysis date 02/16/16 10:08:59 **Approval Status:** YES

Instrument: LC5

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
ACENAPHTHYLENE	5.07910	4.95	103	89.8 to 117.				
ACENAPHTHENE	5.15845	4.9995	103	88.1 to 121.				
FLUORENE	5.18642	4.9	106	92.7 to 123.				
PHENANTHRENE	5.14848	4.9	105	91.1 to 120.				
ANTHRACENE	6.04315	4.95	122	85.6 to 123.				
FLUORANTHENE	5.09033	4.9	104	92.0 to 120.				
1-NITROPYRENE	4.99475	4.95	101	86.8 to 123.				

5120 North Shore Drive
North Little Rock, AR 72118
Phone: (501) 801-8500
Fax: (501) 801-8501
Website: www.cteh.com

Center for Toxicology and Environmental Health L.L.C.

SAMPLE CHAIN OF CUSTODY AND ANALYSIS REQUEST FORM

RHH

	Send Report To:	Send Invoice To:
Name	CConnolly@Cteh.Com; mberg@Cteh.com	Accounts Payable
Company	CTEH	CTEH
Address	2000 Anders Lane Kemah, Texas 77565	5120 North Shore Drive North Little Rock, AR 72118
Phone	(281)535-2834	(501)801-8500
Fax	(281)535-0232	(501)801-8501
e-mail	labresults@cteh.com	lraccounting@cteh.com

CTEH Project #: 107907

Turnaround Requested:
Same Day __Next Day (24 hour) ___ Normal
X Other (Specify) 2 day (report results 2/16)

Complete Data Packet Requested ☒Yes ☐No

Lab Contact Information:
Galson Laboratories
6601 Kirkville Road
E. Syracuse, NY 13057

Client Sample Identification	Other Sample Identification	Sample Size	Units (Check one) X L ___ cm^2 ___	Sample Date	Sample Time (for non-air samples)	Initials	mod. EPA method IP-10A Pm10	NIOSH 5506 PNAH	Matrix A = air B = bulk S = soil SW = wipe T = tape W = water
HOTX0212PM0001	16-0030855	1529.42	L	02-12-16	576	RA	X		A
HOTX0212PM0002	16-0030854	1503.59	L	02-12-16	564	RA	X		A
HOTX0212PM0003	16-0030853	1445.6	L	02-12-16	542	RA	X		A
HOTX0212PNAH001	15-0034927	958.416	L	02-12-16	480	RA		X	A
HOTX0212PNAH002	15-0034926	955.824	L	02-12-16	480	RA		X	A
HOTX0212PNAH003	15-0034925	974.088	L	02-12-16	480	RA		X	A
HOTX0212PM0004		0	L	02-12-16	0	RA	X		A
HOTX0212PNAH004		0	L	02-12-16	0	RA		X	A

Rec'd intact & all accounted for? Yes or No SK
Rec'd w/custody seals intact? Yes or No NA
Rec'd in light sensitive packaging? Yes or No SK
Rec'd with ice pack? Yes or No SK
Rec'd temperature compliant? Yes or No SK

RELINQUISHED BY	DATE/TIME	RECEIVED BY	DATE/TIME	COMMENTS
[signature]	02/13/16/1000	FedEx	02/13/16/1000	Samples Received in Light Sensitve Material: Yes or No
		[signature]	2/15/16 0925	

Dr. Mike Berg
Center for Toxicology & Env. Health LLC
2000 Anders Lane
Kemah, TX 77565

February 22, 2016

DOH ELAP #11626 Account# 13913 Login# L367422
AIHA-LAP #100324

Dear Dr. Berg:

Enclosed are the analytical results for the samples received by our laboratory on February 18, 2016. All test results meet the quality control requirements of AIHA-LAP and NELAC unless otherwise stated in this report. All samples on the chain of custody were received in good condition unless otherwise noted.

Results in this report are based on the sampling data provided by the client and refer only to the samples as they were received at the laboratory. Unless otherwise requested, all samples will be discarded 14 days from the date of this report, with the exception of IOMs, which will be cleaned and disposed of after seven calendar days.

Current Scopes of Accreditation can be viewed at www.galsonlabs.com in the accreditations section under the "about Galson" tab.

Please contact Pamela Weaver at (888) 432-5227, if you would like any additional information regarding this report. Thank you for using SGS Galson Laboratories.

Sincerely,

SGS Galson Laboratories

Lisa Swab
Laboratory Director

Enclosure(s)

Galson Laboratories, Inc. is now a part of SGS, the world's leading inspection, verification, testing, and certification company. As part of our transition to SGS, you will begin to see some formatting changes with reports that will improve the presentation of data and allow for the transition to the new logo.

SGS GALSON LABORATORIES

6601 Kirkville Road
East Syracuse, NY 13057
(315) 432-5227
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www.galsonlabs.com

LABORATORY ANALYSIS REPORT

Client : Center for Toxicology & Env. H
Site : NS
Project No. : 107907
Date Sampled : 16-FEB-16
Date Received : 18-FEB-16

Account No.: 13913
Login No. : L367422
Date Analyzed : 18-FEB-16
Report ID : 923145

Client ID : HOTX0216PNAH001 **Lab ID : L367422-1** **Air Volume : 911.59 Liter**
Date Sampled : 02/16/16 **Date Analyzed : 02/18/16**

Parameter	LOQ ug	Filter ug	Front ug	Back ug	Total ug	Conc mg/m3	ppm
1-Nitropyrene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Acenaphthene	0.3	<0.3	<0.3	<0.3	<0.3	<0.0004	<0.00006
Acenaphthylene	0.3	<0.3	<0.3	<0.3	<0.3	<0.0003	<0.00006
Anthracene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00005
Benzo(a)anthracene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00005
Benzo(a)pyrene	0.3	<0.3	<0.3	<0.3	<0.5	<0.0005	<0.00005
Benzo(b)fluoranthene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0005	<0.00004
Benzo(e)pyrene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0005	<0.00005
Benzo(g,h,i)perylene	0.3	<0.3	<0.3	<0.3	<0.5	<0.0006	<0.00005
Benzo(k)fluoranthene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0005	<0.00004
Chrysene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00005
Dibenz(a,h)anthracene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0005	<0.00004
Fluoranthene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00005
Fluorene	0.3	<0.3	<0.3	<0.3	<0.3	<0.0004	<0.00005
Indeno(1,2,3-cd)pyrene	0.3	<0.3	<0.3	<0.3	<0.5	<0.0005	<0.00005

COMMENTS: Please see attached lab footnote report for any applicable footnotes.

Collection Media: FilterTube
Date : 22-FEB-16

Submitted by: EAW
NYS DOH # : 11626

Approved by: dnf
Supervisor: MWJ QC by: TJB

< -Less Than mg -Milligrams m3 -Cubic Meters kg -Kilograms NA -Not Applicable ND -Not Detected
> -Greater Than ug -Micrograms l -Liters NS -Not Specified ppm -Parts per Million LOQ-Limit of Quantitation

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LABORATORY ANALYSIS REPORT

Client : Center for Toxicology & Env. H
Site : NS
Project No. : 107907
Date Sampled : 16-FEB-16
Date Received : 18-FEB-16

Account No.: 13913
Login No. : L367422
Date Analyzed : 18-FEB-16
Report ID : 923145

Client ID : HOTX0216PNAH001 **Lab ID : L367422-1** **Air Volume : 911.59 Liter**
Date Sampled : 02/16/16 **Date Analyzed : 02/18/16**

Parameter	LOQ ug	Filter ug	Front ug	Back ug	Total ug	Conc mg/m3	ppm
Naphthalene	0.3	<0.3	<0.3	<0.3	<0.3	<0.0004	<0.00007
Phenanthrene	0.3	<0.3	<0.3	<0.3	<0.3	<0.0004	<0.00005
Pyrene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00005

COMMENTS: Please see attached lab footnote report for any applicable footnotes.

Collection Media: FilterTube
Date : 22-FEB-16

Submitted by: EAW
NYS DOH # : 11626

Approved by: dnf
Supervisor: MWJ QC by: TJB

< -Less Than mg -Milligrams m3 -Cubic Meters kg -Kilograms NA -Not Applicable ND -Not Detected
> -Greater Than ug -Micrograms l -Liters NS -Not Specified ppm -Parts per Million LOQ-Limit of Quantitation

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LABORATORY ANALYSIS REPORT

Client : Center for Toxicology & Env. H
Site : NS
Project No. : 107907
Date Sampled : 16-FEB-16
Date Received : 18-FEB-16

Account No.: 13913
Login No. : L367422
Date Analyzed : 18-FEB-16
Report ID : 923145

Client ID : HOTX0216PNAH002 **Lab ID : L367422-2** **Air Volume : 990.81 Liter**
Date Sampled : 02/16/16 **Date Analyzed : 02/18/16**

Parameter	LOQ ug	Filter ug	Front ug	Back ug	Total ug	Conc mg/m3	ppm
1-Nitropyrene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Acenaphthene	0.3	<0.3	<0.3	<0.3	<0.3	<0.0003	<0.00005
Acenaphthylene	0.3	<0.3	<0.3	<0.3	<0.3	<0.0003	<0.00005
Anthracene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00005
Benzo(a)anthracene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Benzo(a)pyrene	0.3	<0.3	<0.3	<0.3	<0.5	<0.0005	<0.00004
Benzo(b)fluoranthene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Benzo(e)pyrene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Benzo(g,h,i)perylene	0.3	<0.3	<0.3	<0.3	<0.5	<0.0005	<0.00005
Benzo(k)fluoranthene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Chrysene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Dibenz(a,h)anthracene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Fluoranthene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Fluorene	0.3	<0.3	<0.3	<0.3	<0.3	<0.0003	<0.00005
Indeno(1,2,3-cd)pyrene	0.3	<0.3	<0.3	<0.3	<0.5	<0.0005	<0.00004

COMMENTS: Please see attached lab footnote report for any applicable footnotes.

Collection Media: FilterTube
Date : 22-FEB-16

Submitted by: EAW
NYS DOH # : 11626

Approved by: dnf
Supervisor: MWJ QC by: TJB

< -Less Than mg -Milligrams m3 -Cubic Meters kg -Kilograms NA -Not Applicable ND -Not Detected
> -Greater Than ug -Micrograms l -Liters NS -Not Specified ppm -Parts per Million LOQ-Limit of Quantitation

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LABORATORY ANALYSIS REPORT

Client : Center for Toxicology & Env. H
Site : NS
Project No. : 107907
Date Sampled : 16-FEB-16
Date Received : 18-FEB-16

Account No.: 13913
Login No. : L367422
Date Analyzed : 18-FEB-16
Report ID : 923145

Client ID : HOTX0216PNAH002 **Lab ID : L367422-2** **Air Volume : 990.81 Liter**
Date Sampled : 02/16/16 **Date Analyzed : 02/18/16**

Parameter	LOQ ug	Filter ug	Front ug	Back ug	Total ug	Conc mg/m3	ppm
Naphthalene	0.3	<0.3	<0.3	<0.3	<0.3	<0.0003	<0.00006
Phenanthrene	0.3	<0.3	<0.3	<0.3	<0.3	<0.0004	<0.00005
Pyrene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004

COMMENTS: Please see attached lab footnote report for any applicable footnotes.

Collection Media: FilterTube
Date : 22-FEB-16

Submitted by: EAW
NYS DOH # : 11626

Approved by: dnf
Supervisor: MWJ QC by: TJB

< -Less Than mg -Milligrams m3 -Cubic Meters kg -Kilograms NA -Not Applicable ND -Not Detected
> -Greater Than ug -Micrograms l -Liters NS -Not Specified ppm -Parts per Million LOQ-Limit of Quantitation

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LABORATORY ANALYSIS REPORT

Client : Center for Toxicology & Env. H
Site : NS
Project No. : 107907
Date Sampled : 16-FEB-16
Date Received : 18-FEB-16

Account No.: 13913
Login No. : L367422
Date Analyzed : 18-FEB-16
Report ID : 923145

Client ID : HOTX0216PNAH003 **Lab ID : L367422-3** **Air Volume : 874.15 Liter**
Date Sampled : 02/16/16 **Date Analyzed : 02/18/16**

Parameter	LOQ ug	Filter ug	Front ug	Back ug	Total ug	Conc mg/m3	ppm
1-Nitropyrene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Acenaphthene	0.3	<0.3	<0.3	<0.3	<0.3	<0.0004	<0.00006
Acenaphthylene	0.3	<0.3	<0.3	<0.3	<0.3	<0.0004	<0.00006
Anthracene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00006
Benzo(a)anthracene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00005
Benzo(a)pyrene	0.3	<0.3	<0.3	<0.3	<0.5	<0.0005	<0.00005
Benzo(b)fluoranthene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0005	<0.00005
Benzo(e)pyrene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0005	<0.00005
Benzo(g,h,i)perylene	0.3	<0.3	<0.3	<0.3	<0.5	<0.0006	<0.00005
Benzo(k)fluoranthene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0005	<0.00005
Chrysene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00005
Dibenz(a,h)anthracene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0005	<0.00004
Fluoranthene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00005
Fluorene	0.3	<0.3	<0.3	<0.3	<0.3	<0.0004	<0.00006
Indeno(1,2,3-cd)pyrene	0.3	<0.3	<0.3	<0.3	<0.5	<0.0005	<0.00005

COMMENTS: Please see attached lab footnote report for any applicable footnotes.

Collection Media: FilterTube
Date : 22-FEB-16

Submitted by: EAW
NYS DOH # : 11626

Approved by: dnf
Supervisor: MWJ QC by: TJB

< -Less Than mg -Milligrams m3 -Cubic Meters kg -Kilograms NA -Not Applicable ND -Not Detected
> -Greater Than ug -Micrograms l -Liters NS -Not Specified ppm -Parts per Million LOQ-Limit of Quantitation

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LABORATORY ANALYSIS REPORT

Client : Center for Toxicology & Env. H
Site : NS
Project No. : 107907
Date Sampled : 16-FEB-16
Date Received : 18-FEB-16

Account No.: 13913
Login No. : L367422
Date Analyzed : 18-FEB-16
Report ID : 923145

Client ID : HOTX0216PNAH003 **Lab ID : L367422-3** **Air Volume : 874.15 Liter**
Date Sampled : 02/16/16 **Date Analyzed : 02/18/16**

Parameter	LOQ ug	Filter ug	Front ug	Back ug	Total ug	Conc mg/m3	ppm
Naphthalene	0.3	<0.3	<0.3	<0.3	<0.3	<0.0004	<0.00007
Phenanthrene	0.3	<0.3	<0.3	<0.3	<0.3	<0.0004	<0.00005
Pyrene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00005

COMMENTS: Please see attached lab footnote report for any applicable footnotes.

Collection Media: FilterTube
Date : 22-FEB-16

Submitted by: EAW
NYS DOH # : 11626

Approved by: dnf
Supervisor: MWJ QC by: TJB

< -Less Than mg -Milligrams m3 -Cubic Meters kg -Kilograms NA -Not Applicable ND -Not Detected
> -Greater Than ug -Micrograms l -Liters NS -Not Specified ppm -Parts per Million LOQ-Limit of Quantitation

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LABORATORY ANALYSIS REPORT

Client : Center for Toxicology & Env. H
Site : NS
Project No. : 107907
Date Sampled : 16-FEB-16
Date Received : 18-FEB-16

Account No.: 13913
Login No. : L367422
Date Analyzed : 18-FEB-16
Report ID : 923145

Client ID : HOTX0216PNAH004 **Lab ID : L367422-4** **Air Volume : NA**
Date Sampled : 02/16/16 **Date Analyzed : 02/18/16**

Parameter	LOQ ug	Filter ug	Front ug	Back ug	Total ug	Conc mg/m3	ppm
1-Nitropyrene	0.3	<0.3	<0.3	<0.3	<0.4	NA	NA
Acenaphthene	0.3	<0.3	<0.3	<0.3	<0.3	NA	NA
Acenaphthylene	0.3	<0.3	<0.3	<0.3	<0.3	NA	NA
Anthracene	0.3	<0.3	<0.3	<0.3	<0.4	NA	NA
Benzo(a)anthracene	0.3	<0.3	<0.3	<0.3	<0.4	NA	NA
Benzo(a)pyrene	0.3	<0.3	<0.3	<0.3	<0.5	NA	NA
Benzo(b)fluoranthene	0.3	<0.3	<0.3	<0.3	<0.4	NA	NA
Benzo(e)pyrene	0.3	<0.3	<0.3	<0.3	<0.4	NA	NA
Benzo(g,h,i)perylene	0.3	<0.3	<0.3	<0.3	<0.5	NA	NA
Benzo(k)fluoranthene	0.3	<0.3	<0.3	<0.3	<0.4	NA	NA
Chrysene	0.3	<0.3	<0.3	<0.3	<0.4	NA	NA
Dibenz(a,h)anthracene	0.3	<0.3	<0.3	<0.3	<0.4	NA	NA
Fluoranthene	0.3	<0.3	<0.3	<0.3	<0.4	NA	NA
Fluorene	0.3	<0.3	<0.3	<0.3	<0.3	NA	NA
Indeno(1,2,3-cd)pyrene	0.3	<0.3	<0.3	<0.3	<0.5	NA	NA

COMMENTS: Please see attached lab footnote report for any applicable footnotes.

Collection Media: FilterTube
Date : 22-FEB-16

Submitted by: EAW
NYS DOH # : 11626

Approved by: dnf
Supervisor: MWJ QC by: TJB

< -Less Than mg -Milligrams m3 -Cubic Meters kg -Kilograms NA -Not Applicable ND -Not Detected
> -Greater Than ug -Micrograms l -Liters NS -Not Specified ppm -Parts per Million LOQ-Limit of Quantitation

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LABORATORY ANALYSIS REPORT

Client : Center for Toxicology & Env. H
Site : NS
Project No. : 107907
Date Sampled : 16-FEB-16
Date Received : 18-FEB-16

Account No.: 13913
Login No. : L367422
Date Analyzed : 18-FEB-16
Report ID : 923145

Client ID : HOTX0216PNAH004 **Lab ID : L367422-4** **Air Volume : NA**
Date Sampled : 02/16/16 **Date Analyzed : 02/18/16**

Parameter	LOQ ug	Filter ug	Front ug	Back ug	Total ug	Conc mg/m3	ppm
Naphthalene	0.3	<0.3	<0.3	<0.3	<0.3	NA	NA
Phenanthrene	0.3	<0.3	<0.3	<0.3	<0.3	NA	NA
Pyrene	0.3	<0.3	<0.3	<0.3	<0.4	NA	NA

COMMENTS: Please see attached lab footnote report for any applicable footnotes.

Collection Media: FilterTube
Date : 22-FEB-16

Submitted by: EAW
NYS DOH # : 11626

Approved by: dnf
Supervisor: MWJ QC by: TJB

< -Less Than mg -Milligrams m3 -Cubic Meters kg -Kilograms NA -Not Applicable ND -Not Detected
> -Greater Than ug -Micrograms l -Liters NS -Not Specified ppm -Parts per Million LOQ-Limit of Quantitation

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LABORATORY ANALYSIS REPORT

Client : Center for Toxicology & Env. H
Site : NS
Project No. : 107907
Date Sampled : 16-FEB-16
Date Received : 18-FEB-16

Account No.: 13913
Login No. : L367422
Date Analyzed : 19-FEB-16
Report ID : 922908

Particulate Matter - PM10

	Sample ID	Lab ID	Air Vol liter	Total mg	Conc mg/m3
^	HOTX0216PM001	L367422-5	1231.96	0.20	0.16
^	HOTX0216PM002	L367422-6	1132.46	0.26	0.23
^	HOTX0216PM003	L367422-7	873.82	0.084	0.096
	HOTX0216PM004	L367422-8	NA	<0.050	NA

COMMENTS: Please see attached lab footnote report for any applicable footnotes.

Level of quantitation: 0.050 mg
Analytical Method : mod. EPA Method IP-10A; Gravimetric
OSHA PEL : NA
Collection Media : PVC PW 37mm

Submitted by: MNS
Approved by : CRI
Date : 22-FEB-16
Supervisor: CRI

NYS DOH # : 11626
QC by: TJB

< -Less Than mg -Milligrams m3 -Cubic Meters kg -Kilograms NA -Not Applicable ND -Not Detected
> -Greater Than ug -Micrograms l -Liters NS -Not Specified ppm -Parts per Million

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LABORATORY FOOTNOTE REPORT

Client Name : Center for Toxicology & Env. Health LLC
Site :
Project No. : 107907

Date Sampled : 16-FEB-16 Account No.: 13913
Date Received: 18-FEB-16 Login No. : L367422
Date Analyzed: 18-FEB-16 - 19-FEB-16

Unless otherwise noted below, all quality control results associated with the samples were within established control limits or did not impact reported results.

WARNING: The sample(s) to which the findings recorded herein (the "Findings") relate was(were) drawn and / or provided by the Client or by a third party acting at the Client's direction. The Findings constitute no warranty of the sample's representativeness of any goods and strictly relate to the sample(s). The Company accepts no liability with regard to the origin or source from which the sample(s) is/are said to be extracted.

Unrounded results are carried through the calculations that yield the final result and the final result is rounded to the number of significant figures appropriate to the accuracy of the analytical method. Please note that results appearing in the columns preceeding the final result column may have been rounded and therefore, if carried through the calculations, may not yield an identical final result to the one reported.

The stated LOQs for each analyte represent the demonstrated LOQ concentrations prior to correction for desorption efficiency (if applicable).

Unless otherwise noted below, reported results have not been blank corrected for any field blank or method blank.

L367422 (Report ID: 923145):
SOPs: il-n5506(12)
Results corrected for matrix and compound specific desorption efficiencies.

L367422 (Report ID: 923145):
Accuracy and mean recovery data presented below is based on a 95% confidence interval (k=2).
The estimated uncertainty applies to the media, technology, and SOP referenced in this report and does not account for the uncertainty associated with the sampling process.

Parameter	Accuracy	Mean Recovery
1-Nitropyrene	+/-16%	107%
Acenaphthene	+/-14.4%	104%
Acenaphthylene	+/-11.7%	100%
Anthracene	+/-15.7%	114%
Benzo(a)anthracene	+/-16.1%	110%
Benzo(a)pyrene	+/-26%	115%

< -Less Than mg -Milligrams m3 -Cubic Meters kg -Kilograms ppm -Parts per Million
> -Greater Than ug -Micrograms l -Liters NS -Not Specified ND -Not Detected NA -Not Applicable

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Client Name : Center for Toxicology & Env. Health LLC
Site :
Project No. : 107907

Date Sampled : 16-FEB-16 Account No.: 13913
Date Received: 18-FEB-16 Login No. : L367422
Date Analyzed: 18-FEB-16 - 19-FEB-16

Benzo(b)fluoranthene	+/-19%	113%
Benzo(e)pyrene	+/-19.2%	111%
Benzo(g,h,i)perylene	+/-20.2%	112%
Benzo(k)fluoranthene	+/-15.5%	109%
Chrysene	+/-14%	108%
Dibenz(a,h)anthracene	+/-15.6%	103%
Fluoranthene	+/-16.2%	110%
Fluorene	+/-12.4%	109%
Indeno(1,2,3-cd)pyrene	+/-19.5%	113%
Naphthalene	+/-13.3%	105%
Phenanthrene	+/-13.4%	108%
Pyrene	+/-14.6%	112%

Parameter	Method	PEL
1-Nitropyrene	mod. NIOSH 5506; HPLC/UV	NA
Acenaphthene	mod. NIOSH 5506; HPLC/UV	NA
Acenaphthylene	mod. NIOSH 5506; HPLC/UV	NA
Anthracene	mod. NIOSH 5506; HPLC/UV	NA
Benzo(a)anthracene	mod. NIOSH 5506; HPLC/UV	NA
Benzo(a)pyrene	mod. NIOSH 5506; HPLC/UV	0.2 mg/m3 (TWA)
Benzo(b)fluoranthene	mod. NIOSH 5506; HPLC/UV	NA
Benzo(e)pyrene	mod. NIOSH 5506; HPLC/UV	NA
Benzo(g,h,i)perylene	mod. NIOSH 5506; HPLC/UV	NA
Benzo(k)fluoranthene	mod. NIOSH 5506; HPLC/UV	NA
Chrysene	mod. NIOSH 5506; HPLC/UV	0.2 mg/m3 (TWA)
Dibenz(a,h)anthracene	mod. NIOSH 5506; HPLC/UV	NA
Fluoranthene	mod. NIOSH 5506; HPLC/UV	NA
Fluorene	mod. NIOSH 5506; HPLC/UV	NA
Indeno(1,2,3-cd)pyrene	mod. NIOSH 5506; HPLC/UV	NA
Naphthalene	mod. NIOSH 5506; HPLC/UV	10 ppm (TWA)
Phenanthrene	mod. NIOSH 5506; HPLC/UV	NA
Pyrene	mod. NIOSH 5506; HPLC/UV	NA

L367422 (Report ID: 922908):
SOPs: GRAV-SOP-5(15), GRAV-SOP-6(15)

< -Less Than mg -Milligrams m3 -Cubic Meters kg -Kilograms ppm -Parts per Million
> -Greater Than ug -Micrograms l -Liters NS -Not Specified ND -Not Detected NA -Not Applicable

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LABORATORY FOOTNOTE REPORT

Client Name : Center for Toxicology & Env. Health LLC
Site :
Project No. : 107907

Date Sampled : 16-FEB-16 Account No.: 13913
Date Received: 18-FEB-16 Login No. : L367422
Date Analyzed: 18-FEB-16 - 19-FEB-16

L367422 (Report ID: 922908):
Gravimetric analytical accuracy of the sampling media is -0.005 +/- 0.007 mg (average blank weight change +/- 95% confidence interval or k=2). The estimated uncertainly applies to the media, technology, and SOP(s) referenced in this report and does not account for any uncertainty associated with the sampling process.

^L367422-5-7 (Report ID: 922908):
Filter(s) received torn at the laboratory, results may be biased low.

<	-Less Than	mg	-Milligrams	m3	-Cubic Meters	kg	-Kilograms	ppm	-Parts per Million
>	-Greater Than	ug	-Micrograms	l	-Liters	NS	-Not Specified	ND	-Not Detected	NA	-Not Applicable

GRAVIMETRICS QC SUMMARY REPORT

Login: L367422
Matnum: 306
Matrix: PVC PW 37mm
Instrument Description: Mettler XP6, M4
Method: mod. EPA Method IP-10A; Gravimetric
Reporting Level (mg): 0.050 mg
Analysis: Particulate Matter - PM10

Type	Sample #	Analysis Date	True Value (mg)	Found Value (mg)	Difference (mg)	Control Limit (mg)
CCV	WG339401-1	2/19/2016 07:18:00	19.948	19.948	0.000	0.008
BLANK	WG339401-3	2/19/2016 07:20:00	10.166	10.160	-0.006	-0.015
CCV	WG339401-6	2/19/2016 07:31:00	19.948	19.948	0.000	0.008
CCV	WG339429-1	2/19/2016 11:01:00	19.948	19.950	0.002	0.008
CCV	WG339429-3	2/19/2016 11:06:00	19.948	19.951	0.003	0.008

Type	Sample #	Analysis Date	Sample Result (mg)	Duplicate Result (mg)	Abs. Val. of mg Difference	Control Limit (mg)
DUP	WG339429-2	2/19/2016 11:04:00	0.203	0.203	0.000	0.004

Dup Workgroup number **Sample number**
WG339429-2 L367422-5

Instrument Description: Mettler MX-5, M2

Type	Sample #	Analysis Date	True Value (mg)	Found Value (mg)	Difference (mg)	Control Limit (mg)
CCV	WG339424-1	2/19/2016 10:23:00	19.943	19.940	-0.003	0.008
BLANK	WG339424-3	2/19/2016 10:25:00	13.252	13.241	-0.011	-0.015
CCV	WG339424-8	2/19/2016 10:36:00	19.943	19.942	-0.001	0.008
CCV	WG339430-1	2/19/2016 11:09:00	19.943	19.942	-0.001	0.008
CCV	WG339430-3	2/19/2016 11:10:00	19.943	19.942	-0.001	0.008

Type	Sample #	Analysis Date	Sample Result (mg)	Duplicate Result (mg)	Abs. Val. of mg Difference	Control Limit (mg)
DUP	WG339430-2	2/19/2016 11:10:00	-0.007	-0.005	0.002	0.004

Dup Workgroup number **Sample number**
WG339430-2 L367422-8

Sample: WG339331-1 **Spikelot:** IH603243-4
QC Type: DLS **Raw File:**
Analysis date 02/18/16 13:30:55 **Approval Status:** YES
Instrument: LC5

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
NAPHTHALENE	.095980	.099	96.9	70.0 to 130.				
BENZO(A)ANTHRACENE	.102645	.099	104	70.0 to 130.				
CHRYSENE	.104815	.099	106	70.0 to 130.				
BENZO(E)PYRENE	.109621	.1	110	70.0 to 130.				
BENZO(B)FLUORANTHENE	.100190	.099	101	70.0 to 130.				
BENZO(K)FLUORANTHENE	.075500	.099	76.3	70.0 to 130.				
BENZO(A)PYRENE	.103268	.099	104	70.0 to 130.				
DIBENZ(A,H)ANTHRACENE	.101670	.099	103	70.0 to 130.				
BENZO(G,H,I)PERYLENE	.104534	.099	106	70.0 to 130.				
INDENO-1,2,3-CD-PYRENE	.095981	.099	97	70.0 to 130.				
ACENAPHTHYLENE	.097111	.099	98.1	70.0 to 130.				
ACENAPHTHENE	.100732	.1	101	70.0 to 130.				
FLUORENE	.100422	.098	102	70.0 to 130.				
PHENANTHRENE	.097378	.098	99.4	70.0 to 130.				
ANTHRACENE	.119272	.099	120	70.0 to 130.				
FLUORANTHENE	.095257	.098	97.2	70.0 to 130.				
1-NITROPYRENE	.082187	.099	83	70.0 to 130.				
PYRENE	.070126	.099	70.8	70.0 to 130.				

Sample: WG339331-2 **Spikelot:** IH603243-3
QC Type: CCV **Raw File:**
Analysis date 02/18/16 13:50:53 **Approval Status:** YES
Instrument: LC5

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
1-NITROPYRENE	5.12754	4.95	104	86.8 to 123.				
PYRENE	5.37508	4.95	109	92.5 to 125.				
BENZO(A)ANTHRACENE	5.34705	4.95	108	93.7 to 119.				
CHRYSENE	5.21028	4.95	105	88.3 to 120.				
BENZO(E)PYRENE	5.31006	4.9995	106	90.6 to 127.				
BENZO(B)FLUORANTHENE	5.37803	4.95	109	93.8 to 125.				
BENZO(K)FLUORANTHENE	5.24132	4.95	106	88.6 to 118.				
BENZO(A)PYRENE	5.51300	4.95	111	80.0 to 138.				
DIBENZ(A,H)ANTHRACENE	5.18329	4.95	105	86.7 to 122.				
BENZO(G,H,I)PERYLENE	5.27864	4.95	107	87.6 to 124.				
NAPHTHALENE	5.06998	4.95	102	88.5 to 120.				

Sample: WG339331-2 **Spikelot:** IH603243-3
QC Type: CCV **Raw File:**
Analysis date 02/18/16 13:50:53 **Approval Status:** YES
Instrument: LC5

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
INDENO-1,2,3-CD-PYRENE	5.49788	4.95	111	94.8 to 127.				
ACENAPHTHYLENE	5.16921	4.95	104	89.8 to 117.				
ACENAPHTHENE	5.25010	4.9995	105	88.1 to 121.				
FLUORENE	5.29339	4.9	108	92.7 to 123.				
PHENANTHRENE	5.25721	4.9	107	91.1 to 120.				
ANTHRACENE	6.13691	4.95	124	85.6 to 123.				
FLUORANTHENE	5.18151	4.9	106	92.0 to 120.				

Sample: WG339330-3 **Spikelot:** IH607685
QC Type: BS **Raw File:**
Analysis date 02/18/16 14:50:47 **Approval Status:** YES
Instrument: LC5

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
NAPHTHALENE	4.69039	4.95	94.8		95.7	85.2 to 125		
BENZO(A)ANTHRACENE	4.95692	4.95	100		102	85.3 to 134		
CHRYSENE	4.77320	4.95	96.4		98.4	86.7 to 129		
BENZO(E)PYRENE	4.84749	4.9995	97		98.9	82.4 to 140		
BENZO(B)FLUORANTHENE	4.87344	4.95	98.5		101	85.0 to 142		
BENZO(K)FLUORANTHENE	4.92592	4.95	99.5		103	85.3 to 132		
BENZO(A)PYRENE	5.25469	4.95	106		108	76.5 to 154		
DIBENZ(A,H)ANTHRACENE	4.71635	4.95	95.3		96.2	79.8 to 127		
BENZO(G,H,I)PERYLENE	4.89791	4.95	98.9		103	81.7 to 142		
INDENO-1,2,3-CD-PYRENE	4.96344	4.95	100		101	83.3 to 142		
ACENAPHTHYLENE	4.77282	4.95	96.4		94.5	82.8 to 118		
ACENAPHTHENE	4.85603	4.9995	97.1		95.2	82.3 to 125		
FLUORENE	4.85875	4.9	99.2		102	90.7 to 128		
PHENANTHRENE	4.80321	4.9	98		100	87.8 to 128		
ANTHRACENE	5.66943	4.95	115		117	90.2 to 137		
FLUORANTHENE	4.73384	4.9	96.6		98.6	85.5 to 134		
1-NITROPYRENE	4.65866	4.95	94.1		95.1	82.7 to 131		
PYRENE	4.85828	4.95	98.1		99.1	89.7 to 134		

Sample: WG339330-4 **Spikelot:** IH607685
QC Type: BSD **Raw File:**
Analysis date 02/18/16 15:10:45 **Approval Status:** YES
Instrument: LC5

Sample: WG339330-4 **Spikelot:** IH607685
QC Type: BSD **Raw File:**
Analysis date 02/18/16 15:10:45 **Approval Status:** YES
Instrument: LC5

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
NAPHTHALENE	4.77155	4.95	96.4		97.4	85.2 to 125	-1.76	-10 to 10.0
BENZO(A)ANTHRACENE	5.02171	4.95	101		104	85.3 to 134	-1.94	-10 to 10.0
CHRYSENE	4.83711	4.95	97.7		99.7	86.7 to 129	-1.31	-10 to 10.0
BENZO(E)PYRENE	4.93836	4.9995	98.8		101	82.4 to 140	-2.1	-10 to 10.0
BENZO(B)FLUORANTHENE	5.03992	4.95	102		105	85.0 to 142	-3.88	-10 to 10.0
BENZO(K)FLUORANTHENE	4.93096	4.95	99.6		103	85.3 to 132	0	-10 to 10.0
BENZO(A)PYRENE	5.31802	4.95	107		110	76.5 to 154	-1.83	-10 to 10.0
DIBENZ(A,H)ANTHRACENE	4.76552	4.95	96.3		97.2	79.8 to 127	-1.03	-11.5 to 9.87
BENZO(G,H,I)PERYLENE	4.56233	4.95	92.2		96	81.7 to 142	7.04	-10 to 10.0
INDENO-1,2,3-CD-PYRENE	4.90262	4.95	99		100	83.3 to 142	.995	-10 to 10.0
ACENAPHTHYLENE	4.85420	4.95	98.1		96.1	82.8 to 118	-1.68	-10 to 10.0
ACENAPHTHENE	4.91481	4.9995	98.3		96.4	82.3 to 125	-1.25	-10 to 10.0
FLUORENE	4.91128	4.9	100		103	90.7 to 128	-.976	-10 to 10.0
PHENANTHRENE	4.87856	4.9	99.6		102	87.8 to 128	-1.98	-10 to 10.0
ANTHRACENE	5.72778	4.95	116		118	90.2 to 137	-.851	-10 to 10.0
FLUORANTHENE	4.78790	4.9	97.7		99.7	85.5 to 134	-1.11	-10 to 10.0
1-NITROPYRENE	4.70359	4.95	95		96	82.7 to 131	-.942	-10 to 10.0
PYRENE	4.86191	4.95	98.2		99.2	89.7 to 134	-.101	-10.4 to 8.90

Sample: WG339330-5 **Spikelot:** IH607685
QC Type: BS **Raw File:**
Analysis date 02/18/16 15:30:45 **Approval Status:** YES
Instrument: LC5

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
NAPHTHALENE	4.51361	4.95	91.2		99.1	85.2 to 125		
BENZO(A)ANTHRACENE	4.17487	4.95	84.3		108	85.3 to 134		
CHRYSENE	3.94174	4.95	79.6		103	86.7 to 129		
BENZO(E)PYRENE	3.65373	4.9995	73.1		107	82.4 to 140		
BENZO(B)FLUORANTHENE	3.88023	4.95	78.4		109	85.0 to 142		
BENZO(K)FLUORANTHENE	3.86735	4.95	78.1		109	85.3 to 132		
BENZO(A)PYRENE	3.97049	4.95	80.2		122	76.5 to 154		
DIBENZ(A,H)ANTHRACENE	3.47525	4.95	70.2		97.5	79.8 to 127		
BENZO(G,H,I)PERYLENE	2.99274	4.95	60.5		102	81.7 to 142		
INDENO-1,2,3-CD-PYRENE	3.28432	4.95	66.3		104	83.3 to 142		
ACENAPHTHYLENE	4.37432	4.95	88.4		92.1	82.8 to 118		

Sample: WG339330-5 **Spikelot:** IH607685
QC Type: BS **Raw File:**
Analysis date 02/18/16 15:30:45 **Approval Status:** YES
Instrument: LC5

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
ACENAPHTHENE	4.48046	4.9995	89.6		99.6	82.3 to 125		
FLUORENE	4.50356	4.9	91.9		102	90.7 to 128		
PHENANTHRENE	4.39971	4.9	89.8		104	87.8 to 128		
ANTHRACENE	5.06498	4.95	102		120	90.2 to 137		
FLUORANTHENE	4.31935	4.9	88.1		106	85.5 to 134		
1-NITROPYRENE	4.20303	4.95	84.9		101	82.7 to 131		
PYRENE	4.17307	4.95	84.3		103	89.7 to 134		

Sample: WG339330-6 **Spikelot:** IH607685
QC Type: BSD **Raw File:**
Analysis date 02/18/16 15:50:44 **Approval Status:** YES
Instrument: LC5

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
NAPHTHALENE	4.49410	4.95	90.8		98.7	85.2 to 125	.404	-10 to 10.0
BENZO(A)ANTHRACENE	4.05000	4.95	81.8		105	85.3 to 134	2.82	-10 to 10.0
CHRYSENE	3.87310	4.95	78.2		102	86.7 to 129	.976	-10 to 10.0
BENZO(E)PYRENE	3.51164	4.9995	70.2		103	82.4 to 140	3.81	-10 to 10.0
BENZO(B)FLUORANTHENE	3.75147	4.95	75.8		105	85.0 to 142	3.74	-10 to 10.0
BENZO(K)FLUORANTHENE	3.64570	4.95	73.7		102	85.3 to 132	6.64	-10 to 10.0
BENZO(A)PYRENE	3.98903	4.95	80.6		122	76.5 to 154	0	-10 to 10.0
DIBENZ(A,H)ANTHRACENE	3.34844	4.95	67.6		94	79.8 to 127	3.66	-11.5 to 9.87
BENZO(G,H,I)PERYLENE	2.82816	4.95	57.1		96.8	81.7 to 142	5.23	-10 to 10.0
INDENO-1,2,3-CD-PYRENE	3.19746	4.95	64.6		101	83.3 to 142	2.93	-10 to 10.0
ACENAPHTHYLENE	4.37305	4.95	88.3		92	82.8 to 118	.109	-10 to 10.0
ACENAPHTHENE	4.46604	4.9995	89.3		99.3	82.3 to 125	.302	-10 to 10.0
FLUORENE	4.46738	4.9	91.2		101	90.7 to 128	.985	-10 to 10.0
PHENANTHRENE	4.35245	4.9	88.8		103	87.8 to 128	.966	-10 to 10.0
ANTHRACENE	5.01588	4.95	101		119	90.2 to 137	.837	-10 to 10.0
FLUORANTHENE	4.20789	4.9	85.9		103	85.5 to 134	2.87	-10 to 10.0
1-NITROPYRENE	4.13166	4.95	83.5		99.4	82.7 to 131	1.6	-10 to 10.0
PYRENE	4.09007	4.95	82.6		101	89.7 to 134	1.96	-10.4 to 8.90

Sample: WG339330-2 **Spikelot:** NA
QC Type: MBLANK **Raw File:**
Analysis date 02/18/16 17:10:34 **Approval Status:** YES
Instrument: LC5

Sample: WG339330-2 **Spikelot:** NA

QC Type: MBLANK **Raw File:**

Analysis date 02/18/16 17:10:34 **Approval Status:** YES

Instrument: LC5

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
FLUORANTHENE(FRONT)	.171872	<.3						
FLUORANTHENE(BACK)	.075443	<.3						
ACENAPHTHENE(FRONT)	0	<.3						
ACENAPHTHENE(BACK)	0	<.3						
ACENAPHTHYLENE(FRONT)	0	<.3						
ACENAPHTHYLENE(BACK)	0	<.3						
ANTHRACENE(FRONT)	0	<.3						
ANTHRACENE(BACK)	0	<.3						
BENZO(A)ANTHRACENE(FRONT)	0	<.3						
BENZO(A)ANTHRACENE(BACK)	0	<.3						
BENZO(A)PYRENE(FRONT)	0	<.3						
BENZO(A)PYRENE(BACK)	0	<.3						
BENZO(B)FLUORANTHENE(FRONT)	0	<.3						
BENZO(B)FLUORANTHENE(BACK)	0	<.3						
BENZO(E)PYRENE(FRONT)	0	<.3						
BENZO(E)PYRENE(BACK)	0	<.3						
BENZO(G,H,I)PERYLENE(FRONT)	0	<.3						
BENZO(G,H,I)PERYLENE(BACK)	0	<.3						
BENZO(K)FLUORANTHENE(FRONT)	0	<.3						
BENZO(K)FLUORANTHENE(BACK)	0	<.3						
CHRYSENE(FRONT)	0	<.3						
CHRYSENE(BACK)	0	<.3						
DIBENZ(A,H)ANTHRACENE(FRONT)	0	<.3						
DIBENZ(A,H)ANTHRACENE(BACK)	0	<.3						
FLUORENE(FRONT)	0	<.3						
FLUORENE(BACK)	0	<.3						
INDENO-1,2,3-CD-PYRENE(FRONT)	0	<.3						
INDENO-1,2,3-CD-PYRENE(BACK)	0	<.3						
NAPHTHALENE(FRONT)	0	<.3						
NAPHTHALENE(BACK)	0	<.3						
1-NITROPYRENE(FRONT)	0	<.3						
1-NITROPYRENE(BACK)	0	<.3						
PHENANTHRENE(FRONT)	0	<.3						
PHENANTHRENE(BACK)	0	<.3						

Sample: WG339330-2 **Spikelot:** NA
QC Type: MBLANK **Raw File:**
Analysis date 02/18/16 17:10:34 **Approval Status:** YES
Instrument: LC5

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
PYRENE(FRONT)	0	<.3						
PYRENE(BACK)	0	<.3						

Sample: WG339331-3 **Spikelot:** IH603243-3
QC Type: CCV **Raw File:**
Analysis date 02/18/16 20:50:13 **Approval Status:** YES
Instrument: LC5

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
1-NITROPYRENE	5.20695	4.95	105	86.8 to 123.				
PYRENE	5.37659	4.95	109	92.5 to 125.				
BENZO(A)ANTHRACENE	5.50832	4.95	111	93.7 to 119.				
CHRYSENE	5.25774	4.95	106	88.3 to 120.				
BENZO(E)PYRENE	5.34828	4.9995	107	90.6 to 127.				
BENZO(B)FLUORANTHENE	5.41876	4.95	109	93.8 to 125.				
BENZO(K)FLUORANTHENE	5.26713	4.95	106	88.6 to 118.				
BENZO(A)PYRENE	5.58816	4.95	113	80.0 to 138.				
DIBENZ(A,H)ANTHRACENE	5.22483	4.95	106	86.7 to 122.				
BENZO(G,H,I)PERYLENE	5.30070	4.95	107	87.6 to 124.				
NAPHTHALENE	5.09776	4.95	103	88.5 to 120.				
INDENO-1,2,3-CD-PYRENE	5.43431	4.95	110	94.8 to 127.				
ACENAPHTHYLENE	5.19841	4.95	105	89.8 to 117.				
ACENAPHTHENE	5.26164	4.9995	105	88.1 to 121.				
FLUORENE	5.31388	4.9	108	92.7 to 123.				
PHENANTHRENE	5.28574	4.9	108	91.1 to 120.				
ANTHRACENE	6.18218	4.95	125	85.6 to 123.				
FLUORANTHENE	5.20915	4.9	106	92.0 to 120.				

RS1

5120 North Shore Drive
North Little Rock, AR 72118
Phone: (501) 801-8500
Fax: (501) 801-8501
Website: www.cteh.com

Center for Toxicology and Environmental Health L.L.C.

SAMPLE CHAIN OF CUSTODY AND ANALYSIS REQUEST FORM

Page 1 of 1

	Send Report To:	Send Invoice To:
Name		Accounts Payable
Company	CTEH	CTEH
Address	2000 Anders Lane Kemah, Texas 77565	5120 North Shore Drive North Little Rock, AR 72118
Phone	(281)535-2834	(501)801-8500
Fax	(281)535-0232	(501)801-8501
e-mail	labresults@cteh.com	lraccounting@cteh.com

CTEH Project #: 107907

Turnaround Requested:
Same Day __Next Day (24 hour) ___ N
X Other (Specify) 2 day

Complete Data Packet Requested ☒Yes ☐No

775665035290
Date: 02/18/16
Shipper: FEDEX
Initials:
Prep: UNKNOWN

Lab Contact Information:
Galson Laboratories
6601 Kirkville Road
E. Syracuse, NY 13057

Client Sample Identification	Other Sample Identification	Sample Size	Units (Check one) X L ___cm²	Sample Date	Sample Time (for non-air samples)	Initials	NIOSH 5506 PNAH	mod. EPA IP-10A PM10	Matrix A = air B = bulk S = soil SW = wipe T = tape W = water
HOTX0216PNAH001	16-0037358	911.59	L	02-16-16	~~480~~ cc	RA	X		A
HOTX0216PNAH002	16-0037350	990.81	L	02-16-16	~~480~~ cc	RA	X		A
HOTX0216PNAH003	16-0037338	874.15	L	02-16-16	~~480~~ cc	RA	X		A
HOTX0216PNAH004	16-0037344	0	L	02-16-16	0	RA	X		A
HOTX0216PM001	16-0030840	1231.96	L	02-16-16	~~594~~ cc	RA		X	A
HOTX0216PM002	16-0030839	1132.46	L	02-16-16	~~565~~ cc	RA		X	A
HOTX0216PM003	16-0030838	873.82	L	02-16-16	~~494~~ cc	RA		X	A
HOTX0216PM004	16-0030837	0	L	02-16-16	0	RA		X	A

RELINQUISHED BY	DATE/TIME	RECEIVED BY	DATE/TIME
	2/17/16 1400	FedEx	
		Zach King	2/18/16 9:18

Rec'd intact & all accounted for? Yes or No ZK
Rec'd w/custody seals intact? Yes or No N/A ZK
Rec'd in light sensitive packaging? Yes or No ZK
Rec'd with ice pack? Yes or No N/A ZK
Rec'd temperature compliant? Yes or No N/A ZK

Dr. Mike Berg
Center for Toxicology & Env. Health LLC
2000 Anders Lane
Kemah, TX 77565

February 22, 2016

DOH ELAP #11626 Account# 13913 Login# L367643
AIHA-LAP #100324

Dear Dr. Berg:

Enclosed are the analytical results for the samples received by our laboratory on February 20, 2016. All test results meet the quality control requirements of AIHA-LAP and NELAC unless otherwise stated in this report. All samples on the chain of custody were received in good condition unless otherwise noted.

Results in this report are based on the sampling data provided by the client and refer only to the samples as they were received at the laboratory. Unless otherwise requested, all samples will be discarded 14 days from the date of this report, with the exception of IOMs, which will be cleaned and disposed of after seven calendar days.

Current Scopes of Accreditation can be viewed at www.galsonlabs.com in the accreditations section under the "about Galson" tab.

Please contact Pamela Weaver at (888) 432-5227, if you would like any additional information regarding this report. Thank you for using SGS Galson Laboratories.

Sincerely,

SGS Galson Laboratories

Lisa Swab
Laboratory Director

Enclosure(s)

Galson Laboratories, Inc. is now a part of SGS, the world's leading inspection, verification, testing, and certification company. As part of our transition to SGS, you will begin to see some formatting changes with reports that will improve the presentation of data and allow for the transition to the new logo.

SGS GALSON LABORATORIES

6601 Kirkville Road
East Syracuse, NY 13057
(315) 432-5227
FAX: (315) 437-0571
www.galsonlabs.com

LABORATORY ANALYSIS REPORT

Client : Center for Toxicology & Env. H
Site : NS
Project No. : 107907
Date Sampled : 18-FEB-16
Date Received : 20-FEB-16

Account No.: 13913
Login No. : L367643
Date Analyzed : 22-FEB-16
Report ID : 923148

Total Dust

Sample ID	Lab ID	Air Vol liter	Total mg	Conc mg/m3
HOTX0218TD001	L367643-1	1036	0.26	0.25
HOTX0218TD002	L367643-2	1027.8	<0.050	<0.049
HOTX0218TD003	L367643-3	1002.8	0.063	0.063
HOTX0218TD004	L367643-4	NA	<0.050	NA

COMMENTS: Please see attached lab footnote report for any applicable footnotes.

Level of quantitation: 0.050 mg
Analytical Method : mod. NIOSH 0500; Gravimetric
OSHA PEL : PNOR 15 mg/m3 (TWA)
Collection Media : PVC PW 37mm

Submitted by: CRI
Approved by : KRK
Date : 22-FEB-16
Supervisor: CRI

NYS DOH # : 11626
QC by: AMD

< -Less Than mg -Milligrams m3 -Cubic Meters kg -Kilograms NA -Not Applicable ND -Not Detected
> -Greater Than ug -Micrograms l -Liters NS -Not Specified ppm -Parts per Million

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East Syracuse, NY 13057
(315) 432-5227
FAX: (315) 437-0571
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LABORATORY FOOTNOTE REPORT

Client Name : Center for Toxicology & Env. Health LLC
Site :
Project No. : 107907

Date Sampled : 18-FEB-16 Account No.: 13913
Date Received: 20-FEB-16 Login No. : L367643
Date Analyzed: 22-FEB-16

Unless otherwise noted below, all quality control results associated with the samples were within established control limits or did not impact reported results.

WARNING: The sample(s) to which the findings recorded herein (the "Findings") relate was(were) drawn and / or provided by the Client or by a third party acting at the Client's direction. The Findings constitute no warranty of the sample's representativeness of any goods and strictly relate to the sample(s). The Company accepts no liability with regard to the origin or source from which the sample(s) is/are said to be extracted.

Unrounded results are carried through the calculations that yield the final result and the final result is rounded to the number of significant figures appropriate to the accuracy of the analytical method. Please note that results appearing in the columns preceeding the final result column may have been rounded and therefore, if carried through the calculations, may not yield an identical final result to the one reported.

The stated LOQs for each analyte represent the demonstrated LOQ concentrations prior to correction for desorption efficiency (if applicable).

Unless otherwise noted below, reported results have not been blank corrected for any field blank or method blank.

L367643 (Report ID: 923148):
SOPs: GRAV-SOP-5(15), GRAV-SOP-6(15)
Gravimetric analytical accuracy of the sampling media is -0.005 +/- 0.007 mg (average blank weight change +/- 95% confidence interval or k=2). The estimated uncertainly applies to the media, technology, and SOP(s) referenced in this report and does not account for any uncertainty associated with the sampling process.
PNOR = Particulates Not Otherwise Regulated.

< -Less Than	mg -Milligrams	m3 -Cubic Meters	kg -Kilograms	ppm -Parts per Million		
> -Greater Than	ug -Micrograms	l -Liters	NS -Not Specified	ND -Not Detected	NA -Not Applicable	

GRAVIMETRICS QC SUMMARY REPORT

Login: L367643
Matnum: 306
Matrix: PVC PW 37mm
Instrument Description: Mettler MX-5, M3
Method: mod. NIOSH 0500; Gravimetric
Reporting Level (mg): 0.050 mg
Analysis: Total Dust

Type	Sample #	Analysis Date	True Value (mg)	Found Value (mg)	Difference (mg)	Control Limit (mg)
CCV	WG339538-6	2/22/2016 08:58:00	19.939	19.943	0.004	0.008
CCV	WG339538-11	2/22/2016 09:11:00	19.939	19.945	0.006	0.008
CCV	WG339538-15	2/22/2016 09:30:00	19.939	19.940	0.001	0.008
BLANK	WG339538-16	2/22/2016 09:30:00	10.952	10.952	0.000	0.008
CCV	WG339538-19	2/22/2016 09:33:00	19.939	19.938	-0.001	0.008

Type	Sample #	Analysis Date	Sample Result (mg)	Duplicate Result (mg)	Abs. Val. of mg Difference	Control Limit (mg)
DUP	WG339538-10	2/22/2016 09:10:00	0.260	0.259	0.001	0.004

Dup Workgroup number	**Sample number**
WG339538-10	L367643-1

L3e7643

R135

5120 North Shore Drive
North Little Rock, AR 72118
Phone: (501) 801-8500
Fax: (501) 801-8501
Website: www.cteh.com

Center for Toxicology and Environmental Health L.L.C.

SAMPLE CHAIN OF CUSTODY AND ANALYSIS REQUEST FORM

Page ___ of ___

	Send Report To:	Send Invoice To:
Name	M. Berg C. Connelly	Accounts Payable
Company	CTEH	CTEH
Address	2000 Anders Lane Kemah, Texas 77565	5120 North Shore Drive North Little Rock, AR 72118
Phone	(281)535-2834	(501)801-8500
Fax	(281)535-0232	(501)801-8501
e-mail	labresults@cteh.com MBerg@cteh.com CConnelly@cteh.com	draccounting@cteh.com

CTEH Project #: 107907

Turnaround Requested:
Same Day ___Next Day (24 hour) ___ Normal
___Other (Specify) 2 day TAT

Complete Data Packet Requested ☐Yes ☒No

Lab Contact Information:
Galson Laboratories
6601 Kirkville Road
E. Syracuse, NY 13057

Client Sample Identification	Other Sample Identification	Sample Size	Units (Check one) X L ___ cm^2	Sample Date	Sample Time (for non-air samples)	Initials	Total Dust NIOSH 0500	Matrix A = air, B = bulk, S = soil, SW = wipe, T = tape, W = water
HOTX0218TD001	AS08	1036.0	L	02-18-16		AS	X	A
HOTX0218TD002	AS09	1027.8	L	02-18-16		AS	X	A
HOTX0218TD003	AS05	1002.8	L	02-18-16		AS	X	A
HOTX0218TD004	Blank	0	L	02-18-16		AS	X	A

806684141171
Date: 02/20/16
Shipper: FEDEX
Initials: GMB
Prep: UNKNOWN

Rec'd intact & all accounted for? (Yes) or No GS
Rec'd w/custody seals intact? (Yes) or No GS
Rec'd in light sensitive packaging? Yes or (No) NA
Rec'd with ice pack? Yes or (No) NA
Rec'd temperature compliant? (Yes) or No GS

RELINQUISHED BY	DATE/TIME	RECEIVED BY	DATE/TIME	COMMENTS
A. Sanpon	2-19-16	FedEx	2/19/16	
		Gretchen B. GS	2/20/16 930	

Dr. Mike Berg
Center for Toxicology & Env. Health LLC
2000 Anders Lane
Kemah, TX 77565

February 23, 2016

DOH ELAP #11626 Account# 13913 Login# L367642
AIHA-LAP #100324

Dear Dr. Berg:

Enclosed are the analytical results for the samples received by our laboratory on February 20, 2016. All test results meet the quality control requirements of AIHA-LAP and NELAC unless otherwise stated in this report. All samples on the chain of custody were received in good condition unless otherwise noted.

Results in this report are based on the sampling data provided by the client and refer only to the samples as they were received at the laboratory. Unless otherwise requested, all samples will be discarded 14 days from the date of this report, with the exception of IOMs, which will be cleaned and disposed of after seven calendar days.

Current Scopes of Accreditation can be viewed at www.galsonlabs.com in the accreditations section under the "about Galson" tab.

Please contact Pamela Weaver at (888) 432-5227, if you would like any additional information regarding this report. Thank you for using SGS Galson Laboratories.

Sincerely,

SGS Galson Laboratories

Lisa Swab
Laboratory Director

Enclosure(s)

Galson Laboratories, Inc. is now a part of SGS, the world's leading inspection, verification, testing, and certification company. As part of our transition to SGS, you will begin to see some formatting changes with reports that will improve the presentation of data and allow for the transition to the new logo.

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FAX: (315) 437-0571
www.galsonlabs.com

LABORATORY ANALYSIS REPORT

Client : Center for Toxicology & Env. H
Site : NS
Project No. : 107907
Date Sampled : 18-FEB-16
Date Received : 20-FEB-16

Account No.: 13913
Login No. : L367642
Date Analyzed : 22-FEB-16
Report ID : 923147

Respirable Dust

Sample ID	Lab ID	Air Vol liter	Total mg	Conc mg/m3
HOTX0218RD001	L367642-1	1284.5	<0.050	<0.039
HOTX0218RD002	L367642-2	1271	<0.050	<0.039
HOTX0218RD003	L367642-3	1280	<0.050	<0.039
HOTX0218RD004	L367642-4	NA	<0.050	NA

COMMENTS: Please see attached lab footnote report for any applicable footnotes.

Level of quantitation: 0.050 mg
Analytical Method : mod. NIOSH 0600; Gravimetric
OSHA PEL : PNOR 5 mg/m3 (TWA)
Collection Media : PVC PW 37mm

Submitted by: CRI
Approved by : KRK
Date : 22-FEB-16
Supervisor: CRI

NYS DOH # : 11626
QC by: AMD

< -Less Than mg -Milligrams m3 -Cubic Meters kg -Kilograms NA -Not Applicable ND -Not Detected
> -Greater Than ug -Micrograms l -Liters NS -Not Specified ppm -Parts per Million

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www.galsonlabs.com

LABORATORY FOOTNOTE REPORT

Client Name : Center for Toxicology & Env. Health LLC
Site :
Project No. : 107907

Date Sampled : 18-FEB-16
Date Received: 20-FEB-16
Date Analyzed: 22-FEB-16

Account No.: 13913
Login No. : L367642

Unless otherwise noted below, all quality control results associated with the samples were within established control limits or did not impact reported results.

WARNING: The sample(s) to which the findings recorded herein (the "Findings") relate was(were) drawn and / or provided by the Client or by a third party acting at the Client's direction. The Findings constitute no warranty of the sample's representativeness of any goods and strictly relate to the sample(s). The Company accepts no liability with regard to the origin or source from which the sample(s) is/are said to be extracted.

Unrounded results are carried through the calculations that yield the final result and the final result is rounded to the number of significant figures appropriate to the accuracy of the analytical method. Please note that results appearing in the columns preceeding the final result column may have been rounded and therefore, if carried through the calculations, may not yield an identical final result to the one reported.

The stated LOQs for each analyte represent the demonstrated LOQ concentrations prior to correction for desorption efficiency (if applicable).

Unless otherwise noted below, reported results have not been blank corrected for any field blank or method blank.

L367642 (Report ID: 923147):
SOPs: GRAV-SOP-5(15), GRAV-SOP-6(15)
Gravimetric analytical accuracy of the sampling media is -0.005 +/- 0.007 mg (average blank weight change +/- 95% confidence interval or k=2). The estimated uncertainly applies to the media, technology, and SOP(s) referenced in this report and does not account for any uncertainty associated with the sampling process.
PNOR = Particulates Not Otherwise Regulated.

< -Less Than	mg -Milligrams	m3 -Cubic Meters	kg -Kilograms	ppm -Parts per Million		
> -Greater Than	ug -Micrograms	l -Liters	NS -Not Specified	ND -Not Detected	NA -Not Applicable	

GRAVIMETRICS QC SUMMARY REPORT

Login: L367642
Matnum: 306
Matrix: PVC PW 37mm
Instrument Description: Mettler MX-5, M3
Method: mod. NIOSH 0600; Gravimetric
Reporting Level (mg): 0.050 mg
Analysis: Respirable Dust

Type	Sample #	Analysis Date	True Value (mg)	Found Value (mg)	Difference (mg)	Control Limit (mg)
CCV	WG339538-6	2/22/2016 08:58:00	19.939	19.943	0.004	0.008
CCV	WG339538-11	2/22/2016 09:11:00	19.939	19.945	0.006	0.008
CCV	WG339538-15	2/22/2016 09:30:00	19.939	19.940	0.001	0.008
BLANK	WG339538-16	2/22/2016 09:30:00	10.952	10.952	0.000	0.008
CCV	WG339538-19	2/22/2016 09:33:00	19.939	19.938	-0.001	0.008

Type	Sample #	Analysis Date	Sample Result (mg)	Duplicate Result (mg)	Abs. Val. of mg Difference	Control Limit (mg)
DUP	WG339538-8	2/22/2016 09:05:00	0.016	0.006	0.010	0.004
DUP	WG339538-9	2/22/2016 09:06:00	0.016	0.013	0.003	0.004

Dup Workgroup number	**Sample number**
WG339538-8	L367642-1
WG339538-9	L367642-1

L3617642

R137

5120 North Shore Drive
North Little Rock, AR 72118
Phone: (501) 801-8500
Fax: (501) 801-8501
Website: www.cteh.com

Center for Toxicology and Environmental Health L.L.C.

SAMPLE CHAIN OF CUSTODY AND ANALYSIS REQUEST FORM

Page 1 of 1

	Send Report To:	Send Invoice To:
Name	Mike Berg Charles Connally	Accounts Payable
Company	CTEH	CTEH
Address	2000 Anders Lane Kemah, Texas 77565	5120 North Shore Drive North Little Rock, AR 72118
Phone	(281)535-2834	(501)801-8500
Fax	(281)535-0232	(501)801-8501
e-mail	labresults@cteh.com MBerg@cteh.com cconnally@cteh.com	raccounting@cteh.com

CTEH Project #: 107907

Turnaround Requested:
Same Day __Next Day (24 hour) __ Normal
__Other (Specify) 2day TAT

Complete Data Packet Requested ☐Yes ☒No

Lab Contact Information:
Galson Laboratories
6601 Kirkville Road
E. Syracuse, NY 13057

Client Sample Identification	Other Sample Identification	Sample Size	Units (Check one) X L / __cm²	Sample Date	Sample Time (for non-air samples)	Initials	Rush TAT Next Day 0900
HOTX0218RD001	AS08	1284.5	L	02-18-16		AS	X
HOTX0218RD002	AS09	1271.0	L	02-18-16			X
HOTX0218RD003	AS05	1280.0	L	02-18-16			X
HOTX0218RD004	Blank	0	L	02-18-16			X

Matrix
A = air
B = bulk
S = soil
SW = wipe
T = tape
W = water

806684141171
Date:02/20/16
Shipper:FEDEX
Initials:GMB
Prep:UNKNOWN

Rec'd intact & all accounted for? (Yes) or No GB
Rec'd w/custody seals intact? (Yes) or No GB
Rec'd in light sensitive packaging? Yes or (No) NA
Rec'd with ice pack? Yes or (No) NA
Rec'd temperature compliant? (Yes) or No GB

RELINQUISHED BY	DATE/TIME	RECEIVED BY	DATE/TIME	COMMENTS
A-Sorgen	2.19.16	Fed Ex	2/19/16	
		Gretchen B GB	2/20/16 930	

Dr. Mike Berg
Center for Toxicology & Env. Health LLC
2000 Anders Lane
Kemah, TX 77565

February 23, 2016

DOH ELAP #11626 Account# 13913 Login# L367526
AIHA-LAP #100324

Dear Dr. Berg:

Enclosed are the analytical results for the samples received by our laboratory on February 19, 2016. All test results meet the quality control requirements of AIHA-LAP and NELAC unless otherwise stated in this report. All samples on the chain of custody were received in good condition unless otherwise noted.

Results in this report are based on the sampling data provided by the client and refer only to the samples as they were received at the laboratory. Unless otherwise requested, all samples will be discarded 14 days from the date of this report, with the exception of IOMs, which will be cleaned and disposed of after seven calendar days.

Current Scopes of Accreditation can be viewed at www.galsonlabs.com in the accreditations section under the "about Galson" tab.

Please contact Pamela Weaver at (888) 432-5227, if you would like any additional information regarding this report. Thank you for using SGS Galson Laboratories.

Sincerely,

SGS Galson Laboratories

Lisa Swab
Laboratory Director

Enclosure(s)

Galson Laboratories, Inc. is now a part of SGS, the world's leading inspection, verification, testing, and certification company. As part of our transition to SGS, you will begin to see some formatting changes with reports that will improve the presentation of data and allow for the transition to the new logo.

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LABORATORY ANALYSIS REPORT

Client : Center for Toxicology & Env. H
Site : NS
Project No. : 107907
Date Sampled : 17-FEB-16
Date Received : 19-FEB-16

Account No.: 13913
Login No. : L367526
Date Analyzed : 19-FEB-16
Report ID : 923244

Client ID : HOTX0217PNAH001 **Lab ID : L367526-1** **Air Volume : 969.17 Liter**
Date Sampled : 02/17/16 **Date Analyzed : 02/19/16**

Parameter	LOQ ug	Filter ug	Front ug	Back ug	Total ug	Conc mg/m3	ppm
1-Nitropyrene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Acenaphthene	0.3	<0.3	<0.3	<0.3	<0.3	<0.0003	<0.00005
Acenaphthylene	0.3	<0.3	<0.3	<0.3	<0.3	<0.0003	<0.00005
Anthracene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00005
Benzo(a)anthracene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Benzo(a)pyrene	0.3	<0.3	<0.3	<0.3	<0.5	<0.0005	<0.00005
Benzo(b)fluoranthene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Benzo(e)pyrene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0005	<0.00004
Benzo(g,h,i)perylene	0.3	<0.3	<0.3	<0.3	<0.5	<0.0005	<0.00005
Benzo(k)fluoranthene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Chrysene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Dibenz(a,h)anthracene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Fluoranthene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00005
Fluorene	0.3	<0.3	<0.3	<0.3	<0.3	<0.0003	<0.00005
Indeno(1,2,3-cd)pyrene	0.3	<0.3	<0.3	<0.3	<0.5	<0.0005	<0.00004

COMMENTS: Please see attached lab footnote report for any applicable footnotes.

Collection Media: FilterTube
Date : 22-FEB-16

Submitted by: EAW
NYS DOH # : 11626

Approved by: nkp
Supervisor: MWJ QC by: TJB

< -Less Than mg -Milligrams m3 -Cubic Meters kg -Kilograms NA -Not Applicable ND -Not Detected
> -Greater Than ug -Micrograms l -Liters NS -Not Specified ppm -Parts per Million LOQ-Limit of Quantitation

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East Syracuse, NY 13057
(315) 432-5227
FAX: (315) 437-0571
www.galsonlabs.com

LABORATORY ANALYSIS REPORT

Client : Center for Toxicology & Env. H
Site : NS
Project No. : 107907
Date Sampled : 17-FEB-16
Date Received : 19-FEB-16

Account No.: 13913
Login No. : L367526
Date Analyzed : 19-FEB-16
Report ID : 923244

Client ID : HOTX0217PNAH001 **Lab ID : L367526-1** **Air Volume : 969.17 Liter**
Date Sampled : 02/17/16 **Date Analyzed : 02/19/16**

Parameter	LOQ ug	Filter ug	Front ug	Back ug	Total ug	Conc mg/m3	ppm
Naphthalene	0.3	<0.3	<0.3	<0.3	<0.3	<0.0003	<0.00006
Phenanthrene	0.3	<0.3	<0.3	<0.3	<0.3	<0.0004	<0.00005
Pyrene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00005

COMMENTS: Please see attached lab footnote report for any applicable footnotes.

Collection Media: FilterTube
Date : 22-FEB-16

Submitted by: EAW
NYS DOH # : 11626

Approved by: nkp
Supervisor: MWJ QC by: TJB

< -Less Than mg -Milligrams m3 -Cubic Meters kg -Kilograms NA -Not Applicable ND -Not Detected
> -Greater Than ug -Micrograms l -Liters NS -Not Specified ppm -Parts per Million LOQ-Limit of Quantitation

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LABORATORY ANALYSIS REPORT

Client : Center for Toxicology & Env. H
Site : NS
Project No. : 107907
Date Sampled : 17-FEB-16
Date Received : 19-FEB-16

Account No.: 13913
Login No. : L367526
Date Analyzed : 19-FEB-16
Report ID : 923244

Client ID : HOTX0217PNAH002 **Lab ID : L367526-2** **Air Volume : 947.33 Liter**
Date Sampled : 02/17/16 **Date Analyzed : 02/19/16**

Parameter	LOQ ug	Filter ug	Front ug	Back ug	Total ug	Conc mg/m3	ppm
1-Nitropyrene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Acenaphthene	0.3	<0.3	<0.3	<0.3	<0.3	<0.0004	<0.00006
Acenaphthylene	0.3	<0.3	<0.3	<0.3	<0.3	<0.0003	<0.00005
Anthracene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00005
Benzo(a)anthracene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Benzo(a)pyrene	0.3	<0.3	<0.3	<0.3	<0.5	<0.0005	<0.00005
Benzo(b)fluoranthene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Benzo(e)pyrene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0005	<0.00005
Benzo(g,h,i)perylene	0.3	<0.3	<0.3	<0.3	<0.5	<0.0005	<0.00005
Benzo(k)fluoranthene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Chrysene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Dibenz(a,h)anthracene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Fluoranthene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00005
Fluorene	0.3	<0.3	<0.3	<0.3	<0.3	<0.0004	<0.00005
Indeno(1,2,3-cd)pyrene	0.3	<0.3	<0.3	<0.3	<0.5	<0.0005	<0.00004

COMMENTS: Please see attached lab footnote report for any applicable footnotes.

Collection Media: FilterTube
Date : 22-FEB-16

Submitted by: EAW
NYS DOH # : 11626

Approved by: nkp
Supervisor: MWJ QC by: TJB

< -Less Than mg -Milligrams m3 -Cubic Meters kg -Kilograms NA -Not Applicable ND -Not Detected
> -Greater Than ug -Micrograms l -Liters NS -Not Specified ppm -Parts per Million LOQ-Limit of Quantitation

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FAX: (315) 437-0571
www.galsonlabs.com

LABORATORY ANALYSIS REPORT

Client : Center for Toxicology & Env. H
Site : NS
Project No. : 107907
Date Sampled : 17-FEB-16
Date Received : 19-FEB-16

Account No.: 13913
Login No. : L367526
Date Analyzed : 19-FEB-16
Report ID : 923244

Client ID : HOTX0217PNAH002 **Lab ID : L367526-2** **Air Volume : 947.33 Liter**
Date Sampled : 02/17/16 **Date Analyzed : 02/19/16**

Parameter	LOQ ug	Filter ug	Front ug	Back ug	Total ug	Conc mg/m3	ppm
Naphthalene	0.3	<0.3	<0.3	<0.3	<0.3	<0.0003	<0.00007
Phenanthrene	0.3	<0.3	<0.3	<0.3	<0.3	<0.0004	<0.00005
Pyrene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00005

COMMENTS: Please see attached lab footnote report for any applicable footnotes.

Collection Media: FilterTube
Date : 22-FEB-16

Submitted by: EAW
NYS DOH # : 11626

Approved by: nkp
Supervisor: MWJ QC by: TJB

< -Less Than mg -Milligrams m3 -Cubic Meters kg -Kilograms NA -Not Applicable ND -Not Detected
> -Greater Than ug -Micrograms l -Liters NS -Not Specified ppm -Parts per Million LOQ-Limit of Quantitation

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LABORATORY ANALYSIS REPORT

Client : Center for Toxicology & Env. H
Site : NS
Project No. : 107907
Date Sampled : 17-FEB-16
Date Received : 19-FEB-16

Account No.: 13913
Login No. : L367526
Date Analyzed : 19-FEB-16
Report ID : 923244

Client ID : HOTX0217PNAH003 **Lab ID : L367526-3** **Air Volume : 972.05 Liter**
Date Sampled : 02/17/16 **Date Analyzed : 02/19/16**

Parameter	LOQ ug	Filter ug	Front ug	Back ug	Total ug	Conc mg/m3	ppm
1-Nitropyrene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Acenaphthene	0.3	<0.3	<0.3	<0.3	<0.3	<0.0003	<0.00005
Acenaphthylene	0.3	<0.3	<0.3	<0.3	<0.3	<0.0003	<0.00005
Anthracene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00005
Benzo(a)anthracene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Benzo(a)pyrene	0.3	<0.3	<0.3	<0.3	<0.5	<0.0005	<0.00005
Benzo(b)fluoranthene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Benzo(e)pyrene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0005	<0.00004
Benzo(g,h,i)perylene	0.3	<0.3	<0.3	<0.3	<0.5	<0.0005	<0.00005
Benzo(k)fluoranthene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Chrysene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Dibenz(a,h)anthracene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Fluoranthene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Fluorene	0.3	<0.3	<0.3	<0.3	<0.3	<0.0003	<0.00005
Indeno(1,2,3-cd)pyrene	0.3	<0.3	<0.3	<0.3	<0.5	<0.0005	<0.00004

COMMENTS: Please see attached lab footnote report for any applicable footnotes.

Collection Media: FilterTube
Date : 22-FEB-16

Submitted by: EAW
NYS DOH # : 11626

Approved by: nkp
Supervisor: MWJ QC by: TJB

< -Less Than mg -Milligrams m3 -Cubic Meters kg -Kilograms NA -Not Applicable ND -Not Detected
> -Greater Than ug -Micrograms l -Liters NS -Not Specified ppm -Parts per Million LOQ-Limit of Quantitation

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LABORATORY ANALYSIS REPORT

Client : Center for Toxicology & Env. H
Site : NS
Project No. : 107907
Date Sampled : 17-FEB-16
Date Received : 19-FEB-16

Account No.: 13913
Login No. : L367526
Date Analyzed : 19-FEB-16
Report ID : 923244

Client ID : HOTX0217PNAH003 **Lab ID : L367526-3** **Air Volume : 972.05 Liter**
Date Sampled : 02/17/16 **Date Analyzed : 02/19/16**

Parameter	LOQ ug	Filter ug	Front ug	Back ug	Total ug	Conc mg/m3	ppm
Naphthalene	0.3	<0.3	<0.3	<0.3	<0.3	<0.0003	<0.00006
Phenanthrene	0.3	<0.3	<0.3	<0.3	<0.3	<0.0004	<0.00005
Pyrene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00005

COMMENTS: Please see attached lab footnote report for any applicable footnotes.

Collection Media: FilterTube
Date : 22-FEB-16

Submitted by: EAW
NYS DOH # : 11626

Approved by: nkp
Supervisor: MWJ QC by: TJB

< -Less Than mg -Milligrams m3 -Cubic Meters kg -Kilograms NA -Not Applicable ND -Not Detected
> -Greater Than ug -Micrograms l -Liters NS -Not Specified ppm -Parts per Million LOQ-Limit of Quantitation

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LABORATORY ANALYSIS REPORT

Client : Center for Toxicology & Env. H
Site : NS
Project No. : 107907
Date Sampled : 17-FEB-16
Date Received : 19-FEB-16

Account No.: 13913
Login No. : L367526
Date Analyzed : 19-FEB-16
Report ID : 923244

Client ID : HOTX0217PNAH004 **Lab ID : L367526-4** **Air Volume : NA**
Date Sampled : 02/17/16 **Date Analyzed : 02/19/16**

Parameter	LOQ ug	Filter ug	Front ug	Back ug	Total ug	Conc mg/m3	ppm
1-Nitropyrene	0.3	<0.3	<0.3	<0.3	<0.4	NA	NA
Acenaphthene	0.3	<0.3	<0.3	<0.3	<0.3	NA	NA
Acenaphthylene	0.3	<0.3	<0.3	<0.3	<0.3	NA	NA
Anthracene	0.3	<0.3	<0.3	<0.3	<0.4	NA	NA
Benzo(a)anthracene	0.3	<0.3	<0.3	<0.3	<0.4	NA	NA
Benzo(a)pyrene	0.3	<0.3	<0.3	<0.3	<0.5	NA	NA
Benzo(b)fluoranthene	0.3	<0.3	<0.3	<0.3	<0.4	NA	NA
Benzo(e)pyrene	0.3	<0.3	<0.3	<0.3	<0.4	NA	NA
Benzo(g,h,i)perylene	0.3	<0.3	<0.3	<0.3	<0.5	NA	NA
Benzo(k)fluoranthene	0.3	<0.3	<0.3	<0.3	<0.4	NA	NA
Chrysene	0.3	<0.3	<0.3	<0.3	<0.4	NA	NA
Dibenz(a,h)anthracene	0.3	<0.3	<0.3	<0.3	<0.4	NA	NA
Fluoranthene	0.3	<0.3	<0.3	<0.3	<0.4	NA	NA
Fluorene	0.3	<0.3	<0.3	<0.3	<0.3	NA	NA
Indeno(1,2,3-cd)pyrene	0.3	<0.3	<0.3	<0.3	<0.5	NA	NA

COMMENTS: Please see attached lab footnote report for any applicable footnotes.

Collection Media: FilterTube
Date : 22-FEB-16

Submitted by: EAW
NYS DOH # : 11626

Approved by: nkp
Supervisor: MWJ QC by: TJB

< -Less Than mg -Milligrams m3 -Cubic Meters kg -Kilograms NA -Not Applicable ND -Not Detected
> -Greater Than ug -Micrograms l -Liters NS -Not Specified ppm -Parts per Million LOQ-Limit of Quantitation

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LABORATORY ANALYSIS REPORT

Client : Center for Toxicology & Env. H
Site : NS
Project No. : 107907
Date Sampled : 17-FEB-16
Date Received : 19-FEB-16

Account No.: 13913
Login No. : L367526
Date Analyzed : 19-FEB-16
Report ID : 923244

Client ID : HOTX0217PNAH004 **Lab ID : L367526-4** **Air Volume : NA**
Date Sampled : 02/17/16 **Date Analyzed : 02/19/16**

Parameter	LOQ ug	Filter ug	Front ug	Back ug	Total ug	Conc mg/m3	ppm
Naphthalene	0.3	<0.3	<0.3	<0.3	<0.3	NA	NA
Phenanthrene	0.3	<0.3	<0.3	<0.3	<0.3	NA	NA
Pyrene	0.3	<0.3	<0.3	<0.3	<0.4	NA	NA

COMMENTS: Please see attached lab footnote report for any applicable footnotes.

Collection Media: FilterTube
Date : 22-FEB-16

Submitted by: EAW
NYS DOH # : 11626

Approved by: nkp
Supervisor: MWJ QC by: TJB

< -Less Than mg -Milligrams m3 -Cubic Meters kg -Kilograms NA -Not Applicable ND -Not Detected
> -Greater Than ug -Micrograms l -Liters NS -Not Specified ppm -Parts per Million LOQ-Limit of Quantitation

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LABORATORY ANALYSIS REPORT

Client : Center for Toxicology & Env. H
Site : NS
Project No. : 107907
Date Sampled : 17-FEB-16
Date Received : 19-FEB-16

Account No.: 13913
Login No. : L367526
Date Analyzed : 22-FEB-16
Report ID : 923146

Particulate Matter - PM10

Sample ID	Lab ID	Air Vol liter	Total mg	Conc mg/m3
HOTX0217PM001	L367526-5	1039.37	0.52	0.50
HOTX0217PM002	L367526-6	1083.54	0.39	0.36
HOTX0217PM003	L367526-7	1114.64	0.14	0.12
HOTX0217PM004	L367526-8	NA	<0.050	NA

COMMENTS: Please see attached lab footnote report for any applicable footnotes.

Level of quantitation: 0.050 mg
Analytical Method : mod. EPA Method IP-10A; Gravimetric
OSHA PEL : NA
Collection Media : PVC PW 37mm

Submitted by: PAH
Approved by : CRI
Date : 23-FEB-16
Supervisor: CRI

NYS DOH # : 11626
QC by: TJB

< -Less Than mg -Milligrams m3 -Cubic Meters kg -Kilograms NA -Not Applicable ND -Not Detected
> -Greater Than ug -Micrograms l -Liters NS -Not Specified ppm -Parts per Million

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LABORATORY FOOTNOTE REPORT

Client Name : Center for Toxicology & Env. Health LLC
Site :
Project No. : 107907

Date Sampled : 17-FEB-16 Account No.: 13913
Date Received: 19-FEB-16 Login No. : L367526
Date Analyzed: 19-FEB-16 - 22-FEB-16

Unless otherwise noted below, all quality control results associated with the samples were within established control limits or did not impact reported results.

WARNING: The sample(s) to which the findings recorded herein (the "Findings") relate was(were) drawn and / or provided by the Client or by a third party acting at the Client's direction. The Findings constitute no warranty of the sample's representativeness of any goods and strictly relate to the sample(s). The Company accepts no liability with regard to the origin or source from which the sample(s) is/are said to be extracted.

Unrounded results are carried through the calculations that yield the final result and the final result is rounded to the number of significant figures appropriate to the accuracy of the analytical method. Please note that results appearing in the columns preceeding the final result column may have been rounded and therefore, if carried through the calculations, may not yield an identical final result to the one reported.

The stated LOQs for each analyte represent the demonstrated LOQ concentrations prior to correction for desorption efficiency (if applicable).

Unless otherwise noted below, reported results have not been blank corrected for any field blank or method blank.

L367526 (Report ID: 923244):
SOPs: il-n5506(12)
Results corrected for matrix and compound specific desorption efficiencies.

L367526 (Report ID: 923244):
Accuracy and mean recovery data presented below is based on a 95% confidence interval (k=2).
The estimated uncertainty applies to the media, technology, and SOP referenced in this report and does not account for the uncertainty associated with the sampling process.

Parameter	Accuracy	Mean Recovery
1-Nitropyrene	+/-16%	107%
Acenaphthene	+/-14.4%	104%
Acenaphthylene	+/-11.7%	100%
Anthracene	+/-15.7%	114%
Benzo(a)anthracene	+/-16.1%	110%
Benzo(a)pyrene	+/-26%	115%

< -Less Than mg -Milligrams m3 -Cubic Meters kg -Kilograms ppm -Parts per Million
> -Greater Than ug -Micrograms l -Liters NS -Not Specified ND -Not Detected NA -Not Applicable

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Client Name : Center for Toxicology & Env. Health LLC
Site :
Project No. : 107907

Date Sampled : 17-FEB-16 Account No.: 13913
Date Received: 19-FEB-16 Login No. : L367526
Date Analyzed: 19-FEB-16 - 22-FEB-16

Benzo(b)fluoranthene	+/-19%	113%
Benzo(e)pyrene	+/-19.2%	111%
Benzo(g,h,i)perylene	+/-20.2%	112%
Benzo(k)fluoranthene	+/-15.5%	109%
Chrysene	+/-14%	108%
Dibenz(a,h)anthracene	+/-15.6%	103%
Fluoranthene	+/-16.2%	110%
Fluorene	+/-12.4%	109%
Indeno(1,2,3-cd)pyrene	+/-19.5%	113%
Naphthalene	+/-13.3%	105%
Phenanthrene	+/-13.4%	108%
Pyrene	+/-14.6%	112%

Parameter	Method	PEL
1-Nitropyrene	mod. NIOSH 5506; HPLC/UV	NA
Acenaphthene	mod. NIOSH 5506; HPLC/UV	NA
Acenaphthylene	mod. NIOSH 5506; HPLC/UV	NA
Anthracene	mod. NIOSH 5506; HPLC/UV	NA
Benzo(a)anthracene	mod. NIOSH 5506; HPLC/UV	NA
Benzo(a)pyrene	mod. NIOSH 5506; HPLC/UV	0.2 mg/m3 (TWA)
Benzo(b)fluoranthene	mod. NIOSH 5506; HPLC/UV	NA
Benzo(e)pyrene	mod. NIOSH 5506; HPLC/UV	NA
Benzo(g,h,i)perylene	mod. NIOSH 5506; HPLC/UV	NA
Benzo(k)fluoranthene	mod. NIOSH 5506; HPLC/UV	NA
Chrysene	mod. NIOSH 5506; HPLC/UV	0.2 mg/m3 (TWA)
Dibenz(a,h)anthracene	mod. NIOSH 5506; HPLC/UV	NA
Fluoranthene	mod. NIOSH 5506; HPLC/UV	NA
Fluorene	mod. NIOSH 5506; HPLC/UV	NA
Indeno(1,2,3-cd)pyrene	mod. NIOSH 5506; HPLC/UV	NA
Naphthalene	mod. NIOSH 5506; HPLC/UV	10 ppm (TWA)
Phenanthrene	mod. NIOSH 5506; HPLC/UV	NA
Pyrene	mod. NIOSH 5506; HPLC/UV	NA

L367526 (Report ID: 923146):
SOPs: GRAV-SOP-5(15), GRAV-SOP-6(15)

< -Less Than mg -Milligrams m3 -Cubic Meters kg -Kilograms ppm -Parts per Million
> -Greater Than ug -Micrograms l -Liters NS -Not Specified ND -Not Detected NA -Not Applicable

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LABORATORY FOOTNOTE REPORT

Client Name : Center for Toxicology & Env. Health LLC
Site :
Project No. : 107907

Date Sampled : 17-FEB-16 Account No.: 13913
Date Received: 19-FEB-16 Login No. : L367526
Date Analyzed: 19-FEB-16 - 22-FEB-16

L367526 (Report ID: 923146):
Gravimetric analytical accuracy of the sampling media is -0.005 +/- 0.007 mg (average blank weight change +/- 95% confidence interval or k=2). The estimated uncertainly applies to the media, technology, and SOP(s) referenced in this report and does not account for any uncertainty associated with the sampling process.

< -Less Than mg -Milligrams m3 -Cubic Meters kg -Kilograms ppm -Parts per Million
> -Greater Than ug -Micrograms l -Liters NS -Not Specified ND -Not Detected NA -Not Applicable

GRAVIMETRICS QC SUMMARY REPORT

Login: L367526
Matnum: 306
Matrix: PVC PW 37mm
Instrument Description: Mettler MX-5, M2
Method: mod. EPA Method IP-10A; Gravimetric
Reporting Level (mg): 0.050 mg
Analysis: Particulate Matter - PM10

Type	Sample #	Analysis Date	True Value (mg)	Found Value (mg)	Difference (mg)	Control Limit (mg)
CCV	WG339532-1	2/22/2016 07:54:00	19.943	19.941	-0.002	0.008
BLANK	WG339532-2	2/22/2016 07:56:00	13.219	13.213	-0.006	-0.010
CCV	WG339532-5	2/22/2016 08:03:00	19.943	19.942	-0.001	0.008

Type	Sample #	Analysis Date	Sample Result (mg)	Duplicate Result (mg)	Abs. Val. of mg Difference	Control Limit (mg)
DUP	WG339532-4	2/22/2016 08:00:00	0.518	0.518	0.000	0.004

Dup Workgroup number	**Sample number**
WG339532-4	L367526-5

Sample: WG339331-1 **Spikelot:** IH603243-4
QC Type: DLS **Raw File:**
Analysis date 02/18/16 13:30:55 **Approval Status:** YES
Instrument: LC5

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
NAPHTHALENE	.095980	.099	96.9	70.0 to 130.				
BENZO(A)ANTHRACENE	.102645	.099	104	70.0 to 130.				
CHRYSENE	.104815	.099	106	70.0 to 130.				
BENZO(E)PYRENE	.109621	.1	110	70.0 to 130.				
BENZO(B)FLUORANTHENE	.100190	.099	101	70.0 to 130.				
BENZO(K)FLUORANTHENE	.075500	.099	76.3	70.0 to 130.				
BENZO(A)PYRENE	.103268	.099	104	70.0 to 130.				
DIBENZ(A,H)ANTHRACENE	.101670	.099	103	70.0 to 130.				
BENZO(G,H,I)PERYLENE	.104534	.099	106	70.0 to 130.				
INDENO-1,2,3-CD-PYRENE	.095981	.099	97	70.0 to 130.				
ACENAPHTHYLENE	.097111	.099	98.1	70.0 to 130.				
ACENAPHTHENE	.100732	.1	101	70.0 to 130.				
FLUORENE	.100422	.098	102	70.0 to 130.				
PHENANTHRENE	.097378	.098	99.4	70.0 to 130.				
ANTHRACENE	.119272	.099	120	70.0 to 130.				
FLUORANTHENE	.095257	.098	97.2	70.0 to 130.				
1-NITROPYRENE	.082187	.099	83	70.0 to 130.				
PYRENE	.070126	.099	70.8	70.0 to 130.				

Sample: WG339331-2 **Spikelot:** IH603243-3
QC Type: CCV **Raw File:**
Analysis date 02/18/16 13:50:53 **Approval Status:** YES
Instrument: LC5

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
1-NITROPYRENE	5.12754	4.95	104	86.8 to 123.				
PYRENE	5.37508	4.95	109	92.5 to 125.				
BENZO(A)ANTHRACENE	5.34705	4.95	108	93.7 to 119.				
CHRYSENE	5.21028	4.95	105	88.3 to 120.				
BENZO(E)PYRENE	5.31006	4.9995	106	90.6 to 127.				
BENZO(B)FLUORANTHENE	5.37803	4.95	109	93.8 to 125.				
BENZO(K)FLUORANTHENE	5.24132	4.95	106	88.6 to 118.				
BENZO(A)PYRENE	5.51300	4.95	111	80.0 to 138.				
DIBENZ(A,H)ANTHRACENE	5.18329	4.95	105	86.7 to 122.				
BENZO(G,H,I)PERYLENE	5.27864	4.95	107	87.6 to 124.				
NAPHTHALENE	5.06998	4.95	102	88.5 to 120.				

Sample: WG339331-2 **Spikelot:** IH603243-3
QC Type: CCV **Raw File:**
Analysis date 02/18/16 13:50:53 **Approval Status:** YES
Instrument: LC5

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
INDENO-1,2,3-CD-PYRENE	5.49788	4.95	111	94.8 to 127.				
ACENAPHTHYLENE	5.16921	4.95	104	89.8 to 117.				
ACENAPHTHENE	5.25010	4.9995	105	88.1 to 121.				
FLUORENE	5.29339	4.9	108	92.7 to 123.				
PHENANTHRENE	5.25721	4.9	107	91.1 to 120.				
ANTHRACENE	6.13691	4.95	124	85.6 to 123.				
FLUORANTHENE	5.18151	4.9	106	92.0 to 120.				

Sample: WG339330-3 **Spikelot:** IH607685
QC Type: BS **Raw File:**
Analysis date 02/18/16 14:50:47 **Approval Status:** YES
Instrument: LC5

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
NAPHTHALENE	4.69039	4.95	94.8		95.7	85.2 to 125		
BENZO(A)ANTHRACENE	4.95692	4.95	100		102	85.3 to 134		
CHRYSENE	4.77320	4.95	96.4		98.4	86.7 to 129		
BENZO(E)PYRENE	4.84749	4.9995	97		98.9	82.4 to 140		
BENZO(B)FLUORANTHENE	4.87344	4.95	98.5		101	85.0 to 142		
BENZO(K)FLUORANTHENE	4.92592	4.95	99.5		103	85.3 to 132		
BENZO(A)PYRENE	5.25469	4.95	106		108	76.5 to 154		
DIBENZ(A,H)ANTHRACENE	4.71635	4.95	95.3		96.2	79.8 to 127		
BENZO(G,H,I)PERYLENE	4.89791	4.95	98.9		103	81.7 to 142		
INDENO-1,2,3-CD-PYRENE	4.96344	4.95	100		101	83.3 to 142		
ACENAPHTHYLENE	4.77282	4.95	96.4		94.5	82.8 to 118		
ACENAPHTHENE	4.85603	4.9995	97.1		95.2	82.3 to 125		
FLUORENE	4.85875	4.9	99.2		102	90.7 to 128		
PHENANTHRENE	4.80321	4.9	98		100	87.8 to 128		
ANTHRACENE	5.66943	4.95	115		117	90.2 to 137		
FLUORANTHENE	4.73384	4.9	96.6		98.6	85.5 to 134		
1-NITROPYRENE	4.65866	4.95	94.1		95.1	82.7 to 131		
PYRENE	4.85828	4.95	98.1		99.1	89.7 to 134		

Sample: WG339330-4 **Spikelot:** IH607685
QC Type: BSD **Raw File:**
Analysis date 02/18/16 15:10:45 **Approval Status:** YES
Instrument: LC5

Sample: WG339330-4 **Spikelot:** IH607685
QC Type: BSD **Raw File:**
Analysis date 02/18/16 15:10:45 **Approval Status:** YES
Instrument: LC5

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
NAPHTHALENE	4.77155	4.95	96.4		97.4	85.2 to 125	-1.76	-10 to 10.0
BENZO(A)ANTHRACENE	5.02171	4.95	101		104	85.3 to 134	-1.94	-10 to 10.0
CHRYSENE	4.83711	4.95	97.7		99.7	86.7 to 129	-1.31	-10 to 10.0
BENZO(E)PYRENE	4.93836	4.9995	98.8		101	82.4 to 140	-2.1	-10 to 10.0
BENZO(B)FLUORANTHENE	5.03992	4.95	102		105	85.0 to 142	-3.88	-10 to 10.0
BENZO(K)FLUORANTHENE	4.93096	4.95	99.6		103	85.3 to 132	0	-10 to 10.0
BENZO(A)PYRENE	5.31802	4.95	107		110	76.5 to 154	-1.83	-10 to 10.0
DIBENZ(A,H)ANTHRACENE	4.76552	4.95	96.3		97.2	79.8 to 127	-1.03	-11.5 to 9.87
BENZO(G,H,I)PERYLENE	4.56233	4.95	92.2		96	81.7 to 142	7.04	-10 to 10.0
INDENO-1,2,3-CD-PYRENE	4.90262	4.95	99		100	83.3 to 142	.995	-10 to 10.0
ACENAPHTHYLENE	4.85420	4.95	98.1		96.1	82.8 to 118	-1.68	-10 to 10.0
ACENAPHTHENE	4.91481	4.9995	98.3		96.4	82.3 to 125	-1.25	-10 to 10.0
FLUORENE	4.91128	4.9	100		103	90.7 to 128	-.976	-10 to 10.0
PHENANTHRENE	4.87856	4.9	99.6		102	87.8 to 128	-1.98	-10 to 10.0
ANTHRACENE	5.72778	4.95	116		118	90.2 to 137	-.851	-10 to 10.0
FLUORANTHENE	4.78790	4.9	97.7		99.7	85.5 to 134	-1.11	-10 to 10.0
1-NITROPYRENE	4.70359	4.95	95		96	82.7 to 131	-.942	-10 to 10.0
PYRENE	4.86191	4.95	98.2		99.2	89.7 to 134	-.101	-10.4 to 8.90

Sample: WG339330-5 **Spikelot:** IH607685
QC Type: BS **Raw File:**
Analysis date 02/18/16 15:30:45 **Approval Status:** YES
Instrument: LC5

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
NAPHTHALENE	4.51361	4.95	91.2		99.1	85.2 to 125		
BENZO(A)ANTHRACENE	4.17487	4.95	84.3		108	85.3 to 134		
CHRYSENE	3.94174	4.95	79.6		103	86.7 to 129		
BENZO(E)PYRENE	3.65373	4.9995	73.1		107	82.4 to 140		
BENZO(B)FLUORANTHENE	3.88023	4.95	78.4		109	85.0 to 142		
BENZO(K)FLUORANTHENE	3.86735	4.95	78.1		109	85.3 to 132		
BENZO(A)PYRENE	3.97049	4.95	80.2		122	76.5 to 154		
DIBENZ(A,H)ANTHRACENE	3.47525	4.95	70.2		97.5	79.8 to 127		
BENZO(G,H,I)PERYLENE	2.99274	4.95	60.5		102	81.7 to 142		
INDENO-1,2,3-CD-PYRENE	3.28432	4.95	66.3		104	83.3 to 142		
ACENAPHTHYLENE	4.37432	4.95	88.4		92.1	82.8 to 118		

Sample: WG339330-5 **Spikelot:** IH607685
QC Type: BS **Raw File:**
Analysis date 02/18/16 15:30:45 **Approval Status:** YES
Instrument: LC5

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
ACENAPHTHENE	4.48046	4.9995	89.6		99.6	82.3 to 125		
FLUORENE	4.50356	4.9	91.9		102	90.7 to 128		
PHENANTHRENE	4.39971	4.9	89.8		104	87.8 to 128		
ANTHRACENE	5.06498	4.95	102		120	90.2 to 137		
FLUORANTHENE	4.31935	4.9	88.1		106	85.5 to 134		
1-NITROPYRENE	4.20303	4.95	84.9		101	82.7 to 131		
PYRENE	4.17307	4.95	84.3		103	89.7 to 134		

Sample: WG339330-6 **Spikelot:** IH607685
QC Type: BSD **Raw File:**
Analysis date 02/18/16 15:50:44 **Approval Status:** YES
Instrument: LC5

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
NAPHTHALENE	4.49410	4.95	90.8		98.7	85.2 to 125	.404	-10 to 10.0
BENZO(A)ANTHRACENE	4.05000	4.95	81.8		105	85.3 to 134	2.82	-10 to 10.0
CHRYSENE	3.87310	4.95	78.2		102	86.7 to 129	.976	-10 to 10.0
BENZO(E)PYRENE	3.51164	4.9995	70.2		103	82.4 to 140	3.81	-10 to 10.0
BENZO(B)FLUORANTHENE	3.75147	4.95	75.8		105	85.0 to 142	3.74	-10 to 10.0
BENZO(K)FLUORANTHENE	3.64570	4.95	73.7		102	85.3 to 132	6.64	-10 to 10.0
BENZO(A)PYRENE	3.98903	4.95	80.6		122	76.5 to 154	0	-10 to 10.0
DIBENZ(A,H)ANTHRACENE	3.34844	4.95	67.6		94	79.8 to 127	3.66	-11.5 to 9.87
BENZO(G,H,I)PERYLENE	2.82816	4.95	57.1		96.8	81.7 to 142	5.23	-10 to 10.0
INDENO-1,2,3-CD-PYRENE	3.19746	4.95	64.6		101	83.3 to 142	2.93	-10 to 10.0
ACENAPHTHYLENE	4.37305	4.95	88.3		92	82.8 to 118	.109	-10 to 10.0
ACENAPHTHENE	4.46604	4.9995	89.3		99.3	82.3 to 125	.302	-10 to 10.0
FLUORENE	4.46738	4.9	91.2		101	90.7 to 128	.985	-10 to 10.0
PHENANTHRENE	4.35245	4.9	88.8		103	87.8 to 128	.966	-10 to 10.0
ANTHRACENE	5.01588	4.95	101		119	90.2 to 137	.837	-10 to 10.0
FLUORANTHENE	4.20789	4.9	85.9		103	85.5 to 134	2.87	-10 to 10.0
1-NITROPYRENE	4.13166	4.95	83.5		99.4	82.7 to 131	1.6	-10 to 10.0
PYRENE	4.09007	4.95	82.6		101	89.7 to 134	1.96	-10.4 to 8.90

Sample: WG339330-2 **Spikelot:** NA
QC Type: MBLANK **Raw File:**
Analysis date 02/18/16 17:10:34 **Approval Status:** YES
Instrument: LC5

Sample: WG339330-2 **Spikelot:** NA

QC Type: MBLANK **Raw File:**

Analysis date 02/18/16 17:10:34 **Approval Status:** YES

Instrument: LC5

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
FLUORANTHENE(FRONT)	.171872	<.3						
FLUORANTHENE(BACK)	.075443	<.3						
ACENAPHTHENE(FRONT)	0	<.3						
ACENAPHTHENE(BACK)	0	<.3						
ACENAPHTHYLENE(FRONT)	0	<.3						
ACENAPHTHYLENE(BACK)	0	<.3						
ANTHRACENE(FRONT)	0	<.3						
ANTHRACENE(BACK)	0	<.3						
BENZO(A)ANTHRACENE(FRONT)	0	<.3						
BENZO(A)ANTHRACENE(BACK)	0	<.3						
BENZO(A)PYRENE(FRONT)	0	<.3						
BENZO(A)PYRENE(BACK)	0	<.3						
BENZO(B)FLUORANTHENE(FRONT)	0	<.3						
BENZO(B)FLUORANTHENE(BACK)	0	<.3						
BENZO(E)PYRENE(FRONT)	0	<.3						
BENZO(E)PYRENE(BACK)	0	<.3						
BENZO(G,H,I)PERYLENE(FRONT)	0	<.3						
BENZO(G,H,I)PERYLENE(BACK)	0	<.3						
BENZO(K)FLUORANTHENE(FRONT)	0	<.3						
BENZO(K)FLUORANTHENE(BACK)	0	<.3						
CHRYSENE(FRONT)	0	<.3						
CHRYSENE(BACK)	0	<.3						
DIBENZ(A,H)ANTHRACENE(FRONT)	0	<.3						
DIBENZ(A,H)ANTHRACENE(BACK)	0	<.3						
FLUORENE(FRONT)	0	<.3						
FLUORENE(BACK)	0	<.3						
INDENO-1,2,3-CD-PYRENE(FRONT)	0	<.3						
INDENO-1,2,3-CD-PYRENE(BACK)	0	<.3						
NAPHTHALENE(FRONT)	0	<.3						
NAPHTHALENE(BACK)	0	<.3						
1-NITROPYRENE(FRONT)	0	<.3						
1-NITROPYRENE(BACK)	0	<.3						
PHENANTHRENE(FRONT)	0	<.3						
PHENANTHRENE(BACK)	0	<.3						

Sample: WG339330-2 **Spikelot:** NA
QC Type: MBLANK **Raw File:**
Analysis date 02/18/16 17:10:34 **Approval Status:** YES
Instrument: LC5

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
PYRENE(FRONT)	0	<.3						
PYRENE(BACK)	0	<.3						

Sample: WG339331-3 **Spikelot:** IH603243-3
QC Type: CCV **Raw File:**
Analysis date 02/18/16 20:50:13 **Approval Status:** YES
Instrument: LC5

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
1-NITROPYRENE	5.20695	4.95	105	86.8 to 123.				
PYRENE	5.37659	4.95	109	92.5 to 125.				
BENZO(A)ANTHRACENE	5.50832	4.95	111	93.7 to 119.				
CHRYSENE	5.25774	4.95	106	88.3 to 120.				
BENZO(E)PYRENE	5.34828	4.9995	107	90.6 to 127.				
BENZO(B)FLUORANTHENE	5.41876	4.95	109	93.8 to 125.				
BENZO(K)FLUORANTHENE	5.26713	4.95	106	88.6 to 118.				
BENZO(A)PYRENE	5.58816	4.95	113	80.0 to 138.				
DIBENZ(A,H)ANTHRACENE	5.22483	4.95	106	86.7 to 122.				
BENZO(G,H,I)PERYLENE	5.30070	4.95	107	87.6 to 124.				
NAPHTHALENE	5.09776	4.95	103	88.5 to 120.				
INDENO-1,2,3-CD-PYRENE	5.43431	4.95	110	94.8 to 127.				
ACENAPHTHYLENE	5.19841	4.95	105	89.8 to 117.				
ACENAPHTHENE	5.26164	4.9995	105	88.1 to 121.				
FLUORENE	5.31388	4.9	108	92.7 to 123.				
PHENANTHRENE	5.28574	4.9	108	91.1 to 120.				
ANTHRACENE	6.18218	4.95	125	85.6 to 123.				
FLUORANTHENE	5.20915	4.9	106	92.0 to 120.				

L367526

(R62)

5120 North Shore Drive
North Little Rock, AR 72118
Phone: (501) 801-8500
Fax: (501) 801-8501
Website: www.cteh.com

Center for Toxicology and Environmental Health L.L.C.

SAMPLE CHAIN OF CUSTODY AND ANALYSIS REQUEST FORM

Page ___ of ___

	Send Report To:	Send Invoice To:
Name	CCONNOLLY@CTEH.com; MBERG@CTEH.com	Accounts Payable
Company	CTEH	CTEH
Address	2000 Anders Lane Kemah, Texas 77565	5120 North Shore Drive North Little Rock, AR 72118
Phone	(281)535-2834	(501)801-8500
Fax	(281)535-0232	(501)801-8501
e-mail	labresults@cteh.com	lraccounting@cteh.com

CTEH Project #: 107907

Turnaround Requested:
Same Day ___Next Day (24 hour) ___ Normal
X Other (Specify) 2 day

Complete Data Packet Requested ☒Yes ☐No

Lab Contact Information:
Galson Laboratories
6601 Kirkville Road
E. Syracuse, NY 13057

Client Sample Identification	Other Sample Identification	Sample Size	Units (Check one) X L ___ cm^2 ___	Sample Date	Sample Time (for non-air samples)	Initials	NIOSH 5506 PNAH	mod. EPA IP-10A PM10	Matrix A = air B = bulk S = soil SW = wipe T = tape W = water
HOTX0217PNAH001	16-0037337	969.17	L	02.17.16	NA	LA	X		A
HOTX0217PNAH002	16-0037333	947.33	L	02.17.16	NA	LA	X		A
HOTX0217PNAH003	16-0037363	972.05	L	02-17-16	NA	LA	X		A
HOTX0217PNAH004	16-0037345	0	L	02-17-16	NA	LA	X		A
HOTX0217PM001	16-0030836	1031.37	L	02.17.16	NA	LA		X	A
HOTX0217PM002	16-0030835	1083.54	L	02-17-16	NA	LA		X	A
HOTX0217PM003	16-0030834	1114.64	L	02-17-16	NA	LA		X	A
HOTX0217PM004	16-0030833	0	L	02-17-16	NA	LA		X	A

775675397573
Date:02/19/16
Shipper:FEDEX
Initials:
Prep:UNKNOWN

RELINQUISHED BY	DATE/TIME	RECEIVED BY	DATE/TIME
		Zach King	2/19/16 9:03

Rec'd intact & all accounted for? Yes or No ZK
Rec'd w/custody seals intact? Yes or No N/A ZK
Rec'd in light sensitive packaging? Yes or No ZK
Rec'd with ice pack? Yes or No ZK
Rec'd temperature compliant? Yes or No N/A ZK

Dr. Mike Berg
Center for Toxicology & Env. Health LLC
2000 Anders Lane
Kemah, TX 77565

February 23, 2016

DOH ELAP #11626 Account# 13913 Login# L367644
AIHA-LAP #100324

Dear Dr. Berg:

Enclosed are the analytical results for the samples received by our laboratory on February 20, 2016. All test results meet the quality control requirements of AIHA-LAP and NELAC unless otherwise stated in this report. All samples on the chain of custody were received in good condition unless otherwise noted.

Results in this report are based on the sampling data provided by the client and refer only to the samples as they were received at the laboratory. Unless otherwise requested, all samples will be discarded 14 days from the date of this report, with the exception of IOMs, which will be cleaned and disposed of after seven calendar days.

Current Scopes of Accreditation can be viewed at www.galsonlabs.com in the accreditations section under the "about Galson" tab.

Please contact Pamela Weaver at (888) 432-5227, if you would like any additional information regarding this report. Thank you for using SGS Galson Laboratories.

Sincerely,

SGS Galson Laboratories

Lisa Swab
Laboratory Director

Enclosure(s)

Galson Laboratories, Inc. is now a part of SGS, the world's leading inspection, verification, testing, and certification company. As part of our transition to SGS, you will begin to see some formatting changes with reports that will improve the presentation of data and allow for the transition to the new logo.

GALSON LABORATORIES

6601 Kirkville Road
East Syracuse, NY 13057
(315) 432-5227
FAX: (315) 437-0571
www.galsonlabs.com

LABORATORY ANALYSIS REPORT

Client : Center for Toxicology & Env. H
Site : NS
Project No. : 107907
Date Sampled : 18-FEB-16
Date Received : 20-FEB-16

Account No.: 13913
Login No. : L367644
Date Analyzed : 23-FEB-16
Report ID : 923149

Particulate Matter - PM10

Sample ID	Lab ID	Air Vol liter	Total mg	Conc mg/m3
HOTX0218PM001	L367644-1	995.6	1.0	1.0
HOTX0218PM002	L367644-2	1024.2	1.1	1.1
HOTX0218PM003	L367644-3	907.04	0.35	0.39
HOTX0218PM004	L367644-4	NA	<0.050	NA

COMMENTS: Please see attached lab footnote report for any applicable footnotes.

Level of quantitation: 0.050 mg
Analytical Method : mod. EPA Method IP-10A; Gravimetric
OSHA PEL : NA
Collection Media : PVC PW 37mm

Submitted by: PAH
Approved by : CRI
Date : 23-FEB-16
Supervisor: CRI

NYS DOH # : 11626
QC by: CRD

< -Less Than mg -Milligrams m3 -Cubic Meters kg -Kilograms NA -Not Applicable ND -Not Detected
> -Greater Than ug -Micrograms l -Liters NS -Not Specified ppm -Parts per Million

GALSON LABORATORIES

6601 Kirkville Road
East Syracuse, NY 13057
(315) 432-5227
FAX: (315) 437-0571
www.galsonlabs.com

LABORATORY FOOTNOTE REPORT

Client Name : Center for Toxicology & Env. Health LLC
Site :
Project No. : 107907

Date Sampled : 18-FEB-16
Date Received: 20-FEB-16
Date Analyzed: 23-FEB-16

Account No.: 13913
Login No. : L367644

Unless otherwise noted below, all quality control results associated with the samples were within established control limits or did not impact reported results.

WARNING: The sample(s) to which the findings recorded herein (the "Findings") relate was(were) drawn and / or provided by the Client or by a third party acting at the Client's direction. The Findings constitute no warranty of the sample's representativeness of any goods and strictly relate to the sample(s). The Company accepts no liability with regard to the origin or source from which the sample(s) is/are said to be extracted.

Unrounded results are carried through the calculations that yield the final result and the final result is rounded to the number of significant figures appropriate to the accuracy of the analytical method. Please note that results appearing in the columns preceeding the final result column may have been rounded and therefore, if carried through the calculations, may not yield an identical final result to the one reported.

The stated LOQs for each analyte represent the demonstrated LOQ concentrations prior to correction for desorption efficiency (if applicable).

Unless otherwise noted below, reported results have not been blank corrected for any field blank or method blank.

L367644 (Report ID: 923149):
SOPs: GRAV-SOP-5(15), GRAV-SOP-6(15)
Gravimetric analytical accuracy of the sampling media is -0.005 +/- 0.007 mg (average blank weight change +/- 95% confidence interval or k=2). The estimated uncertainly applies to the media, technology, and SOP(s) referenced in this report and does not account for any uncertainty associated with the sampling process.

<	-Less Than	mg	-Milligrams	m3	-Cubic Meters	kg	-Kilograms	ppm	-Parts per Million
>	-Greater Than	ug	-Micrograms	l	-Liters	NS	-Not Specified	ND	-Not Detected	NA	-Not Applicable

GRAVIMETRICS QC SUMMARY REPORT

Login: L367644
Matnum: 306
Matrix: PVC PW 37mm
Instrument Description: Mettler MX-5, M2
Method: mod. EPA Method IP-10A; Gravimetric
Reporting Level (mg): 0.050 mg
Analysis: Particulate Matter - PM10

Type	Sample #	Analysis Date	True Value (mg)	Found Value (mg)	Difference (mg)	Control Limit (mg)
CCV	WG339671-1	2/23/2016 07:11:00	19.943	19.941	-0.002	0.008
BLANK	WG339671-3	2/23/2016 07:13:00	13.219	13.211	-0.008	-0.010
CCV	WG339671-7	2/23/2016 07:23:00	19.943	19.943	0.000	0.008

Type	Sample #	Analysis Date	Sample Result (mg)	Duplicate Result (mg)	Abs. Val. of mg Difference	Control Limit (mg)
DUP	WG339671-4	2/23/2016 07:14:00	1.023	1.024	0.001	0.004

Dup Workgroup number	**Sample number**
WG339671-4	L367644-1

L3676644

5120 North Shore Drive
North Little Rock, AR 72118
Phone: (501) 801-8500
Fax: (501) 801-8501
Website: www.cteh.com

Center for Toxicology and Environmental Health L.L.C.

SAMPLE CHAIN OF CUSTODY AND ANALYSIS REQUEST FORM

R13e

Page __ of __

	Send Report To:	Send Invoice To:
Name	Mike Berg / Charles Connolly	Accounts Payable
Company	CTEH	CTEH
Address	5120 North Shore Drive North Little Rock, AR 72118	5120 North Shore Drive North Little Rock, AR 72118
Phone	(501)801-8500	(501)801-8500
Fax	(501)801-8501	(501)801-8501
e-mail	labresults@cteh.com mberg@cteh.com cconnolly@cteh.com	lraccounting@cteh.com

CTEH Project #: 107907

Turnaround Requested:
Same Day __Next Day (24 hour) __ Normal
__Other (Specify) 2 day TAT

Complete Data Packet Requested ☐Yes ☒No

Lab Contact Information:
Galson Laboratories
6601 Kirkville Road
E. Syracuse, NY 13057

Client Sample Identification	Other Sample Identification	Sample Size	Units (Check one) X L __cm² MIN	Sample Date	Sample Time (for non-air samples)	Initials	PM10 method EPA IP-10A	
HOTX0218PM0001	AS08	995.6	L	2·18·16		JA	X	A
HOTX0218PM0002	AS09	1024.2	L	2·18·16		"	X	A
HOTX0218PM0003	AS05	907.04	L	2·18·16		"	X	A
HOTX0218PM0004	Blank	0	L	2·18·16		"	X	A

Matrix
A = air
B = bulk
S = soil
SW = wipe
T = tape
W = water

Rec'd intact & all accounted for? (Yes) or No
Rec'd w/custody seals intact? (Yes) or No
Rec'd in light sensitive packaging? Yes or (No) NA
Rec'd with ice pack? Yes or (No) NA
Rec'd temperature compliant? (Yes) or No

RELINQUISHED BY	DATE/TIME	RECEIVED BY	DATE/TIME	COMMENTS
Derek Kliethermes	2/19/16	Fed Ex	2/19/16	
		Gretchen B	2/20/16 930	

Dr. Mike Berg
Center for Toxicology & Env. Health LLC
2000 Anders Lane
Kemah, TX 77565

February 24, 2016

DOH ELAP #11626 Account# 13913 Login# L367645
AIHA-LAP #100324

Dear Dr. Berg:

Enclosed are the analytical results for the samples received by our laboratory on February 20, 2016. All test results meet the quality control requirements of AIHA-LAP and NELAC unless otherwise stated in this report. All samples on the chain of custody were received in good condition unless otherwise noted.

Results in this report are based on the sampling data provided by the client and refer only to the samples as they were received at the laboratory. Unless otherwise requested, all samples will be discarded 14 days from the date of this report, with the exception of IOMs, which will be cleaned and disposed of after seven calendar days.

Current Scopes of Accreditation can be viewed at www.galsonlabs.com in the accreditations section under the "about Galson" tab.

Please contact Pamela Weaver at (888) 432-5227, if you would like any additional information regarding this report. Thank you for using SGS Galson Laboratories.

Sincerely,

SGS Galson Laboratories

Lisa Swab
Laboratory Director

Enclosure(s)

Galson Laboratories, Inc. is now a part of SGS, the world's leading inspection, verification, testing, and certification company. As part of our transition to SGS, you will begin to see some formatting changes with reports that will improve the presentation of data and allow for the transition to the new logo.

SGS GALSON LABORATORIES

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East Syracuse, NY 13057
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FAX: (315) 437-0571
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LABORATORY ANALYSIS REPORT

Client : Center for Toxicology & Env. H
Site : NS
Project No. : 107907
Date Sampled : 18-FEB-16
Date Received : 20-FEB-16

Account No.: 13913
Login No. : L367645
Date Analyzed : 22-FEB-16
Report ID : 923588

Client ID : HOTX0218PNAH001 **Lab ID : L367645-1** **Air Volume : 967.4 Liter**
Date Sampled : 02/18/16 **Date Analyzed : 02/22/16**

Parameter	LOQ ug	Filter ug	Front ug	Back ug	Total ug	Conc mg/m3	ppm
1-Nitropyrene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Acenaphthene	0.3	<0.3	<0.3	<0.3	<0.3	<0.0003	<0.00005
Acenaphthylene	0.3	<0.3	<0.3	<0.3	<0.3	<0.0003	<0.00005
Anthracene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00005
Benzo(a)anthracene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Benzo(a)pyrene	0.3	<0.3	<0.3	<0.3	<0.5	<0.0005	<0.00005
Benzo(b)fluoranthene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Benzo(e)pyrene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0005	<0.00004
Benzo(g,h,i)perylene	0.3	<0.3	<0.3	<0.3	<0.5	<0.0005	<0.00005
Benzo(k)fluoranthene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Chrysene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Dibenz(a,h)anthracene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Fluoranthene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00005
Fluorene	0.3	<0.3	<0.3	<0.3	<0.3	<0.0003	<0.00005
Indeno(1,2,3-cd)pyrene	0.3	<0.3	<0.3	<0.3	<0.5	<0.0005	<0.00004

COMMENTS: Please see attached lab footnote report for any applicable footnotes.

Collection Media: FilterTube
Date : 24-FEB-16

Submitted by: PGM
NYS DOH # : 11626

Approved by: nkp
Supervisor: MWJ QC by: CRD

< -Less Than mg -Milligrams m3 -Cubic Meters kg -Kilograms NA -Not Applicable ND -Not Detected
> -Greater Than ug -Micrograms l -Liters NS -Not Specified ppm -Parts per Million LOQ-Limit of Quantitation

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LABORATORY ANALYSIS REPORT

Client : Center for Toxicology & Env. H
Site : NS
Project No. : 107907
Date Sampled : 18-FEB-16
Date Received : 20-FEB-16

Account No.: 13913
Login No. : L367645
Date Analyzed : 22-FEB-16
Report ID : 923588

Client ID : HOTX0218PNAH001 **Lab ID : L367645-1** **Air Volume : 967.4 Liter**
Date Sampled : 02/18/16 **Date Analyzed : 02/22/16**

Parameter	LOQ ug	Filter ug	Front ug	Back ug	Total ug	Conc mg/m3	ppm
Naphthalene	0.3	<0.3	<0.3	<0.3	<0.3	<0.0003	<0.00006
Phenanthrene	0.3	<0.3	<0.3	<0.3	<0.3	<0.0004	<0.00005
Pyrene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00005

COMMENTS: Please see attached lab footnote report for any applicable footnotes.

Collection Media: FilterTube
Date : 24-FEB-16

Submitted by: PGM
NYS DOH # : 11626

Approved by: nkp
Supervisor: MWJ QC by: CRD

< -Less Than mg -Milligrams m3 -Cubic Meters kg -Kilograms NA -Not Applicable ND -Not Detected
> -Greater Than ug -Micrograms l -Liters NS -Not Specified ppm -Parts per Million LOQ-Limit of Quantitation

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LABORATORY ANALYSIS REPORT

Client : Center for Toxicology & Env. H
Site : NS
Project No. : 107907
Date Sampled : 18-FEB-16
Date Received : 20-FEB-16

Account No.: 13913
Login No. : L367645
Date Analyzed : 22-FEB-16
Report ID : 923588

Client ID : HOTX0218PNAH002 **Lab ID : L367645-2** **Air Volume : 959.3 Liter**
Date Sampled : 02/18/16 **Date Analyzed : 02/22/16**

Parameter	LOQ ug	Filter ug	Front ug	Back ug	Total ug	Conc mg/m3	ppm
1-Nitropyrene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Acenaphthene	0.3	<0.3	<0.3	<0.3	<0.3	<0.0003	<0.00006
Acenaphthylene	0.3	<0.3	<0.3	<0.3	<0.3	<0.0003	<0.00005
Anthracene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00005
Benzo(a)anthracene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Benzo(a)pyrene	0.3	<0.3	<0.3	<0.3	<0.5	<0.0005	<0.00005
Benzo(b)fluoranthene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Benzo(e)pyrene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0005	<0.00004
Benzo(g,h,i)perylene	0.3	<0.3	<0.3	<0.3	<0.5	<0.0005	<0.00005
Benzo(k)fluoranthene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Chrysene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Dibenz(a,h)anthracene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Fluoranthene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00005
Fluorene	0.3	<0.3	<0.3	<0.3	<0.3	<0.0003	<0.00005
Indeno(1,2,3-cd)pyrene	0.3	<0.3	<0.3	<0.3	<0.5	<0.0005	<0.00004

COMMENTS: Please see attached lab footnote report for any applicable footnotes.

Collection Media: FilterTube
Date : 24-FEB-16

Submitted by: PGM
NYS DOH # : 11626

Approved by: nkp
Supervisor: MWJ QC by: CRD

< -Less Than mg -Milligrams m3 -Cubic Meters kg -Kilograms NA -Not Applicable ND -Not Detected
> -Greater Than ug -Micrograms l -Liters NS -Not Specified ppm -Parts per Million LOQ-Limit of Quantitation

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LABORATORY ANALYSIS REPORT

Client : Center for Toxicology & Env. H
Site : NS
Project No. : 107907
Date Sampled : 18-FEB-16
Date Received : 20-FEB-16

Account No.: 13913
Login No. : L367645
Date Analyzed : 22-FEB-16
Report ID : 923588

Client ID : HOTX0218PNAH002 **Lab ID : L367645-2** **Air Volume : 959.3 Liter**
Date Sampled : 02/18/16 **Date Analyzed : 02/22/16**

Parameter	LOQ ug	Filter ug	Front ug	Back ug	Total ug	Conc mg/m3	ppm
Naphthalene	0.3	<0.3	<0.3	<0.3	<0.3	<0.0003	<0.00006
Phenanthrene	0.3	<0.3	<0.3	<0.3	<0.3	<0.0004	<0.00005
Pyrene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00005

COMMENTS: Please see attached lab footnote report for any applicable footnotes.

Collection Media: FilterTube
Date : 24-FEB-16

Submitted by: PGM
NYS DOH # : 11626

Approved by: nkp
Supervisor: MWJ QC by: CRD

< -Less Than mg -Milligrams m3 -Cubic Meters kg -Kilograms NA -Not Applicable ND -Not Detected
> -Greater Than ug -Micrograms l -Liters NS -Not Specified ppm -Parts per Million LOQ-Limit of Quantitation

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LABORATORY ANALYSIS REPORT

Client : Center for Toxicology & Env. H
Site : NS
Project No. : 107907
Date Sampled : 18-FEB-16
Date Received : 20-FEB-16

Account No.: 13913
Login No. : L367645
Date Analyzed : 22-FEB-16
Report ID : 923588

Client ID : HOTX0218PNAH003 **Lab ID : L367645-3** **Air Volume : 960.7 Liter**
Date Sampled : 02/18/16 **Date Analyzed : 02/22/16**

Parameter	LOQ ug	Filter ug	Front ug	Back ug	Total ug	Conc mg/m3	ppm
1-Nitropyrene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Acenaphthene	0.3	<0.3	<0.3	<0.3	<0.3	<0.0003	<0.00006
Acenaphthylene	0.3	<0.3	<0.3	<0.3	<0.3	<0.0003	<0.00005
Anthracene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00005
Benzo(a)anthracene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Benzo(a)pyrene	0.3	<0.3	<0.3	<0.3	<0.5	<0.0005	<0.00005
Benzo(b)fluoranthene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Benzo(e)pyrene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0005	<0.00004
Benzo(g,h,i)perylene	0.3	<0.3	<0.3	<0.3	<0.5	<0.0005	<0.00005
Benzo(k)fluoranthene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Chrysene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Dibenz(a,h)anthracene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Fluoranthene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00005
Fluorene	0.3	<0.3	<0.3	<0.3	<0.3	<0.0003	<0.00005
Indeno(1,2,3-cd)pyrene	0.3	<0.3	<0.3	<0.3	<0.5	<0.0005	<0.00004

COMMENTS: Please see attached lab footnote report for any applicable footnotes.

Collection Media: FilterTube
Date : 24-FEB-16

Submitted by: PGM
NYS DOH # : 11626

Approved by: nkp
Supervisor: MWJ QC by: CRD

< -Less Than mg -Milligrams m3 -Cubic Meters kg -Kilograms NA -Not Applicable ND -Not Detected
> -Greater Than ug -Micrograms l -Liters NS -Not Specified ppm -Parts per Million LOQ-Limit of Quantitation

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LABORATORY ANALYSIS REPORT

Client : Center for Toxicology & Env. H
Site : NS
Project No. : 107907
Date Sampled : 18-FEB-16
Date Received : 20-FEB-16

Account No.: 13913
Login No. : L367645
Date Analyzed : 22-FEB-16
Report ID : 923588

Client ID : HOTX0218PNAH003 **Lab ID : L367645-3** **Air Volume : 960.7 Liter**
Date Sampled : 02/18/16 **Date Analyzed : 02/22/16**

Parameter	LOQ ug	Filter ug	Front ug	Back ug	Total ug	Conc mg/m3	ppm
Naphthalene	0.3	<0.3	<0.3	<0.3	<0.3	<0.0003	<0.00006
Phenanthrene	0.3	<0.3	<0.3	<0.3	<0.3	<0.0004	<0.00005
Pyrene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00005

COMMENTS: Please see attached lab footnote report for any applicable footnotes.

Collection Media: FilterTube
Date : 24-FEB-16

Submitted by: PGM
NYS DOH # : 11626

Approved by: nkp
Supervisor: MWJ QC by: CRD

< -Less Than mg -Milligrams m3 -Cubic Meters kg -Kilograms NA -Not Applicable ND -Not Detected
> -Greater Than ug -Micrograms l -Liters NS -Not Specified ppm -Parts per Million LOQ-Limit of Quantitation

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LABORATORY ANALYSIS REPORT

Client : Center for Toxicology & Env. H
Site : NS
Project No. : 107907
Date Sampled : 18-FEB-16
Date Received : 20-FEB-16

Account No.: 13913
Login No. : L367645
Date Analyzed : 22-FEB-16
Report ID : 923588

Client ID : HOTX0218PNAH004 **Lab ID : L367645-4** **Air Volume : NA**
Date Sampled : 02/18/16 **Date Analyzed : 02/22/16**

Parameter	LOQ ug	Filter ug	Front ug	Back ug	Total ug	Conc mg/m3	ppm
1-Nitropyrene	0.3	<0.3	<0.3	<0.3	<0.4	NA	NA
Acenaphthene	0.3	<0.3	<0.3	<0.3	<0.3	NA	NA
Acenaphthylene	0.3	<0.3	<0.3	<0.3	<0.3	NA	NA
Anthracene	0.3	<0.3	<0.3	<0.3	<0.4	NA	NA
Benzo(a)anthracene	0.3	<0.3	<0.3	<0.3	<0.4	NA	NA
Benzo(a)pyrene	0.3	<0.3	<0.3	<0.3	<0.5	NA	NA
Benzo(b)fluoranthene	0.3	<0.3	<0.3	<0.3	<0.4	NA	NA
Benzo(e)pyrene	0.3	<0.3	<0.3	<0.3	<0.4	NA	NA
Benzo(g,h,i)perylene	0.3	<0.3	<0.3	<0.3	<0.5	NA	NA
Benzo(k)fluoranthene	0.3	<0.3	<0.3	<0.3	<0.4	NA	NA
Chrysene	0.3	<0.3	<0.3	<0.3	<0.4	NA	NA
Dibenz(a,h)anthracene	0.3	<0.3	<0.3	<0.3	<0.4	NA	NA
Fluoranthene	0.3	<0.3	<0.3	<0.3	<0.4	NA	NA
Fluorene	0.3	<0.3	<0.3	<0.3	<0.3	NA	NA
Indeno(1,2,3-cd)pyrene	0.3	<0.3	<0.3	<0.3	<0.5	NA	NA

COMMENTS: Please see attached lab footnote report for any applicable footnotes.

Collection Media: FilterTube
Date : 24-FEB-16

Submitted by: PGM
NYS DOH # : 11626

Approved by: nkp
Supervisor: MWJ QC by: CRD

< -Less Than mg -Milligrams m3 -Cubic Meters kg -Kilograms NA -Not Applicable ND -Not Detected
> -Greater Than ug -Micrograms l -Liters NS -Not Specified ppm -Parts per Million LOQ-Limit of Quantitation

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LABORATORY ANALYSIS REPORT

Client : Center for Toxicology & Env. H
Site : NS
Project No. : 107907
Date Sampled : 18-FEB-16
Date Received : 20-FEB-16

Account No.: 13913
Login No. : L367645
Date Analyzed : 22-FEB-16
Report ID : 923588

Client ID : HOTX0218PNAH004 **Lab ID : L367645-4** **Air Volume : NA**
Date Sampled : 02/18/16 **Date Analyzed : 02/22/16**

Parameter	LOQ ug	Filter ug	Front ug	Back ug	Total ug	Conc mg/m3	ppm
Naphthalene	0.3	<0.3	<0.3	<0.3	<0.3	NA	NA
Phenanthrene	0.3	<0.3	<0.3	<0.3	<0.3	NA	NA
Pyrene	0.3	<0.3	<0.3	<0.3	<0.4	NA	NA

COMMENTS: Please see attached lab footnote report for any applicable footnotes.

Collection Media: FilterTube
Date : 24-FEB-16

Submitted by: PGM
NYS DOH # : 11626

Approved by: nkp
Supervisor: MWJ QC by: CRD

< -Less Than mg -Milligrams m3 -Cubic Meters kg -Kilograms NA -Not Applicable ND -Not Detected
> -Greater Than ug -Micrograms l -Liters NS -Not Specified ppm -Parts per Million LOQ-Limit of Quantitation

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LABORATORY FOOTNOTE REPORT

Client Name : Center for Toxicology & Env. Health LLC
Site :
Project No. : 107907

Date Sampled : 18-FEB-16 Account No.: 13913
Date Received: 20-FEB-16 Login No. : L367645
Date Analyzed: 22-FEB-16

Unless otherwise noted below, all quality control results associated with the samples were within established control limits or did not impact reported results.

WARNING: The sample(s) to which the findings recorded herein (the "Findings") relate was(were) drawn and / or provided by the Client or by a third party acting at the Client's direction. The Findings constitute no warranty of the sample's representativeness of any goods and strictly relate to the sample(s). The Company accepts no liability with regard to the origin or source from which the sample(s) is/are said to be extracted.

Unrounded results are carried through the calculations that yield the final result and the final result is rounded to the number of significant figures appropriate to the accuracy of the analytical method. Please note that results appearing in the columns preceeding the final result column may have been rounded and therefore, if carried through the calculations, may not yield an identical final result to the one reported.

The stated LOQs for each analyte represent the demonstrated LOQ concentrations prior to correction for desorption efficiency (if applicable).

Unless otherwise noted below, reported results have not been blank corrected for any field blank or method blank.

L367645 (Report ID: 923588):
1-Nitropyrene - Total ug corrected for a desorption efficiency of 99%.
Acenaphthene - Total ug corrected for a desorption efficiency of 102%.
Acenaphthylene - Total ug corrected for a desorption efficiency of 102%.
Anthracene - Total ug corrected for a desorption efficiency of 98%.
Benzo(a)anthracene - Total ug corrected for a desorption efficiency of 98%.
Benzo(a)pyrene - Total ug corrected for a desorption efficiency of 98%.
Benzo(b)fluoranthene - Total ug corrected for a desorption efficiency of 97%.
Benzo(e)pyrene - Total ug corrected for a desorption efficiency of 98%.
Benzo(g,h,i)perylene - Total ug corrected for a desorption efficiency of 96%.
Benzo(k)fluoranthene - Total ug corrected for a desorption efficiency of 97%.
Chrysene - Total ug corrected for a desorption efficiency of 98%.
Dibenz(a,h)anthracene - Total ug corrected for a desorption efficiency of 99%.
Fluoranthene - Total ug corrected for a desorption efficiency of 98%.
Fluorene - Total ug corrected for a desorption efficiency of 97%.
Indeno(1,2,3-cd)pyrene - Total ug corrected for a desorption efficiency of 99%.
Naphthalene - Total ug corrected for a desorption efficiency of 99%.

<	-Less Than	mg	-Milligrams	m3	-Cubic Meters	kg	-Kilograms	ppm	-Parts per Million
>	-Greater Than	ug	-Micrograms	l	-Liters	NS	-Not Specified	ND	-Not Detected	NA	-Not Applicable

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LABORATORY FOOTNOTE REPORT

Client Name : Center for Toxicology & Env. Health LLC
Site :
Project No. : 107907

Date Sampled : 18-FEB-16 Account No.: 13913
Date Received: 20-FEB-16 Login No. : L367645
Date Analyzed: 22-FEB-16

L367645 (Report ID: 923588):
Phenanthrene - Total ug corrected for a desorption efficiency of 98%.
Pyrene - Total ug corrected for a desorption efficiency of 99%.
SOPs: il-n5506(12)

L367645 (Report ID: 923588):
Accuracy and mean recovery data presented below is based on a 95% confidence interval (k=2).
The estimated uncertainty applies to the media, technology, and SOP referenced in this report
and does not account for the uncertainty associated with the sampling process.

Parameter	Accuracy	Mean Recovery
1-Nitropyrene	+/-16%	107%
Acenaphthene	+/-14.4%	104%
Acenaphthylene	+/-11.7%	100%
Anthracene	+/-15.7%	114%
Benzo(a)anthracene	+/-16.1%	110%
Benzo(a)pyrene	+/-26%	115%
Benzo(b)fluoranthene	+/-19%	113%
Benzo(e)pyrene	+/-19.2%	111%
Benzo(g,h,i)perylene	+/-20.2%	112%
Benzo(k)fluoranthene	+/-15.5%	109%
Chrysene	+/-14%	108%
Dibenz(a,h)anthracene	+/-15.6%	103%
Fluoranthene	+/-16.2%	110%
Fluorene	+/-12.4%	109%
Indeno(1,2,3-cd)pyrene	+/-19.5%	113%
Naphthalene	+/-13.3%	105%
Phenanthrene	+/-13.4%	108%
Pyrene	+/-14.6%	112%

< -Less Than mg -Milligrams m3 -Cubic Meters kg -Kilograms ppm -Parts per Million
> -Greater Than ug -Micrograms l -Liters NS -Not Specified ND -Not Detected NA -Not Applicable

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LABORATORY FOOTNOTE REPORT

Client Name : Center for Toxicology & Env. Health LLC
Site :
Project No. : 107907

Date Sampled : 18-FEB-16 Account No.: 13913
Date Received: 20-FEB-16 Login No. : L367645
Date Analyzed: 22-FEB-16

Parameter	Method	PEL
1-Nitropyrene	mod. NIOSH 5506; HPLC/UV	NA
Acenaphthene	mod. NIOSH 5506; HPLC/UV	NA
Acenaphthylene	mod. NIOSH 5506; HPLC/UV	NA
Anthracene	mod. NIOSH 5506; HPLC/UV	NA
Benzo(a)anthracene	mod. NIOSH 5506; HPLC/UV	NA
Benzo(a)pyrene	mod. NIOSH 5506; HPLC/UV	0.2 mg/m3 (TWA)
Benzo(b)fluoranthene	mod. NIOSH 5506; HPLC/UV	NA
Benzo(e)pyrene	mod. NIOSH 5506; HPLC/UV	NA
Benzo(g,h,i)perylene	mod. NIOSH 5506; HPLC/UV	NA
Benzo(k)fluoranthene	mod. NIOSH 5506; HPLC/UV	NA
Chrysene	mod. NIOSH 5506; HPLC/UV	0.2 mg/m3 (TWA)
Dibenz(a,h)anthracene	mod. NIOSH 5506; HPLC/UV	NA
Fluoranthene	mod. NIOSH 5506; HPLC/UV	NA
Fluorene	mod. NIOSH 5506; HPLC/UV	NA
Indeno(1,2,3-cd)pyrene	mod. NIOSH 5506; HPLC/UV	NA
Naphthalene	mod. NIOSH 5506; HPLC/UV	10 ppm (TWA)
Phenanthrene	mod. NIOSH 5506; HPLC/UV	NA
Pyrene	mod. NIOSH 5506; HPLC/UV	NA

< -Less Than mg -Milligrams m3 -Cubic Meters kg -Kilograms ppm -Parts per Million
> -Greater Than ug -Micrograms l -Liters NS -Not Specified ND -Not Detected NA -Not Applicable

Sample: WG339577-1 **Spikelot:** IH607685-2
QC Type: DLS **Raw File:**
Analysis date 02/22/16 13:08:35 **Approval Status:** YES
Instrument: LC5

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
NAPHTHALENE	.087343	.099	88.2	70.0 to 130.				
BENZO(A)ANTHRACENE	.079964	.099	80.8	70.0 to 130.				
CHRYSENE	.083296	.099	84.1	70.0 to 130.				
BENZO(E)PYRENE	.101501	.1	102	70.0 to 130.				
BENZO(B)FLUORANTHENE	.104427	.099	105	70.0 to 130.				
BENZO(K)FLUORANTHENE	.083568	.099	84.4	70.0 to 130.				
BENZO(A)PYRENE	.091164	.099	92.1	70.0 to 130.				
DIBENZ(A,H)ANTHRACENE	.094777	.099	95.7	70.0 to 130.				
BENZO(G,H,I)PERYLENE	.101364	.099	102	70.0 to 130.				
INDENO-1,2,3-CD-PYRENE	.079067	.099	79.9	70.0 to 130.				
ACENAPHTHYLENE	.092321	.099	93.3	70.0 to 130.				
ACENAPHTHENE	.090890	.1	90.9	70.0 to 130.				
FLUORENE	.095934	.098	97.9	70.0 to 130.				
PHENANTHRENE	.094855	.098	96.8	70.0 to 130.				
ANTHRACENE	.117759	.099	119	70.0 to 130.				
FLUORANTHENE	.093629	.098	95.5	70.0 to 130.				
1-NITROPYRENE	.076679	.099	77.5	70.0 to 130.				
PYRENE	.070676	.099	71.4	70.0 to 130.				

Sample: WG339577-2 **Spikelot:** IH607685-1
QC Type: CCV **Raw File:**
Analysis date 02/22/16 13:28:32 **Approval Status:** YES
Instrument: LC5

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
NAPHTHALENE	4.75574	4.95	96.1	88.5 to 120.				
PYRENE	4.99917	4.95	101	92.5 to 125.				
BENZO(A)ANTHRACENE	5.02697	4.95	102	93.7 to 119.				
CHRYSENE	4.85688	4.95	98.1	88.3 to 120.				
BENZO(E)PYRENE	4.95489	4.9995	99.1	90.6 to 127.				
BENZO(B)FLUORANTHENE	5.01390	4.95	101	93.8 to 125.				
BENZO(K)FLUORANTHENE	4.90023	4.95	99	88.6 to 118.				
BENZO(A)PYRENE	5.17475	4.95	105	80.0 to 138.				
DIBENZ(A,H)ANTHRACENE	4.82012	4.95	97.4	86.7 to 122.				
BENZO(G,H,I)PERYLENE	4.92790	4.95	99.6	87.6 to 124.				
INDENO-1,2,3-CD-PYRENE	5.05804	4.95	102	94.8 to 127.				

Sample: WG339577-2 **Spikelot:** IH607685-1
QC Type: CCV **Raw File:**
Analysis date 02/22/16 13:28:32 **Approval Status:** YES
Instrument: LC5

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
ACENAPHTHYLENE	4.85381	4.95	98.1	89.8 to 117.				
ACENAPHTHENE	4.90308	4.9995	98.1	88.1 to 121.				
FLUORENE	4.94012	4.9	101	92.7 to 123.				
PHENANTHRENE	4.90440	4.9	100	91.1 to 120.				
ANTHRACENE	5.75698	4.95	116	85.6 to 123.				
FLUORANTHENE	4.82772	4.9	98.5	92.0 to 120.				
1-NITROPYRENE	4.77273	4.95	96.4	86.8 to 123.				

Sample: WG339573-2 **Spikelot:** NA
QC Type: MBLANK **Raw File:**
Analysis date 02/22/16 14:28:26 **Approval Status:** YES
Instrument: LC5

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
ACENAPHTHENE(FRONT)	0	<.3						
ACENAPHTHENE(BACK)	0	<.3						
ACENAPHTHYLENE(FRONT)	0	<.3						
ACENAPHTHYLENE(BACK)	0	<.3						
ANTHRACENE(FRONT)	0	<.3						
ANTHRACENE(BACK)	0	<.3						
BENZO(A)ANTHRACENE(FRONT)	0	<.3						
BENZO(A)ANTHRACENE(BACK)	0	<.3						
BENZO(A)PYRENE(FRONT)	0	<.3						
BENZO(A)PYRENE(BACK)	0	<.3						
BENZO(B)FLUORANTHENE(FRONT)	0	<.3						
BENZO(B)FLUORANTHENE(BACK)	0	<.3						
BENZO(E)PYRENE(FRONT)	0	<.3						
BENZO(E)PYRENE(BACK)	0	<.3						
BENZO(G,H,I)PERYLENE(FRONT)	0	<.3						
BENZO(G,H,I)PERYLENE(BACK)	0	<.3						
BENZO(K)FLUORANTHENE(FRONT)	0	<.3						
BENZO(K)FLUORANTHENE(BACK)	0	<.3						
CHRYSENE(FRONT)	0	<.3						
CHRYSENE(BACK)	0	<.3						
DIBENZ(A,H)ANTHRACENE(FRONT)	0	<.3						
DIBENZ(A,H)ANTHRACENE(BACK)	0	<.3						

Sample: WG339573-2 **Spikelot:** NA
QC Type: MBLANK **Raw File:**
Analysis date 02/22/16 14:28:26 **Approval Status:** YES
Instrument: LC5

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
FLUORANTHENE(FRONT)	0	<.3						
FLUORANTHENE(BACK)	0	<.3						
FLUORENE(FRONT)	0	<.3						
FLUORENE(BACK)	0	<.3						
INDENO-1,2,3-CD-PYRENE(FRONT)	0	<.3						
INDENO-1,2,3-CD-PYRENE(BACK)	0	<.3						
NAPHTHALENE(FRONT)	0	<.3						
NAPHTHALENE(BACK)	0	<.3						
1-NITROPYRENE(FRONT)	0	<.3						
1-NITROPYRENE(BACK)	0	<.3						
PHENANTHRENE(FRONT)	0	<.3						
PHENANTHRENE(BACK)	0	<.3						
PYRENE(FRONT)	0	<.3						
PYRENE(BACK)	0	<.3						

Sample: WG339573-3 **Spikelot:** IH607685
QC Type: BS **Raw File:**
Analysis date 02/22/16 15:08:22 **Approval Status:** YES
Instrument: LC5

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
NAPHTHALENE	5.26578	4.95	106		107	85.2 to 125		
BENZO(A)ANTHRACENE	5.66143	4.95	114		117	85.3 to 134		
CHRYSENE	5.42399	4.95	110		112	86.7 to 129		
BENZO(E)PYRENE	5.52465	4.9995	111		113	82.4 to 140		
BENZO(B)FLUORANTHENE	5.62798	4.95	114		117	85.0 to 142		
BENZO(K)FLUORANTHENE	5.52174	4.95	112		115	85.3 to 132		
BENZO(A)PYRENE	5.86152	4.95	118		121	76.5 to 154		
DIBENZ(A,H)ANTHRACENE	5.33812	4.95	108		109	79.8 to 127		
BENZO(G,H,I)PERYLENE	5.50578	4.95	111		116	81.7 to 142		
INDENO-1,2,3-CD-PYRENE	5.61564	4.95	113		115	83.3 to 142		
ACENAPHTHYLENE	5.62707	4.95	114		111	82.8 to 118		
ACENAPHTHENE	5.48566	4.9995	110		108	82.3 to 125		
FLUORENE	5.48559	4.9	112		115	90.7 to 128		
PHENANTHRENE	5.45408	4.9	111		114	87.8 to 128		
ANTHRACENE	6.40579	4.95	129		132	90.2 to 137		

Sample: WG339573-3 **Spikelot:** IH607685
QC Type: BS **Raw File:**
Analysis date 02/22/16 15:08:22 **Approval Status:** YES
Instrument: LC5

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
FLUORANTHENE	5.37382	4.9	110		112	85.5 to 134		
1-NITROPYRENE	5.31281	4.95	107		108	82.7 to 131		
PYRENE	5.52792	4.95	112		113	89.7 to 134		

Sample: WG339573-4 **Spikelot:** IH607685
QC Type: BSD **Raw File:**
Analysis date 02/22/16 15:28:20 **Approval Status:** YES
Instrument: LC5

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
NAPHTHALENE	5.41773	4.95	109		111	85.2 to 125	-3.67	-10 to 10.0
BENZO(A)ANTHRACENE	5.72965	4.95	116		118	85.3 to 134	-.851	-10 to 10.0
CHRYSENE	5.58341	4.95	113		115	86.7 to 129	-2.64	-10 to 10.0
BENZO(E)PYRENE	5.63154	4.9995	113		115	82.4 to 140	-1.75	-10 to 10.0
BENZO(B)FLUORANTHENE	5.70258	4.95	115		119	85.0 to 142	-1.69	-10 to 10.0
BENZO(K)FLUORANTHENE	5.67451	4.95	115		118	85.3 to 132	-2.58	-10 to 10.0
BENZO(A)PYRENE	6.11578	4.95	124		126	76.5 to 154	-4.05	-10 to 10.0
DIBENZ(A,H)ANTHRACENE	5.47550	4.95	111		112	79.8 to 127	-2.71	-11.5 to 9.87
BENZO(G,H,I)PERYLENE	5.66266	4.95	114		119	81.7 to 142	-2.55	-10 to 10.0
INDENO-1,2,3-CD-PYRENE	5.79931	4.95	117		118	83.3 to 142	-2.58	-10 to 10.0
ACENAPHTHYLENE	5.59226	4.95	113		111	82.8 to 118	0	-10 to 10.0
ACENAPHTHENE	5.61471	4.9995	112		110	82.3 to 125	-1.83	-10 to 10.0
FLUORENE	5.65061	4.9	115		119	90.7 to 128	-3.42	-10 to 10.0
PHENANTHRENE	5.58678	4.9	114		116	87.8 to 128	-1.74	-10 to 10.0
ANTHRACENE	6.52438	4.95	132		134	90.2 to 137	-1.5	-10 to 10.0
FLUORANTHENE	5.49391	4.9	112		114	85.5 to 134	-1.77	-10 to 10.0
1-NITROPYRENE	5.43069	4.95	110		111	82.7 to 131	-2.74	-10 to 10.0
PYRENE	5.66378	4.95	114		116	89.7 to 134	-2.62	-10.4 to 8.90

Sample: WG339573-5 **Spikelot:** IH607685
QC Type: BS **Raw File:**
Analysis date 02/22/16 15:48:20 **Approval Status:** YES
Instrument: LC5

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
NAPHTHALENE	5.13423	4.95	104		113	85.2 to 125		
BENZO(A)ANTHRACENE	4.71632	4.95	95.3		122	85.3 to 134		

Sample: WG339573-5 **Spikelot:** IH607685
QC Type: BS **Raw File:**
Analysis date 02/22/16 15:48:20 **Approval Status:** YES
Instrument: LC5

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
CHRYSENE	4.53252	4.95	91.6		119	86.7 to 129		
BENZO(E)PYRENE	4.20784	4.9995	84.2		124	82.4 to 140		
BENZO(B)FLUORANTHENE	4.47058	4.95	90.3		125	85.0 to 142		
BENZO(K)FLUORANTHENE	4.38351	4.95	88.6		123	85.3 to 132		
BENZO(A)PYRENE	4.44300	4.95	89.8		136	76.5 to 154		
DIBENZ(A,H)ANTHRACENE	3.99511	4.95	80.7		112	79.8 to 127		
BENZO(G,H,I)PERYLENE	3.48518	4.95	70.4		119	81.7 to 142		
INDENO-1,2,3-CD-PYRENE	3.87857	4.95	78.4		122	83.3 to 142		
ACENAPHTHYLENE	5.03585	4.95	102		106	82.8 to 118		
ACENAPHTHENE	5.14881	4.9995	103		114	82.3 to 125		
FLUORENE	5.20107	4.9	106		118	90.7 to 128		
PHENANTHRENE	5.05891	4.9	103		120	87.8 to 128		
ANTHRACENE	5.85545	4.95	118		139	90.2 to 137		
FLUORANTHENE	4.84803	4.9	98.9		119	85.5 to 134		
1-NITROPYRENE	4.79389	4.95	96.8		115	82.7 to 131		
PYRENE	4.79556	4.95	96.9		118	89.7 to 134		

Sample: WG339573-6 **Spikelot:** IH607685
QC Type: BSD **Raw File:**
Analysis date 02/22/16 16:08:19 **Approval Status:** YES
Instrument: LC5

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
NAPHTHALENE	5.11790	4.95	103		112	85.2 to 125	.889	-10 to 10.0
BENZO(A)ANTHRACENE	4.75727	4.95	96.1		123	85.3 to 134	-.816	-10 to 10.0
CHRYSENE	4.52828	4.95	91.5		119	86.7 to 129	0	-10 to 10.0
BENZO(E)PYRENE	4.06599	4.9995	81.3		120	82.4 to 140	3.28	-10 to 10.0
BENZO(B)FLUORANTHENE	4.40807	4.95	89.1		124	85.0 to 142	.803	-10 to 10.0
BENZO(K)FLUORANTHENE	4.42852	4.95	89.5		124	85.3 to 132	-.81	-10 to 10.0
BENZO(A)PYRENE	4.44959	4.95	89.9		136	76.5 to 154	0	-10 to 10.0
DIBENZ(A,H)ANTHRACENE	3.91596	4.95	79.1		110	79.8 to 127	1.8	-11.5 to 9.87
BENZO(G,H,I)PERYLENE	3.45988	4.95	69.9		118	81.7 to 142	.844	-10 to 10.0
INDENO-1,2,3-CD-PYRENE	3.75979	4.95	76		119	83.3 to 142	2.49	-10 to 10.0
ACENAPHTHYLENE	5.01929	4.95	101		106	82.8 to 118	0	-10 to 10.0
ACENAPHTHENE	5.15142	4.9995	103		114	82.3 to 125	0	-10 to 10.0
FLUORENE	5.16828	4.9	105		117	90.7 to 128	.851	-10 to 10.0

Sample: WG339573-6 **Spikelot:** IH607685
QC Type: BSD **Raw File:**
Analysis date 02/22/16 16:08:19 **Approval Status:** YES
Instrument: LC5

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
PHENANTHRENE	5.04275	4.9	103		120	87.8 to 128	0	-10 to 10.0
ANTHRACENE	5.82072	4.95	118		138	90.2 to 137	.722	-10 to 10.0
FLUORANTHENE	4.83234	4.9	98.6		119	85.5 to 134	0	-10 to 10.0
1-NITROPYRENE	4.84644	4.95	97.9		117	82.7 to 131	-1.72	-10 to 10.0
PYRENE	4.86689	4.95	98.3		120	89.7 to 134	-1.68	-10.4 to 8.90

Sample: WG339577-3 **Spikelot:** IH607685-1
QC Type: CCV **Raw File:**
Analysis date 02/22/16 20:27:53 **Approval Status:** YES
Instrument: LC5

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
NAPHTHALENE	4.78129	4.95	96.6	88.5 to 120.				
PYRENE	4.98437	4.95	101	92.5 to 125.				
BENZO(A)ANTHRACENE	5.11667	4.95	103	93.7 to 119.				
CHRYSENE	4.88616	4.95	98.7	88.3 to 120.				
BENZO(E)PYRENE	4.96988	4.9995	99.4	90.6 to 127.				
BENZO(B)FLUORANTHENE	5.03653	4.95	102	93.8 to 125.				
BENZO(K)FLUORANTHENE	4.90443	4.95	99.1	88.6 to 118.				
BENZO(A)PYRENE	5.20266	4.95	105	80.0 to 138.				
DIBENZ(A,H)ANTHRACENE	4.84501	4.95	97.9	86.7 to 122.				
BENZO(G,H,I)PERYLENE	4.93388	4.95	99.7	87.6 to 124.				
INDENO-1,2,3-CD-PYRENE	5.08582	4.95	103	94.8 to 127.				
ACENAPHTHYLENE	4.88591	4.95	98.7	89.8 to 117.				
ACENAPHTHENE	4.91391	4.9995	98.3	88.1 to 121.				
FLUORENE	4.94903	4.9	101	92.7 to 123.				
PHENANTHRENE	4.90642	4.9	100	91.1 to 120.				
ANTHRACENE	5.77903	4.95	117	85.6 to 123.				
FLUORANTHENE	4.83446	4.9	98.7	92.0 to 120.				
1-NITROPYRENE	4.84291	4.95	97.8	86.8 to 123.				

L367645

R134

5120 North Shore Drive
North Little Rock, AR 72118
Phone: (501) 801-8500
Fax: (501) 801-8501
Website: www.cteh.com

Center for Toxicology and Environmental Health L.L.C.
SAMPLE CHAIN OF CUSTODY AND ANALYSIS REQUEST FORM

Page ___ of ___

CTEH Project #: 107907

	Send Report To:	Send Invoice To:
Name	MBorg. CConnelly	Accounts Payable
Company	CTEH	CTEH
Address	2000 Anders Lane Kemah, Texas 77565	5120 North Shore Drive North Little Rock, AR 72118
Phone	(281)535-2834	(501)801-8500
Fax	(281)535-0232	(501)801-8501
e-mail	labresults@cteh.com MBorg@cteh.com CConnelly@cteh.com	raccounting@cteh.com

Turnaround Requested:
Same Day __Next Day (24 hour) __ Normal
__Other (Specify) 2 day TAT

Complete Data Packet Requested ☐Yes ☒No

Lab Contact Information:
Galson Laboratories
6601 Kirkville Road
E. Syracuse, NY 13057

Client Sample Identification	Other Sample Identification	Sample Size	Units (Check one) X L / __cm²	Sample Date	Sample Time (for non-air samples)	Initials	ANALYSIS	Matrix
HOTX0218PNAH001	A508	967.4	L	2-18-16		JA	X	A
HOTX0218PNAH002	A509	959.3	L	2-18-16			X	
HOTX0218PNAH003	A505	960.7	L	2-18-16			X	
HOTX0218PNAH004	Blank	0	L	2-18-16				

Matrix
A = air
B = bulk
S = soil
SW = wipe
T = tape
W = water

Rec'd intact & all accounted for? Yes or No
Rec'd w/custody seals intact? Yes or No
Rec'd in light sensitive packaging? Yes or No
Rec'd with ice pack? Yes or No
Rec'd temperature compliant? Yes or No

806684141171
Date:02/20/16
Shipper:FEDEX
Initials:GMB
Prep:UNKNOWN

RELINQUISHED BY	DATE/TIME	RECEIVED BY	DATE/TIME	COMMENTS
A. Sonpon	2-19-16	Fed Ex	2/19/16	
		Gretchen B	2/20/16 930	

Dr. Mike Berg
Center for Toxicology & Env. Health LLC
2000 Anders Lane
Kemah, TX 77565

February 25, 2016

DOH ELAP #11626 Account# 13913 Login# L367328
AIHA-LAP #100324

Dear Dr. Berg:

Enclosed are the revised analytical results for the samples received by our laboratory on February 17, 2016. All test results meet the quality control requirements of AIHA-LAP and NELAC unless otherwise stated in this report. Please note that this report replaces the previously issued version. All samples on the chain of custody were received in good condition unless otherwise noted.

Please note that this revision has been issued to remove the unintended footnote for sample 'HOTX0215PM002' that was originally reported. A revised report is enclosed.

Results in this report are based on the sampling data provided by the client and refer only to the samples as they were received at the laboratory. Unless otherwise requested, all samples will be discarded 14 days from the date of this report, with the exception of IOMs, which will be cleaned and disposed of after seven calendar days.

Current Scopes of Accreditation can be viewed at www.galsonlabs.com in the accreditations section under the "about Galson" tab.

Please contact Pamela Weaver at (888) 432-5227, if you would like any additional information regarding this report. Thank you for using SGS Galson Laboratories.

Sincerely,

SGS Galson Laboratories

Lisa Swab
Laboratory Director

Enclosure(s)

Galson Laboratories, Inc. is now a part of SGS, the world's leading inspection, verification, testing, and certification company. As part of our transition to SGS, you will begin to see some formatting changes with reports that will improve the presentation of data and allow for the transition to the new logo.

SGS GALSON LABORATORIES

6601 Kirkville Road
East Syracuse, NY 13057
(315) 432-5227
FAX: (315) 437-0571
www.galsonlabs.com

LABORATORY ANALYSIS REPORT

Client : Center for Toxicology & Env. H
Site : NS
Project No. : 107907
Date Sampled : 15-FEB-16
Date Received : 17-FEB-16

Account No.: 13913
Login No. : L367328
Date Analyzed : 18-FEB-16
Report ID : 922745

Client ID : HOTX0215PNAH001 **Lab ID : L367328-1** **Air Volume : 965.74 Liter**
Date Sampled : 02/15/16 **Date Analyzed : 02/18/16**

Parameter	LOQ ug	Filter ug	Front ug	Back ug	Total ug	Conc mg/m3	ppm
1-Nitropyrene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Acenaphthene	0.3	<0.3	<0.3	<0.3	<0.3	<0.0003	<0.00005
Acenaphthylene	0.3	<0.3	<0.3	<0.3	<0.3	<0.0003	<0.00005
Anthracene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00005
Benzo(a)anthracene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Benzo(a)pyrene	0.3	<0.3	<0.3	<0.3	<0.5	<0.0005	<0.00005
Benzo(b)fluoranthene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Benzo(e)pyrene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0005	<0.00004
Benzo(g,h,i)perylene	0.3	<0.3	<0.3	<0.3	<0.5	<0.0005	<0.00005
Benzo(k)fluoranthene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Chrysene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Dibenz(a,h)anthracene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Fluoranthene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00005
Fluorene	0.3	<0.3	<0.3	<0.3	<0.3	<0.0003	<0.00005
Indeno(1,2,3-cd)pyrene	0.3	<0.3	<0.3	<0.3	<0.5	<0.0005	<0.00004

COMMENTS: Please see attached lab footnote report for any applicable footnotes.

Collection Media: FilterTube
Date : 18-FEB-16

Submitted by: EAW
NYS DOH # : 11626

Approved by: nkp
Supervisor: MWJ QC by: JEM

< -Less Than mg -Milligrams m3 -Cubic Meters kg -Kilograms NA -Not Applicable ND -Not Detected
> -Greater Than ug -Micrograms l -Liters NS -Not Specified ppm -Parts per Million LOQ-Limit of Quantitation

SGS GALSON LABORATORIES

6601 Kirkville Road
East Syracuse, NY 13057
(315) 432-5227
FAX: (315) 437-0571
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LABORATORY ANALYSIS REPORT

Client : Center for Toxicology & Env. H
Site : NS
Project No. : 107907
Date Sampled : 15-FEB-16
Date Received : 17-FEB-16

Account No.: 13913
Login No. : L367328
Date Analyzed : 18-FEB-16
Report ID : 922745

Client ID : HOTX0215PNAH001 **Lab ID : L367328-1** **Air Volume : 965.74 Liter**
Date Sampled : 02/15/16 **Date Analyzed : 02/18/16**

Parameter	LOQ ug	Filter ug	Front ug	Back ug	Total ug	Conc mg/m3	ppm
Naphthalene	0.3	<0.3	<0.3	<0.3	<0.3	<0.0003	<0.00006
Phenanthrene	0.3	<0.3	<0.3	<0.3	<0.3	<0.0004	<0.00005
Pyrene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00005

COMMENTS: Please see attached lab footnote report for any applicable footnotes.

Collection Media: FilterTube
Date : 18-FEB-16

Submitted by: EAW
NYS DOH # : 11626

Approved by: nkp
Supervisor: MWJ QC by: JEM

< -Less Than mg -Milligrams m3 -Cubic Meters kg -Kilograms NA -Not Applicable ND -Not Detected
> -Greater Than ug -Micrograms l -Liters NS -Not Specified ppm -Parts per Million LOQ-Limit of Quantitation

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East Syracuse, NY 13057
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LABORATORY ANALYSIS REPORT

Client : Center for Toxicology & Env. H
Site : NS
Project No. : 107907
Date Sampled : 15-FEB-16
Date Received : 17-FEB-16

Account No.: 13913
Login No. : L367328
Date Analyzed : 18-FEB-16
Report ID : 922745

Client ID : HOTX0215PNAH002 **Lab ID : L367328-2** **Air Volume : 984.9 Liter**
Date Sampled : 02/15/16 **Date Analyzed : 02/18/16**

Parameter	LOQ ug	Filter ug	Front ug	Back ug	Total ug	Conc mg/m3	ppm
1-Nitropyrene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Acenaphthene	0.3	<0.3	<0.3	<0.3	<0.3	<0.0003	<0.00005
Acenaphthylene	0.3	<0.3	<0.3	<0.3	<0.3	<0.0003	<0.00005
Anthracene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00005
Benzo(a)anthracene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Benzo(a)pyrene	0.3	<0.3	<0.3	<0.3	<0.5	<0.0005	<0.00004
Benzo(b)fluoranthene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Benzo(e)pyrene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Benzo(g,h,i)perylene	0.3	<0.3	<0.3	<0.3	<0.5	<0.0005	<0.00005
Benzo(k)fluoranthene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Chrysene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Dibenz(a,h)anthracene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Fluoranthene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Fluorene	0.3	<0.3	<0.3	<0.3	<0.3	<0.0003	<0.00005
Indeno(1,2,3-cd)pyrene	0.3	<0.3	<0.3	<0.3	<0.5	<0.0005	<0.00004

COMMENTS: Please see attached lab footnote report for any applicable footnotes.

Collection Media: FilterTube
Date : 18-FEB-16

Submitted by: EAW
NYS DOH # : 11626

Approved by: nkp
Supervisor: MWJ QC by: JEM

< -Less Than mg -Milligrams m3 -Cubic Meters kg -Kilograms NA -Not Applicable ND -Not Detected
> -Greater Than ug -Micrograms l -Liters NS -Not Specified ppm -Parts per Million LOQ-Limit of Quantitation

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LABORATORY ANALYSIS REPORT

Client : Center for Toxicology & Env. H
Site : NS
Project No. : 107907
Date Sampled : 15-FEB-16
Date Received : 17-FEB-16

Account No.: 13913
Login No. : L367328
Date Analyzed : 18-FEB-16
Report ID : 922745

Client ID : HOTX0215PNAH002 **Lab ID : L367328-2** **Air Volume : 984.9 Liter**
Date Sampled : 02/15/16 **Date Analyzed : 02/18/16**

Parameter	LOQ ug	Filter ug	Front ug	Back ug	Total ug	Conc mg/m3	ppm
Naphthalene	0.3	<0.3	<0.3	<0.3	<0.3	<0.0003	<0.00006
Phenanthrene	0.3	<0.3	<0.3	<0.3	<0.3	<0.0004	<0.00005
Pyrene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004

COMMENTS: Please see attached lab footnote report for any applicable footnotes.

Collection Media: FilterTube
Date : 18-FEB-16

Submitted by: EAW
NYS DOH # : 11626

Approved by: nkp
Supervisor: MWJ QC by: JEM

< -Less Than mg -Milligrams m3 -Cubic Meters kg -Kilograms NA -Not Applicable ND -Not Detected
> -Greater Than ug -Micrograms l -Liters NS -Not Specified ppm -Parts per Million LOQ-Limit of Quantitation

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LABORATORY ANALYSIS REPORT

Client : Center for Toxicology & Env. H
Site : NS
Project No. : 107907
Date Sampled : 15-FEB-16
Date Received : 17-FEB-16

Account No.: 13913
Login No. : L367328
Date Analyzed : 18-FEB-16
Report ID : 922745

Client ID : HOTX0215PNAH003 **Lab ID : L367328-3** **Air Volume : 968.38 Liter**
Date Sampled : 02/15/16 **Date Analyzed : 02/18/16**

Parameter	LOQ ug	Filter ug	Front ug	Back ug	Total ug	Conc mg/m3	ppm
1-Nitropyrene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Acenaphthene	0.3	<0.3	<0.3	<0.3	<0.3	<0.0003	<0.00005
Acenaphthylene	0.3	<0.3	<0.3	<0.3	<0.3	<0.0003	<0.00005
Anthracene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00005
Benzo(a)anthracene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Benzo(a)pyrene	0.3	<0.3	<0.3	<0.3	<0.5	<0.0005	<0.00005
Benzo(b)fluoranthene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Benzo(e)pyrene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0005	<0.00004
Benzo(g,h,i)perylene	0.3	<0.3	<0.3	<0.3	<0.5	<0.0005	<0.00005
Benzo(k)fluoranthene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Chrysene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Dibenz(a,h)anthracene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Fluoranthene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00005
Fluorene	0.3	<0.3	<0.3	<0.3	<0.3	<0.0003	<0.00005
Indeno(1,2,3-cd)pyrene	0.3	<0.3	<0.3	<0.3	<0.5	<0.0005	<0.00004

COMMENTS: Please see attached lab footnote report for any applicable footnotes.

Collection Media: FilterTube
Date : 18-FEB-16

Submitted by: EAW
NYS DOH # : 11626

Approved by: nkp
Supervisor: MWJ QC by: JEM

< -Less Than mg -Milligrams m3 -Cubic Meters kg -Kilograms NA -Not Applicable ND -Not Detected
> -Greater Than ug -Micrograms l -Liters NS -Not Specified ppm -Parts per Million LOQ-Limit of Quantitation

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LABORATORY ANALYSIS REPORT

Client : Center for Toxicology & Env. H
Site : NS
Project No. : 107907
Date Sampled : 15-FEB-16
Date Received : 17-FEB-16

Account No.: 13913
Login No. : L367328
Date Analyzed : 18-FEB-16
Report ID : 922745

Client ID : HOTX0215PNAH003 **Lab ID : L367328-3** **Air Volume : 968.38 Liter**
Date Sampled : 02/15/16 **Date Analyzed : 02/18/16**

Parameter	LOQ ug	Filter ug	Front ug	Back ug	Total ug	Conc mg/m3	ppm
Naphthalene	0.3	<0.3	<0.3	<0.3	<0.3	<0.0003	<0.00006
Phenanthrene	0.3	<0.3	<0.3	<0.3	<0.3	<0.0004	<0.00005
Pyrene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00005

COMMENTS: Please see attached lab footnote report for any applicable footnotes.

Collection Media: FilterTube
Date : 18-FEB-16

Submitted by: EAW
NYS DOH # : 11626

Approved by: nkp
Supervisor: MWJ QC by: JEM

< -Less Than mg -Milligrams m3 -Cubic Meters kg -Kilograms NA -Not Applicable ND -Not Detected
> -Greater Than ug -Micrograms l -Liters NS -Not Specified ppm -Parts per Million LOQ-Limit of Quantitation

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LABORATORY ANALYSIS REPORT

Client : Center for Toxicology & Env. H
Site : NS
Project No. : 107907
Date Sampled : 15-FEB-16
Date Received : 17-FEB-16

Account No.: 13913
Login No. : L367328
Date Analyzed : 18-FEB-16
Report ID : 922745

Client ID : HOTX0215PNAH004 **Lab ID : L367328-4** **Air Volume : NA**
Date Sampled : 02/15/16 **Date Analyzed : 02/18/16**

Parameter	LOQ ug	Filter ug	Front ug	Back ug	Total ug	Conc mg/m3	ppm
1-Nitropyrene	0.3	<0.3	<0.3	<0.3	<0.4	NA	NA
Acenaphthene	0.3	<0.3	<0.3	<0.3	<0.3	NA	NA
Acenaphthylene	0.3	<0.3	<0.3	<0.3	<0.3	NA	NA
Anthracene	0.3	<0.3	<0.3	<0.3	<0.4	NA	NA
Benzo(a)anthracene	0.3	<0.3	<0.3	<0.3	<0.4	NA	NA
Benzo(a)pyrene	0.3	<0.3	<0.3	<0.3	<0.5	NA	NA
Benzo(b)fluoranthene	0.3	<0.3	<0.3	<0.3	<0.4	NA	NA
Benzo(e)pyrene	0.3	<0.3	<0.3	<0.3	<0.4	NA	NA
Benzo(g,h,i)perylene	0.3	<0.3	<0.3	<0.3	<0.5	NA	NA
Benzo(k)fluoranthene	0.3	<0.3	<0.3	<0.3	<0.4	NA	NA
Chrysene	0.3	<0.3	<0.3	<0.3	<0.4	NA	NA
Dibenz(a,h)anthracene	0.3	<0.3	<0.3	<0.3	<0.4	NA	NA
Fluoranthene	0.3	<0.3	<0.3	<0.3	<0.4	NA	NA
Fluorene	0.3	<0.3	<0.3	<0.3	<0.3	NA	NA
Indeno(1,2,3-cd)pyrene	0.3	<0.3	<0.3	<0.3	<0.5	NA	NA

COMMENTS: Please see attached lab footnote report for any applicable footnotes.

Collection Media: FilterTube
Date : 18-FEB-16

Submitted by: EAW
NYS DOH # : 11626

Approved by: nkp
Supervisor: MWJ QC by: JEM

< -Less Than mg -Milligrams m3 -Cubic Meters kg -Kilograms NA -Not Applicable ND -Not Detected
> -Greater Than ug -Micrograms l -Liters NS -Not Specified ppm -Parts per Million LOQ-Limit of Quantitation

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LABORATORY ANALYSIS REPORT

Client : Center for Toxicology & Env. H
Site : NS
Project No. : 107907
Date Sampled : 15-FEB-16
Date Received : 17-FEB-16

Account No.: 13913
Login No. : L367328
Date Analyzed : 18-FEB-16
Report ID : 922745

Client ID : HOTX0215PNAH004 **Lab ID : L367328-4** **Air Volume : NA**
Date Sampled : 02/15/16 **Date Analyzed : 02/18/16**

Parameter	LOQ ug	Filter ug	Front ug	Back ug	Total ug	Conc mg/m3	ppm
Naphthalene	0.3	<0.3	<0.3	<0.3	<0.3	NA	NA
Phenanthrene	0.3	<0.3	<0.3	<0.3	<0.3	NA	NA
Pyrene	0.3	<0.3	<0.3	<0.3	<0.4	NA	NA

COMMENTS: Please see attached lab footnote report for any applicable footnotes.

Collection Media: FilterTube
Date : 18-FEB-16

Submitted by: EAW
NYS DOH # : 11626

Approved by: nkp
Supervisor: MWJ QC by: JEM

< -Less Than mg -Milligrams m3 -Cubic Meters kg -Kilograms NA -Not Applicable ND -Not Detected
> -Greater Than ug -Micrograms l -Liters NS -Not Specified ppm -Parts per Million LOQ-Limit of Quantitation

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LABORATORY ANALYSIS REPORT

Client : Center for Toxicology & Env. H
Site : NS
Project No. : 107907
Date Sampled : 15-FEB-16
Date Received : 17-FEB-16

Account No.: 13913
Login No. : L367328
Date Analyzed : 18-FEB-16
Report ID : 922671

Particulate Matter - PM10

	Sample ID	Lab ID	Air Vol liter	Total mg	Conc mg/m3
^	HOTX0215PM001	L367328-5	1037.85	0.14	0.13
	HOTX0215PM002	L367328-6	1015.78	0.15	0.15
	HOTX0215PM003	L367328-7	536.36	0.17	0.31
	HOTX0215PM004	L367328-8	NA	<0.050	NA

COMMENTS: Please see attached lab footnote report for any applicable footnotes.

Level of quantitation: 0.050 mg
Analytical Method : mod. EPA Method IP-10A; Gravimetric
OSHA PEL : NA
Collection Media : PVC PW 37mm

Submitted by: MNS
Approved by : CRI
Date : 25-FEB-16
Supervisor: CRI

NYS DOH # : 11626
QC by: JEM

< -Less Than mg -Milligrams m3 -Cubic Meters kg -Kilograms NA -Not Applicable ND -Not Detected
> -Greater Than ug -Micrograms l -Liters NS -Not Specified ppm -Parts per Million

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LABORATORY FOOTNOTE REPORT

Client Name : Center for Toxicology & Env. Health LLC
Site :
Project No. : 107907

Date Sampled : 15-FEB-16 Account No.: 13913
Date Received: 17-FEB-16 Login No. : L367328
Date Analyzed: 18-FEB-16

Unless otherwise noted below, all quality control results associated with the samples were within established control limits or did not impact reported results.

WARNING: The sample(s) to which the findings recorded herein (the "Findings") relate was(were) drawn and / or provided by the Client or by a third party acting at the Client's direction. The Findings constitute no warranty of the sample's representativeness of any goods and strictly relate to the sample(s). The Company accepts no liability with regard to the origin or source from which the sample(s) is/are said to be extracted.

Unrounded results are carried through the calculations that yield the final result and the final result is rounded to the number of significant figures appropriate to the accuracy of the analytical method. Please note that results appearing in the columns preceeding the final result column may have been rounded and therefore, if carried through the calculations, may not yield an identical final result to the one reported.

The stated LOQs for each analyte represent the demonstrated LOQ concentrations prior to correction for desorption efficiency (if applicable).

Unless otherwise noted below, reported results have not been blank corrected for any field blank or method blank.

L367328 (Report ID: 922745):
SOPs: il-n5506(12)
Results corrected for matrix and compound specific desorption efficiencies.

L367328 (Report ID: 922745):
Accuracy and mean recovery data presented below is based on a 95% confidence interval (k=2).
The estimated uncertainty applies to the media, technology, and SOP referenced in this report and does not account for the uncertainty associated with the sampling process.

Parameter	Accuracy	Mean Recovery
1-Nitropyrene	+/-16%	107%
Acenaphthene	+/-14.4%	104%
Acenaphthylene	+/-11.7%	100%
Anthracene	+/-15.7%	114%
Benzo(a)anthracene	+/-16.1%	110%
Benzo(a)pyrene	+/-26%	115%

< -Less Than mg -Milligrams m3 -Cubic Meters kg -Kilograms ppm -Parts per Million
> -Greater Than ug -Micrograms l -Liters NS -Not Specified ND -Not Detected NA -Not Applicable

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Client Name : Center for Toxicology & Env. Health LLC
Site :
Project No. : 107907

Date Sampled : 15-FEB-16 Account No.: 13913
Date Received: 17-FEB-16 Login No. : L367328
Date Analyzed: 18-FEB-16

Benzo(b)fluoranthene	+/-19%	113%
Benzo(e)pyrene	+/-19.2%	111%
Benzo(g,h,i)perylene	+/-20.2%	112%
Benzo(k)fluoranthene	+/-15.5%	109%
Chrysene	+/-14%	108%
Dibenz(a,h)anthracene	+/-15.6%	103%
Fluoranthene	+/-16.2%	110%
Fluorene	+/-12.4%	109%
Indeno(1,2,3-cd)pyrene	+/-19.5%	113%
Naphthalene	+/-13.3%	105%
Phenanthrene	+/-13.4%	108%
Pyrene	+/-14.6%	112%

Parameter	Method	PEL
1-Nitropyrene	mod. NIOSH 5506; HPLC/UV	NA
Acenaphthene	mod. NIOSH 5506; HPLC/UV	NA
Acenaphthylene	mod. NIOSH 5506; HPLC/UV	NA
Anthracene	mod. NIOSH 5506; HPLC/UV	NA
Benzo(a)anthracene	mod. NIOSH 5506; HPLC/UV	NA
Benzo(a)pyrene	mod. NIOSH 5506; HPLC/UV	0.2 mg/m3 (TWA)
Benzo(b)fluoranthene	mod. NIOSH 5506; HPLC/UV	NA
Benzo(e)pyrene	mod. NIOSH 5506; HPLC/UV	NA
Benzo(g,h,i)perylene	mod. NIOSH 5506; HPLC/UV	NA
Benzo(k)fluoranthene	mod. NIOSH 5506; HPLC/UV	NA
Chrysene	mod. NIOSH 5506; HPLC/UV	0.2 mg/m3 (TWA)
Dibenz(a,h)anthracene	mod. NIOSH 5506; HPLC/UV	NA
Fluoranthene	mod. NIOSH 5506; HPLC/UV	NA
Fluorene	mod. NIOSH 5506; HPLC/UV	NA
Indeno(1,2,3-cd)pyrene	mod. NIOSH 5506; HPLC/UV	NA
Naphthalene	mod. NIOSH 5506; HPLC/UV	10 ppm (TWA)
Phenanthrene	mod. NIOSH 5506; HPLC/UV	NA
Pyrene	mod. NIOSH 5506; HPLC/UV	NA

L367328 (Report ID: 922671):
SOPs: GRAV-SOP-5(15), GRAV-SOP-6(15)

< -Less Than mg -Milligrams m3 -Cubic Meters kg -Kilograms ppm -Parts per Million
> -Greater Than ug -Micrograms l -Liters NS -Not Specified ND -Not Detected NA -Not Applicable

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LABORATORY FOOTNOTE REPORT

Client Name : Center for Toxicology & Env. Health LLC
Site :
Project No. : 107907

Date Sampled : 15-FEB-16
Date Received: 17-FEB-16
Date Analyzed: 18-FEB-16

Account No.: 13913
Login No. : L367328

L367328 (Report ID: 922671):
Gravimetric analytical accuracy of the sampling media is -0.005 +/- 0.007 mg (average blank weight change +/- 95% confidence interval or k=2). The estimated uncertainly applies to the media, technology, and SOP(s) referenced in this report and does not account for any uncertainty associated with the sampling process.

^L367328-5 (Report ID: 922671):
Filter(s) received torn at the laboratory, results may be biased low.

<	-Less Than	mg	-Milligrams	m3	-Cubic Meters	kg	-Kilograms	ppm	-Parts per Million
>	-Greater Than	ug	-Micrograms	l	-Liters	NS	-Not Specified	ND	-Not Detected	NA	-Not Applicable

Sample: WG339226-1 **Spikelot:** IH603243-4
QC Type: DLS **Raw File:**
Analysis date 02/17/16 20:49:53 **Approval Status:** YES
Instrument: LC5

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
NAPHTHALENE	.091188	.099	92.1	70.0 to 130.				
BENZO(A)ANTHRACENE	.105554	.099	107	70.0 to 130.				
CHRYSENE	.103923	.099	105	70.0 to 130.				
BENZO(E)PYRENE	.104909	.1	105	70.0 to 130.				
BENZO(B)FLUORANTHENE	.102290	.099	103	70.0 to 130.				
BENZO(K)FLUORANTHENE	.085228	.099	86.1	70.0 to 130.				
BENZO(A)PYRENE	.099685	.099	101	70.0 to 130.				
DIBENZ(A,H)ANTHRACENE	.102631	.099	104	70.0 to 130.				
BENZO(G,H,I)PERYLENE	.107765	.099	109	70.0 to 130.				
INDENO-1,2,3-CD-PYRENE	.090470	.099	91.4	70.0 to 130.				
ACENAPHTHYLENE	.094576	.099	95.5	70.0 to 130.				
ACENAPHTHENE	.096992	.1	97	70.0 to 130.				
FLUORENE	.098268	.098	100	70.0 to 130.				
PHENANTHRENE	.104105	.098	106	70.0 to 130.				
ANTHRACENE	.122423	.099	124	70.0 to 130.				
FLUORANTHENE	.094369	.098	96.3	70.0 to 130.				
1-NITROPYRENE	.086164	.099	87	70.0 to 130.				
PYRENE	.072696	.099	73.4	70.0 to 130.				

Sample: WG339226-2 **Spikelot:** IH603243-3
QC Type: CCV **Raw File:**
Analysis date 02/17/16 21:09:51 **Approval Status:** YES
Instrument: LC5

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
NAPHTHALENE	4.99862	4.95	101	88.5 to 120.				
PYRENE	5.35511	4.95	108	92.5 to 125.				
BENZO(A)ANTHRACENE	5.39857	4.95	109	93.7 to 119.				
CHRYSENE	5.18931	4.95	105	88.3 to 120.				
BENZO(E)PYRENE	5.27262	4.9995	105	90.6 to 127.				
BENZO(B)FLUORANTHENE	5.33266	4.95	108	93.8 to 125.				
BENZO(K)FLUORANTHENE	5.21370	4.95	105	88.6 to 118.				
BENZO(A)PYRENE	5.48545	4.95	111	80.0 to 138.				
DIBENZ(A,H)ANTHRACENE	5.13435	4.95	104	86.7 to 122.				
BENZO(G,H,I)PERYLENE	5.24125	4.95	106	87.6 to 124.				
ACENAPHTHYLENE	5.09155	4.95	103	89.8 to 117.				

Sample: WG339226-2 **Spikelot:** IH603243-3
QC Type: CCV **Raw File:**
Analysis date 02/17/16 21:09:51 **Approval Status:** YES
Instrument: LC5

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
INDENO-1,2,3-CD-PYRENE	5.38558	4.95	109	94.8 to 127.				
ACENAPHTHENE	5.18462	4.9995	104	88.1 to 121.				
FLUORENE	5.21346	4.9	106	92.7 to 123.				
PHENANTHRENE	5.19808	4.9	106	91.1 to 120.				
ANTHRACENE	6.08529	4.95	123	85.6 to 123.				
FLUORANTHENE	5.14806	4.9	105	92.0 to 120.				
1-NITROPYRENE	5.00311	4.95	101	86.8 to 123.				

Sample: WG339225-2 **Spikelot:** NA
QC Type: MBLANK **Raw File:**
Analysis date 02/17/16 22:09:46 **Approval Status:** YES
Instrument: LC5

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
FLUORANTHENE(FRONT)	.228028	<.3						
FLUORANTHENE(BACK)	.069930	<.3						
ACENAPHTHENE(FRONT)	0	<.3						
ACENAPHTHENE(BACK)	0	<.3						
ACENAPHTHYLENE(FRONT)	0	<.3						
ACENAPHTHYLENE(BACK)	0	<.3						
ANTHRACENE(FRONT)	0	<.3						
ANTHRACENE(BACK)	0	<.3						
BENZO(A)ANTHRACENE(FRONT)	0	<.3						
BENZO(A)ANTHRACENE(BACK)	0	<.3						
BENZO(A)PYRENE(FRONT)	0	<.3						
BENZO(A)PYRENE(BACK)	0	<.3						
BENZO(B)FLUORANTHENE(FRONT)	0	<.3						
BENZO(B)FLUORANTHENE(BACK)	0	<.3						
BENZO(E)PYRENE(FRONT)	0	<.3						
BENZO(E)PYRENE(BACK)	0	<.3						
BENZO(G,H,I)PERYLENE(FRONT)	0	<.3						
BENZO(G,H,I)PERYLENE(BACK)	0	<.3						
BENZO(K)FLUORANTHENE(FRONT)	0	<.3						
BENZO(K)FLUORANTHENE(BACK)	0	<.3						
CHRYSENE(FRONT)	0	<.3						
CHRYSENE(BACK)	0	<.3						

Sample: WG339225-2 **Spikelot:** NA
QC Type: MBLANK **Raw File:**
Analysis date 02/17/16 22:09:46 **Approval Status:** YES
Instrument: LC5

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
DIBENZ(A,H)ANTHRACENE(FRONT)	0	<.3						
DIBENZ(A,H)ANTHRACENE(BACK)	0	<.3						
FLUORENE(FRONT)	0	<.3						
FLUORENE(BACK)	0	<.3						
INDENO-1,2,3-CD-PYRENE(FRONT)	0	<.3						
INDENO-1,2,3-CD-PYRENE(BACK)	0	<.3						
NAPHTHALENE(FRONT)	0	<.3						
NAPHTHALENE(BACK)	0	<.3						
1-NITROPYRENE(FRONT)	0	<.3						
1-NITROPYRENE(BACK)	0	<.3						
PHENANTHRENE(FRONT)	0	<.3						
PHENANTHRENE(BACK)	0	<.3						
PYRENE(FRONT)	0	<.3						
PYRENE(BACK)	0	<.3						

Sample: WG339225-3 **Spikelot:** IH607685
QC Type: BS **Raw File:**
Analysis date 02/17/16 22:49:46 **Approval Status:** YES
Instrument: LC5

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
NAPHTHALENE	4.67744	4.95	94.5		95.4	85.2 to 125		
BENZO(A)ANTHRACENE	4.97021	4.95	100		102	85.3 to 134		
CHRYSENE	4.79322	4.95	96.8		98.8	86.7 to 129		
BENZO(E)PYRENE	4.87589	4.9995	97.5		99.5	82.4 to 140		
BENZO(B)FLUORANTHENE	4.94132	4.95	99.8		103	85.0 to 142		
BENZO(K)FLUORANTHENE	4.83210	4.95	97.6		101	85.3 to 132		
BENZO(A)PYRENE	5.16612	4.95	104		106	76.5 to 154		
DIBENZ(A,H)ANTHRACENE	4.76736	4.95	96.3		97.3	79.8 to 127		
BENZO(G,H,I)PERYLENE	4.98767	4.95	101		105	81.7 to 142		
INDENO-1,2,3-CD-PYRENE	5.00726	4.95	101		102	83.3 to 142		
ACENAPHTHYLENE	4.75765	4.95	96.1		94.2	82.8 to 118		
ACENAPHTHENE	4.84633	4.9995	96.9		95	82.3 to 125		
FLUORENE	4.82589	4.9	98.5		102	90.7 to 128		
PHENANTHRENE	4.77159	4.9	97.4		99.4	87.8 to 128		
ANTHRACENE	5.71834	4.95	116		118	90.2 to 137		

Sample: WG339225-3 **Spikelot:** IH607685
QC Type: BS **Raw File:**
Analysis date 02/17/16 22:49:46 **Approval Status:** YES
Instrument: LC5

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
FLUORANTHENE	4.74332	4.9	96.8		98.8	85.5 to 134		
1-NITROPYRENE	4.57748	4.95	92.5		93.4	82.7 to 131		
PYRENE	4.90042	4.95	99		100	89.7 to 134		

Sample: WG339225-4 **Spikelot:** IH607685
QC Type: BSD **Raw File:**
Analysis date 02/17/16 23:09:43 **Approval Status:** YES
Instrument: LC5

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
NAPHTHALENE	4.77066	4.95	96.4		97.4	85.2 to 125	-2.07	-10 to 10.0
BENZO(A)ANTHRACENE	5.06160	4.95	102		104	85.3 to 134	-1.94	-10 to 10.0
CHRYSENE	4.86799	4.95	98.3		100	86.7 to 129	-1.21	-10 to 10.0
BENZO(E)PYRENE	4.97261	4.9995	99.5		101	82.4 to 140	-1.5	-10 to 10.0
BENZO(B)FLUORANTHENE	5.02061	4.95	101		105	85.0 to 142	-1.92	-10 to 10.0
BENZO(K)FLUORANTHENE	4.96326	4.95	100		103	85.3 to 132	-1.96	-10 to 10.0
BENZO(A)PYRENE	5.25736	4.95	106		108	76.5 to 154	-1.87	-10 to 10.0
DIBENZ(A,H)ANTHRACENE	4.80659	4.95	97.1		98.1	79.8 to 127	-.819	-11.5 to 9.87
BENZO(G,H,I)PERYLENE	4.96137	4.95	100		104	81.7 to 142	.957	-10 to 10.0
INDENO-1,2,3-CD-PYRENE	4.91288	4.95	99.3		100	83.3 to 142	1.98	-10 to 10.0
ACENAPHTHYLENE	4.91305	4.95	99.3		97.3	82.8 to 118	-3.24	-10 to 10.0
ACENAPHTHENE	4.94342	4.9995	98.9		96.9	82.3 to 125	-1.98	-10 to 10.0
FLUORENE	4.92364	4.9	100		104	90.7 to 128	-1.94	-10 to 10.0
PHENANTHRENE	4.90926	4.9	100		102	87.8 to 128	-2.58	-10 to 10.0
ANTHRACENE	5.76927	4.95	117		119	90.2 to 137	-.844	-10 to 10.0
FLUORANTHENE	4.82947	4.9	98.6		101	85.5 to 134	-2.2	-10 to 10.0
1-NITROPYRENE	4.64597	4.95	93.9		94.8	82.7 to 131	-1.49	-10 to 10.0
PYRENE	4.94609	4.95	99.9		101	89.7 to 134	-.995	-10.4 to 8.90

Sample: WG339225-5 **Spikelot:** IH607685
QC Type: BS **Raw File:**
Analysis date 02/17/16 23:29:41 **Approval Status:** YES
Instrument: LC5

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
NAPHTHALENE	4.54303	4.95	91.8		99.8	85.2 to 125		
PYRENE	4.20138	4.95	84.9		104	89.7 to 134		

Sample: WG339225-5 **Spikelot:** IH607685
QC Type: BS **Raw File:**
Analysis date 02/17/16 23:29:41 **Approval Status:** YES
Instrument: LC5

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
BENZO(A)ANTHRACENE	4.18882	4.95	84.6		108	85.3 to 134		
CHRYSENE	3.97754	4.95	80.4		104	86.7 to 129		
BENZO(E)PYRENE	3.72228	4.9995	74.5		109	82.4 to 140		
BENZO(B)FLUORANTHENE	3.94894	4.95	79.8		111	85.0 to 142		
BENZO(K)FLUORANTHENE	3.89047	4.95	78.6		109	85.3 to 132		
BENZO(A)PYRENE	3.78701	4.95	76.5		116	76.5 to 154		
DIBENZ(A,H)ANTHRACENE	3.52992	4.95	71.3		99	79.8 to 127		
BENZO(G,H,I)PERYLENE	2.98602	4.95	60.3		102	81.7 to 142		
INDENO-1,2,3-CD-PYRENE	3.34551	4.95	67.6		106	83.3 to 142		
ACENAPHTHYLENE	4.55195	4.95	92		95.8	82.8 to 118		
ACENAPHTHENE	4.53476	4.9995	90.7		101	82.3 to 125		
FLUORENE	4.55194	4.9	92.9		103	90.7 to 128		
PHENANTHRENE	4.46230	4.9	91.1		106	87.8 to 128		
ANTHRACENE	5.14597	4.95	104		122	90.2 to 137		
FLUORANTHENE	4.37154	4.9	89.2		107	85.5 to 134		
1-NITROPYRENE	4.14237	4.95	83.7		99.6	82.7 to 131		

Sample: WG339225-6 **Spikelot:** IH607685
QC Type: BSD **Raw File:**
Analysis date 02/17/16 23:49:38 **Approval Status:** YES
Instrument: LC5

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
NAPHTHALENE	4.54851	4.95	91.9		99.9	85.2 to 125	-.1	-10 to 10.0
PYRENE	4.20688	4.95	85		104	89.7 to 134	0	-10.4 to 8.90
BENZO(A)ANTHRACENE	4.18751	4.95	84.6		108	85.3 to 134	0	-10 to 10.0
CHRYSENE	3.98465	4.95	80.5		105	86.7 to 129	-.957	-10 to 10.0
BENZO(E)PYRENE	3.64220	4.9995	72.9		107	82.4 to 140	1.85	-10 to 10.0
BENZO(B)FLUORANTHENE	3.88444	4.95	78.5		109	85.0 to 142	1.82	-10 to 10.0
BENZO(K)FLUORANTHENE	3.94407	4.95	79.7		111	85.3 to 132	-1.82	-10 to 10.0
BENZO(A)PYRENE	3.94188	4.95	79.6		121	76.5 to 154	-4.22	-10 to 10.0
DIBENZ(A,H)ANTHRACENE	3.48700	4.95	70.4		97.8	79.8 to 127	1.22	-11.5 to 9.87
BENZO(G,H,I)PERYLENE	2.99366	4.95	60.5		103	81.7 to 142	-.976	-10 to 10.0
INDENO-1,2,3-CD-PYRENE	3.37923	4.95	68.3		107	83.3 to 142	-.939	-10 to 10.0
ACENAPHTHYLENE	4.55011	4.95	91.9		95.8	82.8 to 118	0	-10 to 10.0
ACENAPHTHENE	4.51743	4.9995	90.4		100	82.3 to 125	.995	-10 to 10.0

Sample: WG339225-6 **Spikelot:** IH607685
QC Type: BSD **Raw File:**
Analysis date 02/17/16 23:49:38 **Approval Status:** YES
Instrument: LC5

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
FLUORENE	4.49719	4.9	91.8		102	90.7 to 128	.976	-10 to 10.0
PHENANTHRENE	4.35140	4.9	88.8		103	87.8 to 128	2.87	-10 to 10.0
ANTHRACENE	5.12312	4.95	103		122	90.2 to 137	0	-10 to 10.0
FLUORANTHENE	4.38130	4.9	89.4		108	85.5 to 134	-.93	-10 to 10.0
1-NITROPYRENE	4.14474	4.95	83.7		99.7	82.7 to 131	-.1	-10 to 10.0

Sample: WG339226-3 **Spikelot:** IH603243-3
QC Type: CCV **Raw File:**
Analysis date 02/18/16 03:49:20 **Approval Status:** YES
Instrument: LC5

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
1-NITROPYRENE	4.90166	4.95	99	86.8 to 123.				
PYRENE	5.27455	4.95	107	92.5 to 125.				
BENZO(A)ANTHRACENE	5.30031	4.95	107	93.7 to 119.				
CHRYSENE	5.09297	4.95	103	88.3 to 120.				
BENZO(E)PYRENE	5.20090	4.9995	104	90.6 to 127.				
BENZO(B)FLUORANTHENE	5.22519	4.95	106	93.8 to 125.				
BENZO(K)FLUORANTHENE	5.13586	4.95	104	88.6 to 118.				
BENZO(A)PYRENE	5.41458	4.95	109	80.0 to 138.				
DIBENZ(A,H)ANTHRACENE	5.05282	4.95	102	86.7 to 122.				
NAPHTHALENE	4.97033	4.95	100	88.5 to 120.				
BENZO(G,H,I)PERYLENE	5.18703	4.95	105	87.6 to 124.				
INDENO-1,2,3-CD-PYRENE	5.31251	4.95	107	94.8 to 127.				
ACENAPHTHYLENE	5.05199	4.95	102	89.8 to 117.				
ACENAPHTHENE	5.13321	4.9995	103	88.1 to 121.				
FLUORENE	5.12945	4.9	105	92.7 to 123.				
PHENANTHRENE	5.10664	4.9	104	91.1 to 120.				
ANTHRACENE	5.99424	4.95	121	85.6 to 123.				
FLUORANTHENE	5.07564	4.9	104	92.0 to 120.				

Sample: WG339226-4 **Spikelot:** IH603243-3
QC Type: CCV **Raw File:**
Analysis date 02/18/16 08:29:08 **Approval Status:** YES
Instrument: LC5

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits

Sample: WG339226-4 **Spikelot:** IH603243-3

QC Type: CCV **Raw File:**

Analysis date 02/18/16 08:29:08 **Approval Status:** YES

Instrument: LC5

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
1-NITROPYRENE	5.06265	4.95	102	86.8 to 123.				
PYRENE	5.40678	4.95	109	92.5 to 125.				
BENZO(A)ANTHRACENE	5.46022	4.95	110	93.7 to 119.				
CHRYSENE	5.25188	4.95	106	88.3 to 120.				
BENZO(E)PYRENE	5.33824	4.9995	107	90.6 to 127.				
BENZO(B)FLUORANTHENE	5.38493	4.95	109	93.8 to 125.				
BENZO(K)FLUORANTHENE	5.26264	4.95	106	88.6 to 118.				
BENZO(A)PYRENE	5.57185	4.95	113	80.0 to 138.				
DIBENZ(A,H)ANTHRACENE	5.19780	4.95	105	86.7 to 122.				
NAPHTHALENE	5.09226	4.95	103	88.5 to 120.				
BENZO(G,H,I)PERYLENE	5.32897	4.95	108	87.6 to 124.				
INDENO-1,2,3-CD-PYRENE	5.50414	4.95	111	94.8 to 127.				
ACENAPHTHYLENE	5.18686	4.95	105	89.8 to 117.				
ACENAPHTHENE	5.26720	4.9995	105	88.1 to 121.				
FLUORENE	5.28716	4.9	108	92.7 to 123.				
PHENANTHRENE	5.27223	4.9	108	91.1 to 120.				
ANTHRACENE	6.16830	4.95	125	85.6 to 123.				
FLUORANTHENE	5.21059	4.9	106	92.0 to 120.				

GRAVIMETRICS QC SUMMARY REPORT

Login: L367328
Matnum: 306
Matrix: PVC PW 37mm
Instrument Description: Mettler XP6, M4
Method: mod. EPA Method IP-10A; Gravimetric
Reporting Level (mg): 0.050 mg
Analysis: Particulate Matter - PM10

Type	Sample #	Analysis Date	True Value (mg)	Found Value (mg)	Difference (mg)	Control Limit (mg)
CCV	WG339297-1	2/18/2016 08:36:00	19.948	19.948	0.000	0.008
BLANK	WG339297-3	2/18/2016 08:37:00	10.166	10.157	-0.009	-0.015
CCV	WG339297-6	2/18/2016 08:50:00	19.948	19.948	0.000	0.008
CCV	WG339317-1	2/18/2016 11:23:00	19.948	19.948	0.000	0.008
CCV	WG339317-4	2/18/2016 11:34:00	19.948	19.950	0.002	0.008

Type	Sample #	Analysis Date	Sample Result (mg)	Duplicate Result (mg)	Abs. Val. of mg Difference	Control Limit (mg)
DUP	WG339317-3	2/18/2016 11:32:00	0.150	0.152	0.002	0.004

Dup Workgroup number **Sample number**
WG339317-3 L367328-6

R821

5120 North Shore Drive
North Little Rock, AR 72118
Phone: (501) 801-8500
Fax: (501) 801-8501
Website: www.cteh.com

Center for Toxicology and Environmental Health L.L.C.
SAMPLE CHAIN OF CUSTODY AND ANALYSIS REQUEST FORM

Page 1 of 1

	Send Report To:	Send Invoice To:
Name	CConnolly@Cteh.com; Mberg@Cteh.com	Accounts Payable
Company	CTEH	CTEH
Address	2000 Anders Lane Kemah, Texas 77565	5120 North Shore Drive North Little Rock, AR 72118
Phone	(281)535-2834	(501)801-8500
Fax	(281)535-0232	(501)801-8501
e-mail	labresults@cteh.com	lraccountingsvc@cteh.com

CTEH Project #: 107907

Turnaround Requested:
Same Day __Next Day (24 hour) ___ Normal
X Other (Specify) 2 Day

Complete Data Packet Requested ☒Yes ☐No

Lab Contact Information:
Galson Laboratories
6601 Kirkville Road
E. Syracuse, NY 13057

Samples Received in Light Sensitive Material: (Yes) or No

Client Sample Identification	Other Sample Identification	Sample Size	Units (Check one) X L ___ cm^2 ___	Sample Date	Sample Time (for non-air samples)	Initials	NIOSH 5506 PNAH	Mod. EPA IP-10A PM10	Matrix A = air B = bulk S = soil SW = wipe T = tape W = water
HOTx0215PNAH001	15-0034923	965.74	L	02.15.16	480	RA	X		A
HOTx0215PNAH002	16-0037312	984.9	L	02.15.16	480	RA	X		A
HOTx0215PNAH003	16-0037321	960.38	L	02.15.16	480	RA	X		A
HOTx0215PNAH004	16-0037330	0	L	02.15.16	0	RA	X		A
HOTx0215PM001	16-0030844	1037.85	L	02.15.16	515	RA		X	A
HOTx0215PM002	16-0030843	1015.78	L	02.15.16	517	RA		X	A
HOTx0215PM003	16-0030842	536.36	L	02.15.16	307	RA		X	A
HOTx0215PM004	16-0030841	0	L	02.15.16	0	RA		X	A

RELINQUISHED BY	DATE/TIME	RECEIVED BY	DATE/TIME
ZK	2-16-16 1405	Fed Ex	
		Zach King	2/17/16 10:04

775656005844
Date: 02/17/16
Shipper: FEDEX
Initials: SK
Prep: UNKNOWN

Rec'd intact & all accounted for? (Yes) or No ZK
Rec'd w/custody seals intact? Yes or No N/A ZK
Rec'd in light sensitive packaging? (Yes) or No ZK
Rec'd with ice pack? (Yes) or No ZK
Rec'd temperature compliant? Yes or No N/A ZK

Dr. Mike Berg
Center for Toxicology & Env. Health LLC
2000 Anders Lane
Kemah, TX 77565

February 25, 2016

DOH ELAP #11626 Account# 13913 Login# L367329
AIHA-LAP #100324

Dear Dr. Berg:

Enclosed are the revised analytical results for the samples received by our laboratory on February 17, 2016. All test results meet the quality control requirements of AIHA-LAP and NELAC unless otherwise stated in this report. Please note that this report replaces the previously issued version. All samples on the chain of custody were received in good condition unless otherwise noted.

Please note that this revision has been issued to add a footnote for documentation regarding the sample receipt condition for sample 'HOTX0213PM002'. A revised report is enclosed.

Results in this report are based on the sampling data provided by the client and refer only to the samples as they were received at the laboratory. Unless otherwise requested, all samples will be discarded 14 days from the date of this report, with the exception of IOMs, which will be cleaned and disposed of after seven calendar days.

Current Scopes of Accreditation can be viewed at www.galsonlabs.com in the accreditations section under the "about Galson" tab.

Please contact Pamela Weaver at (888) 432-5227, if you would like any additional information regarding this report. Thank you for using SGS Galson Laboratories.

Sincerely,

SGS Galson Laboratories

Lisa Swab
Laboratory Director

Enclosure(s)

Galson Laboratories, Inc. is now a part of SGS, the world's leading inspection, verification, testing, and certification company. As part of our transition to SGS, you will begin to see some formatting changes with reports that will improve the presentation of data and allow for the transition to the new logo.

SGS GALSON LABORATORIES

6601 Kirkville Road
East Syracuse, NY 13057
(315) 432-5227
FAX: (315) 437-0571
www.galsonlabs.com

LABORATORY ANALYSIS REPORT

Client : Center for Toxicology & Env. H
Site : NS
Project No. : 107907
Date Sampled : 13-FEB-16
Date Received : 17-FEB-16

Account No.: 13913
Login No. : L367329

Date Analyzed : 18-FEB-16
Report ID : 922746

Client ID : HOTX0213PNAH001 **Lab ID : L367329-1** **Air Volume : 966.4 Liter**
Date Sampled : 02/13/16 **Date Analyzed : 02/18/16**

Parameter	LOQ ug	Filter ug	Front ug	Back ug	Total ug	Conc mg/m3	ppm
1-Nitropyrene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Acenaphthene	0.3	<0.3	<0.3	<0.3	<0.3	<0.0003	<0.00005
Acenaphthylene	0.3	<0.3	<0.3	<0.3	<0.3	<0.0003	<0.00005
Anthracene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00005
Benzo(a)anthracene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Benzo(a)pyrene	0.3	<0.3	<0.3	<0.3	<0.5	<0.0005	<0.00005
Benzo(b)fluoranthene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Benzo(e)pyrene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0005	<0.00004
Benzo(g,h,i)perylene	0.3	<0.3	<0.3	<0.3	<0.5	<0.0005	<0.00005
Benzo(k)fluoranthene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Chrysene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Dibenz(a,h)anthracene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Fluoranthene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00005
Fluorene	0.3	<0.3	<0.3	<0.3	<0.3	<0.0003	<0.00005
Indeno(1,2,3-cd)pyrene	0.3	<0.3	<0.3	<0.3	<0.5	<0.0005	<0.00004

COMMENTS: Please see attached lab footnote report for any applicable footnotes.

Collection Media: FilterTube
Date : 18-FEB-16

Submitted by: EAW
NYS DOH # : 11626

Approved by: nkp
Supervisor: MWJ QC by: JEM

< -Less Than mg -Milligrams m3 -Cubic Meters kg -Kilograms NA -Not Applicable ND -Not Detected
> -Greater Than ug -Micrograms l -Liters NS -Not Specified ppm -Parts per Million LOQ-Limit of Quantitation

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LABORATORY ANALYSIS REPORT

Client : Center for Toxicology & Env. H
Site : NS
Project No. : 107907
Date Sampled : 13-FEB-16
Date Received : 17-FEB-16

Account No.: 13913
Login No. : L367329
Date Analyzed : 18-FEB-16
Report ID : 922746

Client ID : HOTX0213PNAH001 **Lab ID : L367329-1** **Air Volume : 966.4 Liter**
Date Sampled : 02/13/16 **Date Analyzed : 02/18/16**

Parameter	LOQ ug	Filter ug	Front ug	Back ug	Total ug	Conc mg/m3	ppm
Naphthalene	0.3	<0.3	0.3	<0.3	0.4	0.0004	0.00007
Phenanthrene	0.3	<0.3	<0.3	<0.3	<0.3	<0.0004	<0.00005
Pyrene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00005

COMMENTS: Please see attached lab footnote report for any applicable footnotes.

Collection Media: FilterTube
Date : 18-FEB-16

Submitted by: EAW
NYS DOH # : 11626

Approved by: nkp
Supervisor: MWJ QC by: JEM

< -Less Than mg -Milligrams m3 -Cubic Meters kg -Kilograms NA -Not Applicable ND -Not Detected
> -Greater Than ug -Micrograms l -Liters NS -Not Specified ppm -Parts per Million LOQ-Limit of Quantitation

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LABORATORY ANALYSIS REPORT

Client : Center for Toxicology & Env. H
Site : NS
Project No. : 107907
Date Sampled : 13-FEB-16
Date Received : 17-FEB-16

Account No.: 13913
Login No. : L367329
Date Analyzed : 18-FEB-16
Report ID : 922746

Client ID : HOTX0213PNAH002 **Lab ID : L367329-2** **Air Volume : 954.79 Liter**
Date Sampled : 02/13/16 **Date Analyzed : 02/18/16**

Parameter	LOQ ug	Filter ug	Front ug	Back ug	Total ug	Conc mg/m3	ppm
1-Nitropyrene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Acenaphthene	0.3	<0.3	<0.3	<0.3	<0.3	<0.0003	<0.00006
Acenaphthylene	0.3	<0.3	<0.3	<0.3	<0.3	<0.0003	<0.00005
Anthracene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00005
Benzo(a)anthracene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Benzo(a)pyrene	0.3	<0.3	<0.3	<0.3	<0.5	<0.0005	<0.00005
Benzo(b)fluoranthene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Benzo(e)pyrene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0005	<0.00004
Benzo(g,h,i)perylene	0.3	<0.3	<0.3	<0.3	<0.5	<0.0005	<0.00005
Benzo(k)fluoranthene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Chrysene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Dibenz(a,h)anthracene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Fluoranthene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00005
Fluorene	0.3	<0.3	<0.3	<0.3	<0.3	<0.0003	<0.00005
Indeno(1,2,3-cd)pyrene	0.3	<0.3	<0.3	<0.3	<0.5	<0.0005	<0.00004

COMMENTS: Please see attached lab footnote report for any applicable footnotes.

Collection Media: FilterTube
Date : 18-FEB-16

Submitted by: EAW
NYS DOH # : 11626

Approved by: nkp
Supervisor: MWJ QC by: JEM

< -Less Than mg -Milligrams m3 -Cubic Meters kg -Kilograms NA -Not Applicable ND -Not Detected
> -Greater Than ug -Micrograms l -Liters NS -Not Specified ppm -Parts per Million LOQ-Limit of Quantitation

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LABORATORY ANALYSIS REPORT

Client : Center for Toxicology & Env. H
Site : NS
Project No. : 107907
Date Sampled : 13-FEB-16
Date Received : 17-FEB-16

Account No.: 13913
Login No. : L367329
Date Analyzed : 18-FEB-16
Report ID : 922746

Client ID : HOTX0213PNAH002 **Lab ID : L367329-2** **Air Volume : 954.79 Liter**
Date Sampled : 02/13/16 **Date Analyzed : 02/18/16**

Parameter	LOQ ug	Filter ug	Front ug	Back ug	Total ug	Conc mg/m3	ppm
Naphthalene	0.3	<0.3	<0.3	<0.3	<0.3	<0.0003	<0.00007
Phenanthrene	0.3	<0.3	<0.3	<0.3	<0.3	<0.0004	<0.00005
Pyrene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00005

COMMENTS: Please see attached lab footnote report for any applicable footnotes.

Collection Media: FilterTube
Date : 18-FEB-16

Submitted by: EAW
NYS DOH # : 11626

Approved by: nkp
Supervisor: MWJ QC by: JEM

< -Less Than mg -Milligrams m3 -Cubic Meters kg -Kilograms NA -Not Applicable ND -Not Detected
> -Greater Than ug -Micrograms l -Liters NS -Not Specified ppm -Parts per Million LOQ-Limit of Quantitation

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LABORATORY ANALYSIS REPORT

Client : Center for Toxicology & Env. H
Site : NS
Project No. : 107907
Date Sampled : 13-FEB-16
Date Received : 17-FEB-16

Account No.: 13913
Login No. : L367329
Date Analyzed : 18-FEB-16
Report ID : 922746

Client ID : HOTX0213PNAH003 **Lab ID : L367329-3** **Air Volume : 915.19 Liter**
Date Sampled : 02/13/16 **Date Analyzed : 02/18/16**

Parameter	LOQ ug	Filter ug	Front ug	Back ug	Total ug	Conc mg/m3	ppm
1-Nitropyrene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Acenaphthene	0.3	<0.3	<0.3	<0.3	<0.3	<0.0004	<0.00006
Acenaphthylene	0.3	<0.3	<0.3	<0.3	<0.3	<0.0003	<0.00005
Anthracene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00005
Benzo(a)anthracene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00005
Benzo(a)pyrene	0.3	<0.3	<0.3	<0.3	<0.5	<0.0005	<0.00005
Benzo(b)fluoranthene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0005	<0.00004
Benzo(e)pyrene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0005	<0.00005
Benzo(g,h,i)perylene	0.3	<0.3	<0.3	<0.3	<0.5	<0.0006	<0.00005
Benzo(k)fluoranthene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0005	<0.00004
Chrysene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00005
Dibenz(a,h)anthracene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0005	<0.00004
Fluoranthene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00005
Fluorene	0.3	<0.3	<0.3	<0.3	<0.3	<0.0004	<0.00005
Indeno(1,2,3-cd)pyrene	0.3	<0.3	<0.3	<0.3	<0.5	<0.0005	<0.00005

COMMENTS: Please see attached lab footnote report for any applicable footnotes.

Collection Media: FilterTube
Date : 18-FEB-16

Submitted by: EAW
NYS DOH # : 11626

Approved by: nkp
Supervisor: MWJ QC by: JEM

< -Less Than mg -Milligrams m3 -Cubic Meters kg -Kilograms NA -Not Applicable ND -Not Detected
> -Greater Than ug -Micrograms l -Liters NS -Not Specified ppm -Parts per Million LOQ-Limit of Quantitation

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LABORATORY ANALYSIS REPORT

Client : Center for Toxicology & Env. H
Site : NS
Project No. : 107907
Date Sampled : 13-FEB-16
Date Received : 17-FEB-16

Account No.: 13913
Login No. : L367329
Date Analyzed : 18-FEB-16
Report ID : 922746

Client ID : HOTX0213PNAH003 **Lab ID : L367329-3** **Air Volume : 915.19 Liter**
Date Sampled : 02/13/16 **Date Analyzed : 02/18/16**

Parameter	LOQ ug	Filter ug	Front ug	Back ug	Total ug	Conc mg/m3	ppm
Naphthalene	0.3	<0.3	<0.3	<0.3	<0.3	<0.0004	<0.00007
Phenanthrene	0.3	<0.3	<0.3	<0.3	<0.3	<0.0004	<0.00005
Pyrene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00005

COMMENTS: Please see attached lab footnote report for any applicable footnotes.

Collection Media: FilterTube
Date : 18-FEB-16

Submitted by: EAW
NYS DOH # : 11626

Approved by: nkp
Supervisor: MWJ QC by: JEM

< -Less Than mg -Milligrams m3 -Cubic Meters kg -Kilograms NA -Not Applicable ND -Not Detected
> -Greater Than ug -Micrograms l -Liters NS -Not Specified ppm -Parts per Million LOQ-Limit of Quantitation

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LABORATORY ANALYSIS REPORT

Client : Center for Toxicology & Env. H
Site : NS
Project No. : 107907
Date Sampled : 13-FEB-16
Date Received : 17-FEB-16

Account No.: 13913
Login No. : L367329
Date Analyzed : 18-FEB-16
Report ID : 922746

Client ID : HOTX0213PNAH004 **Lab ID : L367329-4** **Air Volume : NA**
Date Sampled : 02/13/16 **Date Analyzed : 02/18/16**

Parameter	LOQ ug	Filter ug	Front ug	Back ug	Total ug	Conc mg/m3	ppm
1-Nitropyrene	0.3	<0.3	<0.3	<0.3	<0.4	NA	NA
Acenaphthene	0.3	<0.3	<0.3	<0.3	<0.3	NA	NA
Acenaphthylene	0.3	<0.3	<0.3	<0.3	<0.3	NA	NA
Anthracene	0.3	<0.3	<0.3	<0.3	<0.4	NA	NA
Benzo(a)anthracene	0.3	<0.3	<0.3	<0.3	<0.4	NA	NA
Benzo(a)pyrene	0.3	<0.3	<0.3	<0.3	<0.5	NA	NA
Benzo(b)fluoranthene	0.3	<0.3	<0.3	<0.3	<0.4	NA	NA
Benzo(e)pyrene	0.3	<0.3	<0.3	<0.3	<0.4	NA	NA
Benzo(g,h,i)perylene	0.3	<0.3	<0.3	<0.3	<0.5	NA	NA
Benzo(k)fluoranthene	0.3	<0.3	<0.3	<0.3	<0.4	NA	NA
Chrysene	0.3	<0.3	<0.3	<0.3	<0.4	NA	NA
Dibenz(a,h)anthracene	0.3	<0.3	<0.3	<0.3	<0.4	NA	NA
Fluoranthene	0.3	<0.3	<0.3	<0.3	<0.4	NA	NA
Fluorene	0.3	<0.3	<0.3	<0.3	<0.3	NA	NA
Indeno(1,2,3-cd)pyrene	0.3	<0.3	<0.3	<0.3	<0.5	NA	NA

COMMENTS: Please see attached lab footnote report for any applicable footnotes.

Collection Media: FilterTube
Date : 18-FEB-16

Submitted by: EAW
NYS DOH # : 11626

Approved by: nkp
Supervisor: MWJ QC by: JEM

< -Less Than mg -Milligrams m3 -Cubic Meters kg -Kilograms NA -Not Applicable ND -Not Detected
> -Greater Than ug -Micrograms l -Liters NS -Not Specified ppm -Parts per Million LOQ-Limit of Quantitation

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LABORATORY ANALYSIS REPORT

Client : Center for Toxicology & Env. H
Site : NS
Project No. : 107907
Date Sampled : 13-FEB-16
Date Received : 17-FEB-16

Account No.: 13913
Login No. : L367329
Date Analyzed : 18-FEB-16
Report ID : 922746

Client ID : HOTX0213PNAH004 **Lab ID : L367329-4** **Air Volume : NA**
Date Sampled : 02/13/16 **Date Analyzed : 02/18/16**

Parameter	LOQ ug	Filter ug	Front ug	Back ug	Total ug	Conc mg/m3	ppm
Naphthalene	0.3	<0.3	<0.3	<0.3	<0.3	NA	NA
Phenanthrene	0.3	<0.3	<0.3	<0.3	<0.3	NA	NA
Pyrene	0.3	<0.3	<0.3	<0.3	<0.4	NA	NA

COMMENTS: Please see attached lab footnote report for any applicable footnotes.

Collection Media: FilterTube
Date : 18-FEB-16

Submitted by: EAW
NYS DOH # : 11626

Approved by: nkp
Supervisor: MWJ QC by: JEM

< -Less Than mg -Milligrams m3 -Cubic Meters kg -Kilograms NA -Not Applicable ND -Not Detected
> -Greater Than ug -Micrograms l -Liters NS -Not Specified ppm -Parts per Million LOQ-Limit of Quantitation

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LABORATORY ANALYSIS REPORT

Client : Center for Toxicology & Env. H
Site : NS
Project No. : 107907
Date Sampled : 13-FEB-16
Date Received : 17-FEB-16

Account No.: 13913
Login No. : L367329
Date Analyzed : 18-FEB-16
Report ID : 922672

Particulate Matter - PM10

	Sample ID	Lab ID	Air Vol liter	Total mg	Conc mg/m3
	HOTX0213PM001	L367329-5	1081.92	0.12	0.11
@	HOTX0213PM002	L367329-6	1039.75	0.14	0.13
	HOTX0213PM003	L367329-7	1027.96	0.28	0.27
	HOTX0213PM004	L367329-8	NA	<0.050	NA

COMMENTS: Please see attached lab footnote report for any applicable footnotes.

Level of quantitation: 0.050 mg
Analytical Method : mod. EPA Method IP-10A; Gravimetric
OSHA PEL : NA
Collection Media : PVC PW 37mm

Submitted by: MNS
Approved by : CRI
Date : 25-FEB-16
Supervisor: CRI

NYS DOH # : 11626
QC by: JEM

< -Less Than mg -Milligrams m3 -Cubic Meters kg -Kilograms NA -Not Applicable ND -Not Detected
> -Greater Than ug -Micrograms l -Liters NS -Not Specified ppm -Parts per Million

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LABORATORY FOOTNOTE REPORT

Client Name : Center for Toxicology & Env. Health LLC
Site :
Project No. : 107907

Date Sampled : 13-FEB-16
Date Received: 17-FEB-16
Date Analyzed: 18-FEB-16

Account No.: 13913
Login No. : L367329

Unless otherwise noted below, all quality control results associated with the samples were within established control limits or did not impact reported results.

WARNING: The sample(s) to which the findings recorded herein (the "Findings") relate was(were) drawn and / or provided by the Client or by a third party acting at the Client's direction. The Findings constitute no warranty of the sample's representativeness of any goods and strictly relate to the sample(s). The Company accepts no liability with regard to the origin or source from which the sample(s) is/are said to be extracted.

Unrounded results are carried through the calculations that yield the final result and the final result is rounded to the number of significant figures appropriate to the accuracy of the analytical method. Please note that results appearing in the columns preceeding the final result column may have been rounded and therefore, if carried through the calculations, may not yield an identical final result to the one reported.

The stated LOQs for each analyte represent the demonstrated LOQ concentrations prior to correction for desorption efficiency (if applicable).

Unless otherwise noted below, reported results have not been blank corrected for any field blank or method blank.

L367329 (Report ID: 922746):
SOPs: il-n5506(12)
Results corrected for matrix and compound specific desorption efficiencies.

L367329 (Report ID: 922746):
Accuracy and mean recovery data presented below is based on a 95% confidence interval (k=2).
The estimated uncertainty applies to the media, technology, and SOP referenced in this report and does not account for the uncertainty associated with the sampling process.

Parameter	Accuracy	Mean Recovery
1-Nitropyrene	+/-16%	107%
Acenaphthene	+/-14.4%	104%
Acenaphthylene	+/-11.7%	100%
Anthracene	+/-15.7%	114%
Benzo(a)anthracene	+/-16.1%	110%
Benzo(a)pyrene	+/-26%	115%

< -Less Than mg -Milligrams m3 -Cubic Meters kg -Kilograms ppm -Parts per Million
> -Greater Than ug -Micrograms l -Liters NS -Not Specified ND -Not Detected NA -Not Applicable

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Client Name : Center for Toxicology & Env. Health LLC
Site :
Project No. : 107907

Date Sampled : 13-FEB-16 Account No.: 13913
Date Received: 17-FEB-16 Login No. : L367329
Date Analyzed: 18-FEB-16

Benzo(b)fluoranthene	+/-19%	113%
Benzo(e)pyrene	+/-19.2%	111%
Benzo(g,h,i)perylene	+/-20.2%	112%
Benzo(k)fluoranthene	+/-15.5%	109%
Chrysene	+/-14%	108%
Dibenz(a,h)anthracene	+/-15.6%	103%
Fluoranthene	+/-16.2%	110%
Fluorene	+/-12.4%	109%
Indeno(1,2,3-cd)pyrene	+/-19.5%	113%
Naphthalene	+/-13.3%	105%
Phenanthrene	+/-13.4%	108%
Pyrene	+/-14.6%	112%

Parameter	Method	PEL
1-Nitropyrene	mod. NIOSH 5506; HPLC/UV	NA
Acenaphthene	mod. NIOSH 5506; HPLC/UV	NA
Acenaphthylene	mod. NIOSH 5506; HPLC/UV	NA
Anthracene	mod. NIOSH 5506; HPLC/UV	NA
Benzo(a)anthracene	mod. NIOSH 5506; HPLC/UV	NA
Benzo(a)pyrene	mod. NIOSH 5506; HPLC/UV	0.2 mg/m3 (TWA)
Benzo(b)fluoranthene	mod. NIOSH 5506; HPLC/UV	NA
Benzo(e)pyrene	mod. NIOSH 5506; HPLC/UV	NA
Benzo(g,h,i)perylene	mod. NIOSH 5506; HPLC/UV	NA
Benzo(k)fluoranthene	mod. NIOSH 5506; HPLC/UV	NA
Chrysene	mod. NIOSH 5506; HPLC/UV	0.2 mg/m3 (TWA)
Dibenz(a,h)anthracene	mod. NIOSH 5506; HPLC/UV	NA
Fluoranthene	mod. NIOSH 5506; HPLC/UV	NA
Fluorene	mod. NIOSH 5506; HPLC/UV	NA
Indeno(1,2,3-cd)pyrene	mod. NIOSH 5506; HPLC/UV	NA
Naphthalene	mod. NIOSH 5506; HPLC/UV	10 ppm (TWA)
Phenanthrene	mod. NIOSH 5506; HPLC/UV	NA
Pyrene	mod. NIOSH 5506; HPLC/UV	NA

L367329 (Report ID: 922672):
SOPs: GRAV-SOP-5(15), GRAV-SOP-6(15)

< -Less Than mg -Milligrams m3 -Cubic Meters kg -Kilograms ppm -Parts per Million
> -Greater Than ug -Micrograms l -Liters NS -Not Specified ND -Not Detected NA -Not Applicable

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LABORATORY FOOTNOTE REPORT

Client Name : Center for Toxicology & Env. Health LLC
Site :
Project No. : 107907

Date Sampled : 13-FEB-16 Account No.: 13913
Date Received: 17-FEB-16 Login No. : L367329
Date Analyzed: 18-FEB-16

L367329 (Report ID: 922672):
Gravimetric analytical accuracy of the sampling media is -0.005 +/- 0.007 mg (average blank weight change +/- 95% confidence interval or k=2). The estimated uncertainly applies to the media, technology, and SOP(s) referenced in this report and does not account for any uncertainty associated with the sampling process.

@L367329-6 (Report ID: 922672):
Metal mesh piece still attached to filter. Unknown impact on result.

<	-Less Than	mg	-Milligrams	m3	-Cubic Meters	kg	-Kilograms	ppm	-Parts per Million
>	-Greater Than	ug	-Micrograms	l	-Liters	NS	-Not Specified	ND	-Not Detected	NA	-Not Applicable

Sample: WG339226-1 **Spikelot:** IH603243-4
QC Type: DLS **Raw File:**
Analysis date 02/17/16 20:49:53 **Approval Status:** YES
Instrument: LC5

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
NAPHTHALENE	.091188	.099	92.1	70.0 to 130.				
BENZO(A)ANTHRACENE	.105554	.099	107	70.0 to 130.				
CHRYSENE	.103923	.099	105	70.0 to 130.				
BENZO(E)PYRENE	.104909	.1	105	70.0 to 130.				
BENZO(B)FLUORANTHENE	.102290	.099	103	70.0 to 130.				
BENZO(K)FLUORANTHENE	.085228	.099	86.1	70.0 to 130.				
BENZO(A)PYRENE	.099685	.099	101	70.0 to 130.				
DIBENZ(A,H)ANTHRACENE	.102631	.099	104	70.0 to 130.				
BENZO(G,H,I)PERYLENE	.107765	.099	109	70.0 to 130.				
INDENO-1,2,3-CD-PYRENE	.090470	.099	91.4	70.0 to 130.				
ACENAPHTHYLENE	.094576	.099	95.5	70.0 to 130.				
ACENAPHTHENE	.096992	.1	97	70.0 to 130.				
FLUORENE	.098268	.098	100	70.0 to 130.				
PHENANTHRENE	.104105	.098	106	70.0 to 130.				
ANTHRACENE	.122423	.099	124	70.0 to 130.				
FLUORANTHENE	.094369	.098	96.3	70.0 to 130.				
1-NITROPYRENE	.086164	.099	87	70.0 to 130.				
PYRENE	.072696	.099	73.4	70.0 to 130.				

Sample: WG339226-2 **Spikelot:** IH603243-3
QC Type: CCV **Raw File:**
Analysis date 02/17/16 21:09:51 **Approval Status:** YES
Instrument: LC5

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
NAPHTHALENE	4.99862	4.95	101	88.5 to 120.				
PYRENE	5.35511	4.95	108	92.5 to 125.				
BENZO(A)ANTHRACENE	5.39857	4.95	109	93.7 to 119.				
CHRYSENE	5.18931	4.95	105	88.3 to 120.				
BENZO(E)PYRENE	5.27262	4.9995	105	90.6 to 127.				
BENZO(B)FLUORANTHENE	5.33266	4.95	108	93.8 to 125.				
BENZO(K)FLUORANTHENE	5.21370	4.95	105	88.6 to 118.				
BENZO(A)PYRENE	5.48545	4.95	111	80.0 to 138.				
DIBENZ(A,H)ANTHRACENE	5.13435	4.95	104	86.7 to 122.				
BENZO(G,H,I)PERYLENE	5.24125	4.95	106	87.6 to 124.				
ACENAPHTHYLENE	5.09155	4.95	103	89.8 to 117.				

Sample: WG339226-2 **Spikelot:** IH603243-3
QC Type: CCV **Raw File:**
Analysis date 02/17/16 21:09:51 **Approval Status:** YES
Instrument: LC5

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
INDENO-1,2,3-CD-PYRENE	5.38558	4.95	109	94.8 to 127.				
ACENAPHTHENE	5.18462	4.9995	104	88.1 to 121.				
FLUORENE	5.21346	4.9	106	92.7 to 123.				
PHENANTHRENE	5.19808	4.9	106	91.1 to 120.				
ANTHRACENE	6.08529	4.95	123	85.6 to 123.				
FLUORANTHENE	5.14806	4.9	105	92.0 to 120.				
1-NITROPYRENE	5.00311	4.95	101	86.8 to 123.				

Sample: WG339225-2 **Spikelot:** NA
QC Type: MBLANK **Raw File:**
Analysis date 02/17/16 22:09:46 **Approval Status:** YES
Instrument: LC5

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
FLUORANTHENE(FRONT)	.228028	<.3						
FLUORANTHENE(BACK)	.069930	<.3						
ACENAPHTHENE(FRONT)	0	<.3						
ACENAPHTHENE(BACK)	0	<.3						
ACENAPHTHYLENE(FRONT)	0	<.3						
ACENAPHTHYLENE(BACK)	0	<.3						
ANTHRACENE(FRONT)	0	<.3						
ANTHRACENE(BACK)	0	<.3						
BENZO(A)ANTHRACENE(FRONT)	0	<.3						
BENZO(A)ANTHRACENE(BACK)	0	<.3						
BENZO(A)PYRENE(FRONT)	0	<.3						
BENZO(A)PYRENE(BACK)	0	<.3						
BENZO(B)FLUORANTHENE(FRONT)	0	<.3						
BENZO(B)FLUORANTHENE(BACK)	0	<.3						
BENZO(E)PYRENE(FRONT)	0	<.3						
BENZO(E)PYRENE(BACK)	0	<.3						
BENZO(G,H,I)PERYLENE(FRONT)	0	<.3						
BENZO(G,H,I)PERYLENE(BACK)	0	<.3						
BENZO(K)FLUORANTHENE(FRONT)	0	<.3						
BENZO(K)FLUORANTHENE(BACK)	0	<.3						
CHRYSENE(FRONT)	0	<.3						
CHRYSENE(BACK)	0	<.3						

Sample: WG339225-2 **Spikelot:** NA
QC Type: MBLANK **Raw File:**
Analysis date 02/17/16 22:09:46 **Approval Status:** YES
Instrument: LC5

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
DIBENZ(A,H)ANTHRACENE(FRONT)	0	<.3						
DIBENZ(A,H)ANTHRACENE(BACK)	0	<.3						
FLUORENE(FRONT)	0	<.3						
FLUORENE(BACK)	0	<.3						
INDENO-1,2,3-CD-PYRENE(FRONT)	0	<.3						
INDENO-1,2,3-CD-PYRENE(BACK)	0	<.3						
NAPHTHALENE(FRONT)	0	<.3						
NAPHTHALENE(BACK)	0	<.3						
1-NITROPYRENE(FRONT)	0	<.3						
1-NITROPYRENE(BACK)	0	<.3						
PHENANTHRENE(FRONT)	0	<.3						
PHENANTHRENE(BACK)	0	<.3						
PYRENE(FRONT)	0	<.3						
PYRENE(BACK)	0	<.3						

Sample: WG339225-3 **Spikelot:** IH607685
QC Type: BS **Raw File:**
Analysis date 02/17/16 22:49:46 **Approval Status:** YES
Instrument: LC5

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
NAPHTHALENE	4.67744	4.95	94.5		95.4	85.2 to 125		
BENZO(A)ANTHRACENE	4.97021	4.95	100		102	85.3 to 134		
CHRYSENE	4.79322	4.95	96.8		98.8	86.7 to 129		
BENZO(E)PYRENE	4.87589	4.9995	97.5		99.5	82.4 to 140		
BENZO(B)FLUORANTHENE	4.94132	4.95	99.8		103	85.0 to 142		
BENZO(K)FLUORANTHENE	4.83210	4.95	97.6		101	85.3 to 132		
BENZO(A)PYRENE	5.16612	4.95	104		106	76.5 to 154		
DIBENZ(A,H)ANTHRACENE	4.76736	4.95	96.3		97.3	79.8 to 127		
BENZO(G,H,I)PERYLENE	4.98767	4.95	101		105	81.7 to 142		
INDENO-1,2,3-CD-PYRENE	5.00726	4.95	101		102	83.3 to 142		
ACENAPHTHYLENE	4.75765	4.95	96.1		94.2	82.8 to 118		
ACENAPHTHENE	4.84633	4.9995	96.9		95	82.3 to 125		
FLUORENE	4.82589	4.9	98.5		102	90.7 to 128		
PHENANTHRENE	4.77159	4.9	97.4		99.4	87.8 to 128		
ANTHRACENE	5.71834	4.95	116		118	90.2 to 137		

Sample: WG339225-3 **Spikelot:** IH607685
QC Type: BS **Raw File:**
Analysis date 02/17/16 22:49:46 **Approval Status:** YES
Instrument: LC5

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
FLUORANTHENE	4.74332	4.9	96.8		98.8	85.5 to 134		
1-NITROPYRENE	4.57748	4.95	92.5		93.4	82.7 to 131		
PYRENE	4.90042	4.95	99		100	89.7 to 134		

Sample: WG339225-4 **Spikelot:** IH607685
QC Type: BSD **Raw File:**
Analysis date 02/17/16 23:09:43 **Approval Status:** YES
Instrument: LC5

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
NAPHTHALENE	4.77066	4.95	96.4		97.4	85.2 to 125	-2.07	-10 to 10.0
BENZO(A)ANTHRACENE	5.06160	4.95	102		104	85.3 to 134	-1.94	-10 to 10.0
CHRYSENE	4.86799	4.95	98.3		100	86.7 to 129	-1.21	-10 to 10.0
BENZO(E)PYRENE	4.97261	4.9995	99.5		101	82.4 to 140	-1.5	-10 to 10.0
BENZO(B)FLUORANTHENE	5.02061	4.95	101		105	85.0 to 142	-1.92	-10 to 10.0
BENZO(K)FLUORANTHENE	4.96326	4.95	100		103	85.3 to 132	-1.96	-10 to 10.0
BENZO(A)PYRENE	5.25736	4.95	106		108	76.5 to 154	-1.87	-10 to 10.0
DIBENZ(A,H)ANTHRACENE	4.80659	4.95	97.1		98.1	79.8 to 127	-.819	-11.5 to 9.87
BENZO(G,H,I)PERYLENE	4.96137	4.95	100		104	81.7 to 142	.957	-10 to 10.0
INDENO-1,2,3-CD-PYRENE	4.91288	4.95	99.3		100	83.3 to 142	1.98	-10 to 10.0
ACENAPHTHYLENE	4.91305	4.95	99.3		97.3	82.8 to 118	-3.24	-10 to 10.0
ACENAPHTHENE	4.94342	4.9995	98.9		96.9	82.3 to 125	-1.98	-10 to 10.0
FLUORENE	4.92364	4.9	100		104	90.7 to 128	-1.94	-10 to 10.0
PHENANTHRENE	4.90926	4.9	100		102	87.8 to 128	-2.58	-10 to 10.0
ANTHRACENE	5.76927	4.95	117		119	90.2 to 137	-.844	-10 to 10.0
FLUORANTHENE	4.82947	4.9	98.6		101	85.5 to 134	-2.2	-10 to 10.0
1-NITROPYRENE	4.64597	4.95	93.9		94.8	82.7 to 131	-1.49	-10 to 10.0
PYRENE	4.94609	4.95	99.9		101	89.7 to 134	-.995	-10.4 to 8.90

Sample: WG339225-5 **Spikelot:** IH607685
QC Type: BS **Raw File:**
Analysis date 02/17/16 23:29:41 **Approval Status:** YES
Instrument: LC5

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
NAPHTHALENE	4.54303	4.95	91.8		99.8	85.2 to 125		
PYRENE	4.20138	4.95	84.9		104	89.7 to 134		

Sample: WG339225-5 **Spikelot:** IH607685
QC Type: BS **Raw File:**
Analysis date 02/17/16 23:29:41 **Approval Status:** YES
Instrument: LC5

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
BENZO(A)ANTHRACENE	4.18882	4.95	84.6		108	85.3 to 134		
CHRYSENE	3.97754	4.95	80.4		104	86.7 to 129		
BENZO(E)PYRENE	3.72228	4.9995	74.5		109	82.4 to 140		
BENZO(B)FLUORANTHENE	3.94894	4.95	79.8		111	85.0 to 142		
BENZO(K)FLUORANTHENE	3.89047	4.95	78.6		109	85.3 to 132		
BENZO(A)PYRENE	3.78701	4.95	76.5		116	76.5 to 154		
DIBENZ(A,H)ANTHRACENE	3.52992	4.95	71.3		99	79.8 to 127		
BENZO(G,H,I)PERYLENE	2.98602	4.95	60.3		102	81.7 to 142		
INDENO-1,2,3-CD-PYRENE	3.34551	4.95	67.6		106	83.3 to 142		
ACENAPHTHYLENE	4.55195	4.95	92		95.8	82.8 to 118		
ACENAPHTHENE	4.53476	4.9995	90.7		101	82.3 to 125		
FLUORENE	4.55194	4.9	92.9		103	90.7 to 128		
PHENANTHRENE	4.46230	4.9	91.1		106	87.8 to 128		
ANTHRACENE	5.14597	4.95	104		122	90.2 to 137		
FLUORANTHENE	4.37154	4.9	89.2		107	85.5 to 134		
1-NITROPYRENE	4.14237	4.95	83.7		99.6	82.7 to 131		

Sample: WG339225-6 **Spikelot:** IH607685
QC Type: BSD **Raw File:**
Analysis date 02/17/16 23:49:38 **Approval Status:** YES
Instrument: LC5

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
NAPHTHALENE	4.54851	4.95	91.9		99.9	85.2 to 125	-.1	-10 to 10.0
PYRENE	4.20688	4.95	85		104	89.7 to 134	0	-10.4 to 8.90
BENZO(A)ANTHRACENE	4.18751	4.95	84.6		108	85.3 to 134	0	-10 to 10.0
CHRYSENE	3.98465	4.95	80.5		105	86.7 to 129	-.957	-10 to 10.0
BENZO(E)PYRENE	3.64220	4.9995	72.9		107	82.4 to 140	1.85	-10 to 10.0
BENZO(B)FLUORANTHENE	3.88444	4.95	78.5		109	85.0 to 142	1.82	-10 to 10.0
BENZO(K)FLUORANTHENE	3.94407	4.95	79.7		111	85.3 to 132	-1.82	-10 to 10.0
BENZO(A)PYRENE	3.94188	4.95	79.6		121	76.5 to 154	-4.22	-10 to 10.0
DIBENZ(A,H)ANTHRACENE	3.48700	4.95	70.4		97.8	79.8 to 127	1.22	-11.5 to 9.87
BENZO(G,H,I)PERYLENE	2.99366	4.95	60.5		103	81.7 to 142	-.976	-10 to 10.0
INDENO-1,2,3-CD-PYRENE	3.37923	4.95	68.3		107	83.3 to 142	-.939	-10 to 10.0
ACENAPHTHYLENE	4.55011	4.95	91.9		95.8	82.8 to 118	0	-10 to 10.0
ACENAPHTHENE	4.51743	4.9995	90.4		100	82.3 to 125	.995	-10 to 10.0

Sample: WG339225-6 **Spikelot:** IH607685
QC Type: BSD **Raw File:**
Analysis date 02/17/16 23:49:38 **Approval Status:** YES
Instrument: LC5

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
FLUORENE	4.49719	4.9	91.8		102	90.7 to 128	.976	-10 to 10.0
PHENANTHRENE	4.35140	4.9	88.8		103	87.8 to 128	2.87	-10 to 10.0
ANTHRACENE	5.12312	4.95	103		122	90.2 to 137	0	-10 to 10.0
FLUORANTHENE	4.38130	4.9	89.4		108	85.5 to 134	-.93	-10 to 10.0
1-NITROPYRENE	4.14474	4.95	83.7		99.7	82.7 to 131	-.1	-10 to 10.0

Sample: WG339226-3 **Spikelot:** IH603243-3
QC Type: CCV **Raw File:**
Analysis date 02/18/16 03:49:20 **Approval Status:** YES
Instrument: LC5

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
1-NITROPYRENE	4.90166	4.95	99	86.8 to 123.				
PYRENE	5.27455	4.95	107	92.5 to 125.				
BENZO(A)ANTHRACENE	5.30031	4.95	107	93.7 to 119.				
CHRYSENE	5.09297	4.95	103	88.3 to 120.				
BENZO(E)PYRENE	5.20090	4.9995	104	90.6 to 127.				
BENZO(B)FLUORANTHENE	5.22519	4.95	106	93.8 to 125.				
BENZO(K)FLUORANTHENE	5.13586	4.95	104	88.6 to 118.				
BENZO(A)PYRENE	5.41458	4.95	109	80.0 to 138.				
DIBENZ(A,H)ANTHRACENE	5.05282	4.95	102	86.7 to 122.				
NAPHTHALENE	4.97033	4.95	100	88.5 to 120.				
BENZO(G,H,I)PERYLENE	5.18703	4.95	105	87.6 to 124.				
INDENO-1,2,3-CD-PYRENE	5.31251	4.95	107	94.8 to 127.				
ACENAPHTHYLENE	5.05199	4.95	102	89.8 to 117.				
ACENAPHTHENE	5.13321	4.9995	103	88.1 to 121.				
FLUORENE	5.12945	4.9	105	92.7 to 123.				
PHENANTHRENE	5.10664	4.9	104	91.1 to 120.				
ANTHRACENE	5.99424	4.95	121	85.6 to 123.				
FLUORANTHENE	5.07564	4.9	104	92.0 to 120.				

Sample: WG339226-4 **Spikelot:** IH603243-3
QC Type: CCV **Raw File:**
Analysis date 02/18/16 08:29:08 **Approval Status:** YES
Instrument: LC5

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits

Sample: WG339226-4 **Spikelot:** IH603243-3

QC Type: CCV **Raw File:**

Analysis date 02/18/16 08:29:08 **Approval Status:** YES

Instrument: LC5

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
1-NITROPYRENE	5.06265	4.95	102	86.8 to 123.				
PYRENE	5.40678	4.95	109	92.5 to 125.				
BENZO(A)ANTHRACENE	5.46022	4.95	110	93.7 to 119.				
CHRYSENE	5.25188	4.95	106	88.3 to 120.				
BENZO(E)PYRENE	5.33824	4.9995	107	90.6 to 127.				
BENZO(B)FLUORANTHENE	5.38493	4.95	109	93.8 to 125.				
BENZO(K)FLUORANTHENE	5.26264	4.95	106	88.6 to 118.				
BENZO(A)PYRENE	5.57185	4.95	113	80.0 to 138.				
DIBENZ(A,H)ANTHRACENE	5.19780	4.95	105	86.7 to 122.				
NAPHTHALENE	5.09226	4.95	103	88.5 to 120.				
BENZO(G,H,I)PERYLENE	5.32897	4.95	108	87.6 to 124.				
INDENO-1,2,3-CD-PYRENE	5.50414	4.95	111	94.8 to 127.				
ACENAPHTHYLENE	5.18686	4.95	105	89.8 to 117.				
ACENAPHTHENE	5.26720	4.9995	105	88.1 to 121.				
FLUORENE	5.28716	4.9	108	92.7 to 123.				
PHENANTHRENE	5.27223	4.9	108	91.1 to 120.				
ANTHRACENE	6.16830	4.95	125	85.6 to 123.				
FLUORANTHENE	5.21059	4.9	106	92.0 to 120.				

GRAVIMETRICS QC SUMMARY REPORT

Login: L367329
Matnum: 306
Matrix: PVC PW 37mm
Instrument Description: Mettler XP6, M4
Method: mod. EPA Method IP-10A; Gravimetric
Reporting Level (mg): 0.050 mg
Analysis: Particulate Matter - PM10

Type	Sample #	Analysis Date	True Value (mg)	Found Value (mg)	Difference (mg)	Control Limit (mg)
CCV	WG339297-1	2/18/2016 08:36:00	19.948	19.948	0.000	0.008
BLANK	WG339297-3	2/18/2016 08:37:00	10.166	10.157	-0.009	-0.015
CCV	WG339297-6	2/18/2016 08:50:00	19.948	19.948	0.000	0.008
CCV	WG339317-1	2/18/2016 11:23:00	19.948	19.948	0.000	0.008
CCV	WG339317-4	2/18/2016 11:34:00	19.948	19.950	0.002	0.008

Type	Sample #	Analysis Date	Sample Result (mg)	Duplicate Result (mg)	Abs. Val. of mg Difference	Control Limit (mg)
DUP	WG339317-2	2/18/2016 11:24:00	0.119	0.120	0.001	0.004

Dup Workgroup number **Sample number**
WG339317-2 L367329-5

5120 North Shore Drive
North Little Rock, AR 72118
Phone: (501) 801-8500
Fax: (501) 801-8501
Website: www.cteh.com

Center for Toxicology and Environmental Health L.L.C.

SAMPLE CHAIN OF CUSTODY AND ANALYSIS REQUEST FORM

R99

Page 1 of 1

	Send Report To:	Send Invoice To:
Name	CConnolly@Cteh.com; mbers@cteh.com	Accounts Payable
Company	CTEH	CTEH
Address	2000 Anders Lane Kemah, Texas 77565	5120 North Shore Drive North Little Rock, AR 72118
Phone	(281)535-2834	(501)801-8500
Fax	(281)535-0232	(501)801-8501
e-mail	labresults@cteh.com	lraccounting@cteh.com

CTEH Project #: 107907

Turnaround Requested:
Same Day __Next Day (24 hour) ___ Normal
X Other (Specify) 2 day

Complete Data Packet Requested ☒Yes ☐No

Lab Contact Information:
Galson Laboratories
6601 Kirkville Road
E. Syracuse, NY 13057

Units (Check one) X L __cm²

Client Sample Identification	Other Sample Identification	Sample Size	Units	Sample Date	Sample Time (for non-air samples)	Initials	NIOSH 5506 PNAH mod. EPA IP-10A PM10	Matrix
HOTx0213PNAH001	15-0034954	966.4	L	02.13.16	480	RA	X	A
HOTx0213PNAH002	16-0037336	954.79	L	02.13.16	480	RA	X	A
HOTx0213PNAH003	16-0037332	915.19	L	02.13.16	480	RA	X	A
HOTx0213PNAH004	16-0037329	0	L	02.13.16	0	RA	X	A
HOTx0213PM001	16-0030845	1081.92	L	02.13.16	537	RA		A
HOTx0213PM002	16-0030847	1039.75	L	02.13.16	522	RA		A
HOTx0213PM003	16-0030846	1027.96	L	02.13.16	513	RA		A
HOTx0213PM004	16-0030845	0	L	02.13.16	0	RA		A

Samples Received in Light Sensitive Material: Yes or No

RELINQUISHED BY	DATE/TIME	RECEIVED BY	DATE/TIME
Justin Langley	2/15/16 16:00	Fed Ex	
		M. Kramm	2/17/16 1021

COMMENTS

Rec'd intact & all accounted for? Yes or No SL
Rec'd w/custody seals intact? Yes or No NA
Rec'd in light sensitive packaging? Yes or No SL
Rec'd with ice pack? Yes or No SL
Rec'd temperature compliant? Yes or No SL

Dr. Mike Berg
Center for Toxicology & Env. Health LLC
2000 Anders Lane
Kemah, TX 77565

February 25, 2016

DOH ELAP #11626 Account# 13913 Login# L367778
AIHA-LAP #100324

Dear Dr. Berg:

Enclosed are the analytical results for the samples received by our laboratory on February 23, 2016. All test results meet the quality control requirements of AIHA-LAP and NELAC unless otherwise stated in this report. All samples on the chain of custody were received in good condition unless otherwise noted.

Results in this report are based on the sampling data provided by the client and refer only to the samples as they were received at the laboratory. Unless otherwise requested, all samples will be discarded 14 days from the date of this report, with the exception of IOMs, which will be cleaned and disposed of after seven calendar days.

Current Scopes of Accreditation can be viewed at www.galsonlabs.com in the accreditations section under the "about Galson" tab.

Please contact Pamela Weaver at (888) 432-5227, if you would like any additional information regarding this report. Thank you for using SGS Galson Laboratories.

Sincerely,

SGS Galson Laboratories

Lisa Swab
Laboratory Director

Enclosure(s)

Galson Laboratories, Inc. is now a part of SGS, the world's leading inspection, verification, testing, and certification company. As part of our transition to SGS, you will begin to see some formatting changes with reports that will improve the presentation of data and allow for the transition to the new logo.

SGS GALSON LABORATORIES

6601 Kirkville Road
East Syracuse, NY 13057
(315) 432-5227
FAX: (315) 437-0571
www.galsonlabs.com

LABORATORY ANALYSIS REPORT

Client : Center for Toxicology & Env. H
Site : NS
Project No. : 107907
Date Sampled : 19-FEB-16
Date Received : 23-FEB-16

Account No.: 13913
Login No. : L367778
Date Analyzed : 23-FEB-16
Report ID : 923539

Respirable Dust

Sample ID	Lab ID	Air Vol liter	Total mg	Conc mg/m3
HOTX0219RD001	L367778-1	1366.8	<0.050	<0.037
HOTX0219RD002	L367778-2	1375.1	<0.050	<0.036
HOTX0219RD003	L367778-3	1249.5	<0.050	<0.040
HOTX0219RD004	L367778-4	NA	<0.050	NA

COMMENTS: Please see attached lab footnote report for any applicable footnotes.

Level of quantitation: 0.050 mg
Analytical Method : mod. NIOSH 0600; Gravimetric
OSHA PEL : PNOR 5 mg/m3 (TWA)
Collection Media : PVC PW 37mm

Submitted by: PAH
Approved by : CRI
Date : 25-FEB-16
Supervisor: CRI

NYS DOH # : 11626
QC by: AMD

< -Less Than mg -Milligrams m3 -Cubic Meters kg -Kilograms NA -Not Applicable ND -Not Detected
> -Greater Than ug -Micrograms l -Liters NS -Not Specified ppm -Parts per Million

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LABORATORY ANALYSIS REPORT

Client : Center for Toxicology & Env. H
Site : NS
Project No. : 107907
Date Sampled : 19-FEB-16
Date Received : 23-FEB-16

Account No.: 13913
Login No. : L367778
Date Analyzed : 23-FEB-16
Report ID : 923535

Total Dust

Sample ID	Lab ID	Air Vol liter	Total mg	Conc mg/m3
HOTX0219TD001	L367778-5	1102.7	0.072	0.065
HOTX0219TD002	L367778-6	1084.6	0.059	0.054
HOTX0219TD003	L367778-7	987.7	0.13	0.13
HOTX0219TD004	L367778-8	NA	<0.050	NA

COMMENTS: Please see attached lab footnote report for any applicable footnotes.

Level of quantitation: 0.050 mg
Analytical Method : mod. NIOSH 0500; Gravimetric
OSHA PEL : PNOR 15 mg/m3 (TWA)
Collection Media : PVC PW 37mm

Submitted by: MNS/PAH
Approved by : CRI
Date : 25-FEB-16
Supervisor: CRI

NYS DOH # : 11626
QC by: AMD

< -Less Than mg -Milligrams m3 -Cubic Meters kg -Kilograms NA -Not Applicable ND -Not Detected
> -Greater Than ug -Micrograms l -Liters NS -Not Specified ppm -Parts per Million

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LABORATORY FOOTNOTE REPORT

Client Name : Center for Toxicology & Env. Health LLC
Site :
Project No. : 107907

Date Sampled : 19-FEB-16
Date Received: 23-FEB-16
Date Analyzed: 23-FEB-16

Account No.: 13913
Login No. : L367778

Unless otherwise noted below, all quality control results associated with the samples were within established control limits or did not impact reported results.

WARNING: The sample(s) to which the findings recorded herein (the "Findings") relate was(were) drawn and / or provided by the Client or by a third party acting at the Client's direction. The Findings constitute no warranty of the sample's representativeness of any goods and strictly relate to the sample(s). The Company accepts no liability with regard to the origin or source from which the sample(s) is/are said to be extracted.

Unrounded results are carried through the calculations that yield the final result and the final result is rounded to the number of significant figures appropriate to the accuracy of the analytical method. Please note that results appearing in the columns preceeding the final result column may have been rounded and therefore, if carried through the calculations, may not yield an identical final result to the one reported.

The stated LOQs for each analyte represent the demonstrated LOQ concentrations prior to correction for desorption efficiency (if applicable).

Unless otherwise noted below, reported results have not been blank corrected for any field blank or method blank.

L367778 (Report ID: 923539):
SOPs: GRAV-SOP-5(15), GRAV-SOP-6(15)
Gravimetric analytical accuracy of the sampling media is -0.005 +/- 0.007 mg (average blank weight change +/- 95% confidence interval or k=2). The estimated uncertainly applies to the media, technology, and SOP(s) referenced in this report and does not account for any uncertainty associated with the sampling process.
PNOR = Particulates Not Otherwise Regulated.

L367778 (Report ID: 923535):
SOPs: GRAV-SOP-5(15), GRAV-SOP-6(15)
Gravimetric analytical accuracy of the sampling media is -0.005 +/- 0.007 mg (average blank weight change +/- 95% confidence interval or k=2). The estimated uncertainly applies to the media, technology, and SOP(s) referenced in this report and does not account for any uncertainty associated with the sampling process.
PNOR = Particulates Not Otherwise Regulated.

< -Less Than	mg -Milligrams	m3 -Cubic Meters	kg -Kilograms	ppm -Parts per Million		
> -Greater Than	ug -Micrograms	l -Liters	NS -Not Specified	ND -Not Detected	NA -Not Applicable	

GRAVIMETRICS QC SUMMARY REPORT

Login: L367778
Matnum: 306
Matrix: PVC PW 37mm
Instrument Description: Mettler MX-5, M2
Method: mod. NIOSH 0500; GRAV
Reporting Level (mg): 0.050 mg
Analysis: Total Dust

Type	Sample #	Analysis Date	True Value (mg)	Found Value (mg)	Difference (mg)	Control Limit (mg)
CCV	WG339671-1	2/23/2016 07:11:00	19.943	19.941	-0.002	0.008
BLANK	WG339671-3	2/23/2016 07:13:00	13.219	13.211	-0.008	-0.010
CCV	WG339671-7	2/23/2016 07:23:00	19.943	19.943	0.000	0.008
CCV	WG339718-4	2/23/2016 12:41:00	19.943	19.943	0.000	0.008
CCV	WG339718-6	2/23/2016 12:47:00	19.943	19.947	0.004	0.008

Type	Sample #	Analysis Date	Sample Result (mg)	Duplicate Result (mg)	Abs. Val. of mg Difference	Control Limit (mg)
DUP	WG339718-5	2/23/2016 12:42:00	0.072	0.072	0.000	0.004

Dup Workgroup number	**Sample number**
WG339718-5	L367778-5

Instrument Description: Mettler MX-5, M3
Method: mod. NIOSH 0600; 0500 GRAV
Analysis: Respirable and Total Dust

Type	Sample #	Analysis Date	True Value (mg)	Found Value (mg)	Difference (mg)	Control Limit (mg)
CCV	WG339673-1	2/23/2016 07:42:00	19.939	19.936	-0.003	0.008
BLANK	WG339673-3	2/23/2016 07:44:00	10.952	10.953	0.001	0.008
CCV	WG339673-7	2/23/2016 07:54:00	19.939	19.937	-0.002	0.008
CCV	WG339719-1	2/23/2016 12:37:00	19.939	19.937	-0.002	0.008
CCV	WG339719-7	2/23/2016 12:47:00	19.939	19.937	-0.002	0.008

Type	Sample #	Analysis Date	Sample Result (mg)	Duplicate Result (mg)	Abs. Val. of mg Difference	Control Limit (mg)
DUP	WG339719-2	2/23/2016 12:39:00	0.020	0.021	0.001	0.004
DUP	WG339719-4	2/23/2016 12:43:00	0.059	0.060	0.001	0.004

Dup Workgroup number	**Sample number**
WG339719-2	L367778-1
WG339719-4	L367778-6

L3607778

775699809498
Date: 02/23/16
Shipper: FEDEX
Initials: GMB
Prep: UNKNOWN

5120 North Shore Drive
North Little Rock, AR 72118
Phone: (501) 801-8500
Fax: (501) 801-8501
Website: www.cteh.com

for Toxicology and Environmental Health L.L.C.
CHAIN OF CUSTODY AND ANALYSIS REQUEST FORM

R83

Page ___ of ___

	Send Report To:	Send Invoice To:
Name	MBerg . CConnolly	Accounts Payable
Company	CTEH	CTEH
Address	2000 Anders Lane Kemah, Texas 77565	5120 North Shore Drive North Little Rock, AR 72118
Phone	(281)535-2834	(501)801-8500
Fax	(281)535-0232	(501)801-8501
e-mail	labresults@cteh.com MBerg@cteh.com CConnolly@cteh.com	lraccounting@cteh.com

CTEH Project #: 107907

Turnaround Requested:
Same Day ___Next Day (24 hour) ___ Normal
___Other (Specify) 2 day TAT

Complete Data Packet Requested ☐Yes ☒No

Lab Contact Information:
Galson Laboratories
6601 Kirkville Road
E. Syracuse NY 13057

Client Sample Identification	Other Sample Identification	Sample Size	Units (Check one) X L ___ cm^2 ___	Sample Date	Sample Time (for non-air samples)	Initials	Respirable Dust NIOSH 7500	Total Dust NIOSH 7500	Matrix (A = air, B = bulk, S = soil, SW = wipe, T = tape, W = water)
HOTX0219RD001	AS14	1366.8	L	2.19.16		AS	X		A
HOTX0219RD002	AS12	1375.1	L	2.19.16		AS	X		A
HOTX0219RD003	AS15	1249.5	L	2.19.16		AS	X		A
HOTX0219RD004	blank	0	L	2.19.16		AS	X		A
HOTX0219TD001	AS14	1102.7	L	2.19.16		AS		X	A
HOTX0219TD002	AS12	1084.6	L	2.19.16		AS		X	A
HOTX0219TD003	AS15	987.7	L	2.19.16		AS		X	A
HOTX0219TD004	blank	0	L	2.19.16		AS		X	A

RELINQUISHED BY	DATE/TIME	RECEIVED BY	DATE/TIME
A. Sanpon	02/22/16 16:00	Fed Ex	
		KMurray KM	2/23/16 728

COMMENTS
Rec'd intact & all accounted for? Yes or No KM
Rec'd w/custody seals intact? Yes or No NA KM
Rec'd in light sensitive packaging? Yes or No NA KM
Rec'd with ice pack? Yes or No NA KM
Rec'd temperature compliant? Yes or No KM

Dr. Mike Berg
Center for Toxicology & Env. Health LLC
2000 Anders Lane
Kemah, TX 77565

February 25, 2016

DOH ELAP #11626 Account# 13913 Login# L367779
AIHA-LAP #100324

Dear Dr. Berg:

Enclosed are the analytical results for the samples received by our laboratory on February 23, 2016. All test results meet the quality control requirements of AIHA-LAP and NELAC unless otherwise stated in this report. All samples on the chain of custody were received in good condition unless otherwise noted.

Results in this report are based on the sampling data provided by the client and refer only to the samples as they were received at the laboratory. Unless otherwise requested, all samples will be discarded 14 days from the date of this report, with the exception of IOMs, which will be cleaned and disposed of after seven calendar days.

Current Scopes of Accreditation can be viewed at www.galsonlabs.com in the accreditations section under the "about Galson" tab.

Please contact Pamela Weaver at (888) 432-5227, if you would like any additional information regarding this report. Thank you for using SGS Galson Laboratories.

Sincerely,

SGS Galson Laboratories

Lisa Swab
Laboratory Director

Enclosure(s)

Galson Laboratories, Inc. is now a part of SGS, the world's leading inspection, verification, testing, and certification company. As part of our transition to SGS, you will begin to see some formatting changes with reports that will improve the presentation of data and allow for the transition to the new logo.

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LABORATORY ANALYSIS REPORT

Client : Center for Toxicology & Env. H
Site : NS
Project No. : 107907
Date Sampled : 19-FEB-16
Date Received : 23-FEB-16

Account No.: 13913
Login No. : L367779
Date Analyzed : 23-FEB-16
Report ID : 923955

Client ID : HOTX0219PNAH001 **Lab ID : L367779-1** **Air Volume : 909.96 Liter**
Date Sampled : 02/19/16 **Date Analyzed : 02/23/16**

Parameter	LOQ ug	Filter ug	Front ug	Back ug	Total ug	Conc mg/m3	ppm
1-Nitropyrene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Acenaphthene	0.3	<0.3	2.1	<0.3	2.3	0.0025	0.00040
Acenaphthylene	0.3	<0.3	<0.3	<0.3	<0.3	<0.0003	<0.00006
Anthracene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00005
Benzo(a)anthracene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00005
Benzo(a)pyrene	0.3	<0.3	<0.3	<0.3	<0.5	<0.0005	<0.00005
Benzo(b)fluoranthene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0005	<0.00004
Benzo(e)pyrene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0005	<0.00005
Benzo(g,h,i)perylene	0.3	<0.3	<0.3	<0.3	<0.5	<0.0006	<0.00005
Benzo(k)fluoranthene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0005	<0.00004
Chrysene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00005
Dibenz(a,h)anthracene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0005	<0.00004
Fluoranthene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00005
Fluorene	0.3	<0.3	0.8	<0.3	0.9	0.001	0.0001
Indeno(1,2,3-cd)pyrene	0.3	<0.3	<0.3	<0.3	<0.5	<0.0005	<0.00005

COMMENTS: Please see attached lab footnote report for any applicable footnotes.

Collection Media: FilterTube
Date : 25-FEB-16

Submitted by: BCF
NYS DOH # : 11626

Approved by: nkp
Supervisor: MWJ QC by: TJB

< -Less Than mg -Milligrams m3 -Cubic Meters kg -Kilograms NA -Not Applicable ND -Not Detected
> -Greater Than ug -Micrograms l -Liters NS -Not Specified ppm -Parts per Million LOQ-Limit of Quantitation

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LABORATORY ANALYSIS REPORT

Client : Center for Toxicology & Env. H
Site : NS
Project No. : 107907
Date Sampled : 19-FEB-16
Date Received : 23-FEB-16

Account No.: 13913
Login No. : L367779
Date Analyzed : 23-FEB-16
Report ID : 923955

Client ID : HOTX0219PNAH001 **Lab ID : L367779-1** **Air Volume : 909.96 Liter**
Date Sampled : 02/19/16 **Date Analyzed : 02/23/16**

Parameter	LOQ ug	Filter ug	Front ug	Back ug	Total ug	Conc mg/m3	ppm
Naphthalene	0.3	<0.3	15	4.8	*22	*0.024	*0.0045
Phenanthrene	0.3	<0.3	0.6	<0.3	0.7	0.0007	0.0001
Pyrene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00005

COMMENTS: Please see attached lab footnote report for any applicable footnotes.

Collection Media: FilterTube
Date : 25-FEB-16

Submitted by: BCF
NYS DOH # : 11626

Approved by: nkp
Supervisor: MWJ QC by: TJB

< -Less Than mg -Milligrams m3 -Cubic Meters kg -Kilograms NA -Not Applicable ND -Not Detected
> -Greater Than ug -Micrograms l -Liters NS -Not Specified ppm -Parts per Million LOQ-Limit of Quantitation

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LABORATORY ANALYSIS REPORT

Client : Center for Toxicology & Env. H
Site : NS
Project No. : 107907
Date Sampled : 19-FEB-16
Date Received : 23-FEB-16

Account No.: 13913
Login No. : L367779
Date Analyzed : 23-FEB-16
Report ID : 923955

Client ID : HOTX0219PNAH002 **Lab ID : L367779-2** **Air Volume : 975.05 Liter**
Date Sampled : 02/19/16 **Date Analyzed : 02/23/16**

Parameter	LOQ ug	Filter ug	Front ug	Back ug	Total ug	Conc mg/m3	ppm
1-Nitropyrene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Acenaphthene	0.3	<0.3	<0.3	<0.3	<0.3	<0.0003	<0.00005
Acenaphthylene	0.3	<0.3	<0.3	<0.3	<0.3	<0.0003	<0.00005
Anthracene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00005
Benzo(a)anthracene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Benzo(a)pyrene	0.3	<0.3	<0.3	<0.3	<0.5	<0.0005	<0.00005
Benzo(b)fluoranthene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Benzo(e)pyrene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0005	<0.00004
Benzo(g,h,i)perylene	0.3	<0.3	<0.3	<0.3	<0.5	<0.0005	<0.00005
Benzo(k)fluoranthene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Chrysene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Dibenz(a,h)anthracene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Fluoranthene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Fluorene	0.3	<0.3	<0.3	<0.3	<0.3	<0.0003	<0.00005
Indeno(1,2,3-cd)pyrene	0.3	<0.3	<0.3	<0.3	<0.5	<0.0005	<0.00004

COMMENTS: Please see attached lab footnote report for any applicable footnotes.

Collection Media: FilterTube
Date : 25-FEB-16

Submitted by: BCF
NYS DOH # : 11626

Approved by: nkp
Supervisor: MWJ QC by: TJB

< -Less Than mg -Milligrams m3 -Cubic Meters kg -Kilograms NA -Not Applicable ND -Not Detected
> -Greater Than ug -Micrograms l -Liters NS -Not Specified ppm -Parts per Million LOQ-Limit of Quantitation

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LABORATORY ANALYSIS REPORT

Client : Center for Toxicology & Env. H
Site : NS
Project No. : 107907
Date Sampled : 19-FEB-16
Date Received : 23-FEB-16

Account No.: 13913
Login No. : L367779
Date Analyzed : 23-FEB-16
Report ID : 923955

Client ID : HOTX0219PNAH002 **Lab ID : L367779-2** **Air Volume : 975.05 Liter**
Date Sampled : 02/19/16 **Date Analyzed : 02/23/16**

Parameter	LOQ ug	Filter ug	Front ug	Back ug	Total ug	Conc mg/m3	ppm
Naphthalene	0.3	<0.3	<0.3	<0.3	<0.3	<0.0003	<0.00006
Phenanthrene	0.3	<0.3	<0.3	<0.3	<0.3	<0.0004	<0.00005
Pyrene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00005

COMMENTS: Please see attached lab footnote report for any applicable footnotes.

Collection Media: FilterTube
Date : 25-FEB-16

Submitted by: BCF
NYS DOH # : 11626

Approved by: nkp
Supervisor: MWJ QC by: TJB

< -Less Than mg -Milligrams m3 -Cubic Meters kg -Kilograms NA -Not Applicable ND -Not Detected
> -Greater Than ug -Micrograms l -Liters NS -Not Specified ppm -Parts per Million LOQ-Limit of Quantitation

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LABORATORY ANALYSIS REPORT

Client : Center for Toxicology & Env. H
Site : NS
Project No. : 107907
Date Sampled : 19-FEB-16
Date Received : 23-FEB-16

Account No.: 13913
Login No. : L367779
Date Analyzed : 23-FEB-16
Report ID : 923955

Client ID : HOTX0219PNAH003 **Lab ID : L367779-3** **Air Volume : 980.14 Liter**
Date Sampled : 02/19/16 **Date Analyzed : 02/23/16**

Parameter	LOQ ug	Filter ug	Front ug	Back ug	Total ug	Conc mg/m3	ppm
1-Nitropyrene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Acenaphthene	0.3	<0.3	<0.3	<0.3	<0.3	<0.0003	<0.00005
Acenaphthylene	0.3	<0.3	<0.3	<0.3	<0.3	<0.0003	<0.00005
Anthracene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00005
Benzo(a)anthracene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Benzo(a)pyrene	0.3	<0.3	<0.3	<0.3	<0.5	<0.0005	<0.00004
Benzo(b)fluoranthene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Benzo(e)pyrene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0005	<0.00004
Benzo(g,h,i)perylene	0.3	<0.3	<0.3	<0.3	<0.5	<0.0005	<0.00005
Benzo(k)fluoranthene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Chrysene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Dibenz(a,h)anthracene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Fluoranthene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Fluorene	0.3	<0.3	<0.3	<0.3	<0.3	<0.0003	<0.00005
Indeno(1,2,3-cd)pyrene	0.3	<0.3	<0.3	<0.3	<0.5	<0.0005	<0.00004

COMMENTS: Please see attached lab footnote report for any applicable footnotes.

Collection Media: FilterTube
Date : 25-FEB-16

Submitted by: BCF
NYS DOH # : 11626

Approved by: nkp
Supervisor: MWJ QC by: TJB

< -Less Than mg -Milligrams m3 -Cubic Meters kg -Kilograms NA -Not Applicable ND -Not Detected
> -Greater Than ug -Micrograms l -Liters NS -Not Specified ppm -Parts per Million LOQ-Limit of Quantitation

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LABORATORY ANALYSIS REPORT

Client : Center for Toxicology & Env. H
Site : NS
Project No. : 107907
Date Sampled : 19-FEB-16
Date Received : 23-FEB-16

Account No.: 13913
Login No. : L367779
Date Analyzed : 23-FEB-16
Report ID : 923955

Client ID : HOTX0219PNAH003 **Lab ID : L367779-3** **Air Volume : 980.14 Liter**
Date Sampled : 02/19/16 **Date Analyzed : 02/23/16**

Parameter	LOQ ug	Filter ug	Front ug	Back ug	Total ug	Conc mg/m3	ppm
Naphthalene	0.3	<0.3	<0.3	<0.3	<0.3	<0.0003	<0.00006
Phenanthrene	0.3	<0.3	<0.3	<0.3	<0.3	<0.0004	<0.00005
Pyrene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00005

COMMENTS: Please see attached lab footnote report for any applicable footnotes.

Collection Media: FilterTube
Date : 25-FEB-16

Submitted by: BCF
NYS DOH # : 11626

Approved by: nkp
Supervisor: MWJ QC by: TJB

< -Less Than mg -Milligrams m3 -Cubic Meters kg -Kilograms NA -Not Applicable ND -Not Detected
> -Greater Than ug -Micrograms l -Liters NS -Not Specified ppm -Parts per Million LOQ-Limit of Quantitation

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LABORATORY ANALYSIS REPORT

Client : Center for Toxicology & Env. H
Site : NS
Project No. : 107907
Date Sampled : 19-FEB-16
Date Received : 23-FEB-16

Account No.: 13913
Login No. : L367779
Date Analyzed : 23-FEB-16
Report ID : 923955

Client ID : HOTX0219PNAH004 **Lab ID : L367779-4** **Air Volume : NA**
Date Sampled : 02/19/16 **Date Analyzed : 02/23/16**

Parameter	LOQ ug	Filter ug	Front ug	Back ug	Total ug	Conc mg/m3	ppm
1-Nitropyrene	0.3	<0.3	<0.3	<0.3	<0.4	NA	NA
Acenaphthene	0.3	<0.3	<0.3	<0.3	<0.3	NA	NA
Acenaphthylene	0.3	<0.3	<0.3	<0.3	<0.3	NA	NA
Anthracene	0.3	<0.3	<0.3	<0.3	<0.4	NA	NA
Benzo(a)anthracene	0.3	<0.3	<0.3	<0.3	<0.4	NA	NA
Benzo(a)pyrene	0.3	<0.3	<0.3	<0.3	<0.5	NA	NA
Benzo(b)fluoranthene	0.3	<0.3	<0.3	<0.3	<0.4	NA	NA
Benzo(e)pyrene	0.3	<0.3	<0.3	<0.3	<0.4	NA	NA
Benzo(g,h,i)perylene	0.3	<0.3	<0.3	<0.3	<0.5	NA	NA
Benzo(k)fluoranthene	0.3	<0.3	<0.3	<0.3	<0.4	NA	NA
Chrysene	0.3	<0.3	<0.3	<0.3	<0.4	NA	NA
Dibenz(a,h)anthracene	0.3	<0.3	<0.3	<0.3	<0.4	NA	NA
Fluoranthene	0.3	<0.3	<0.3	<0.3	<0.4	NA	NA
Fluorene	0.3	<0.3	<0.3	<0.3	<0.3	NA	NA
Indeno(1,2,3-cd)pyrene	0.3	<0.3	<0.3	<0.3	<0.5	NA	NA

COMMENTS: Please see attached lab footnote report for any applicable footnotes.

Collection Media: FilterTube
Date : 25-FEB-16

Submitted by: BCF
NYS DOH # : 11626

Approved by: nkp
Supervisor: MWJ QC by: TJB

< -Less Than mg -Milligrams m3 -Cubic Meters kg -Kilograms NA -Not Applicable ND -Not Detected
> -Greater Than ug -Micrograms l -Liters NS -Not Specified ppm -Parts per Million LOQ-Limit of Quantitation

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LABORATORY ANALYSIS REPORT

Client : Center for Toxicology & Env. H
Site : NS
Project No. : 107907
Date Sampled : 19-FEB-16
Date Received : 23-FEB-16

Account No.: 13913
Login No. : L367779
Date Analyzed : 23-FEB-16
Report ID : 923955

Client ID : HOTX0219PNAH004 **Lab ID : L367779-4** **Air Volume : NA**
Date Sampled : 02/19/16 **Date Analyzed : 02/23/16**

Parameter	LOQ ug	Filter ug	Front ug	Back ug	Total ug	Conc mg/m3	ppm
Naphthalene	0.3	<0.3	<0.3	<0.3	<0.3	NA	NA
Phenanthrene	0.3	<0.3	<0.3	<0.3	<0.3	NA	NA
Pyrene	0.3	<0.3	<0.3	<0.3	<0.4	NA	NA

COMMENTS: Please see attached lab footnote report for any applicable footnotes.

Collection Media: FilterTube
Date : 25-FEB-16

Submitted by: BCF
NYS DOH # : 11626

Approved by: nkp
Supervisor: MWJ QC by: TJB

< -Less Than mg -Milligrams m3 -Cubic Meters kg -Kilograms NA -Not Applicable ND -Not Detected
> -Greater Than ug -Micrograms l -Liters NS -Not Specified ppm -Parts per Million LOQ-Limit of Quantitation

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LABORATORY ANALYSIS REPORT

Client : Center for Toxicology & Env. H
Site : NS
Project No. : 107907
Date Sampled : 19-FEB-16
Date Received : 23-FEB-16

Account No.: 13913
Login No. : L367779
Date Analyzed : 25-FEB-16
Report ID : 923600

Particulate Matter - PM10

Sample ID	Lab ID	Air Vol liter	Total mg	Conc mg/m3
HOTX0219PM001	L367779-5	1170.87	1.0	0.87
HOTX0219PM002	L367779-6	1070.56	0.35	0.33
HOTX0219PM003	L367779-7	1045.59	0.25	0.24
HOTX0219PM004	L367779-8	NA	<0.050	NA

COMMENTS: Please see attached lab footnote report for any applicable footnotes.

Level of quantitation: 0.050 mg
Analytical Method : mod. EPA Method IP-10A; Gravimetric
OSHA PEL : NA
Collection Media : PVC PW 37mm

Submitted by: PAH
Approved by : CRI
Date : 25-FEB-16
Supervisor: CRI

NYS DOH # : 11626
QC by: TJB

< -Less Than mg -Milligrams m3 -Cubic Meters kg -Kilograms NA -Not Applicable ND -Not Detected
> -Greater Than ug -Micrograms l -Liters NS -Not Specified ppm -Parts per Million

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LABORATORY FOOTNOTE REPORT

Client Name : Center for Toxicology & Env. Health LLC
Site :
Project No. : 107907

Date Sampled : 19-FEB-16 Account No.: 13913
Date Received: 23-FEB-16 Login No. : L367779
Date Analyzed: 23-FEB-16 - 25-FEB-16

Unless otherwise noted below, all quality control results associated with the samples were within established control limits or did not impact reported results.

WARNING: The sample(s) to which the findings recorded herein (the "Findings") relate was(were) drawn and / or provided by the Client or by a third party acting at the Client's direction. The Findings constitute no warranty of the sample's representativeness of any goods and strictly relate to the sample(s). The Company accepts no liability with regard to the origin or source from which the sample(s) is/are said to be extracted.

Unrounded results are carried through the calculations that yield the final result and the final result is rounded to the number of significant figures appropriate to the accuracy of the analytical method. Please note that results appearing in the columns preceeding the final result column may have been rounded and therefore, if carried through the calculations, may not yield an identical final result to the one reported.

The stated LOQs for each analyte represent the demonstrated LOQ concentrations prior to correction for desorption efficiency (if applicable).

Unless otherwise noted below, reported results have not been blank corrected for any field blank or method blank.

L367779 (Report ID: 923955):
SOPs: il-n5506(12)
Results corrected for matrix and compound specific desorption efficiencies.
Results reported as (*) designate possible breakthrough or migration.
Reported result may be biased low.

L367779 (Report ID: 923955):
Accuracy and mean recovery data presented below is based on a 95% confidence interval (k=2).
The estimated uncertainty applies to the media, technology, and SOP referenced in this report and does not account for the uncertainty associated with the sampling process.

Parameter	Accuracy	Mean Recovery
1-Nitropyrene	+/-16%	107%
Acenaphthene	+/-14.4%	104%
Acenaphthylene	+/-11.7%	100%
Anthracene	+/-15.7%	114%

< -Less Than mg -Milligrams m3 -Cubic Meters kg -Kilograms ppm -Parts per Million
> -Greater Than ug -Micrograms l -Liters NS -Not Specified ND -Not Detected NA -Not Applicable

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Client Name : Center for Toxicology & Env. Health LLC
Site :
Project No. : 107907

Date Sampled : 19-FEB-16 Account No.: 13913
Date Received: 23-FEB-16 Login No. : L367779
Date Analyzed: 23-FEB-16 - 25-FEB-16

Benzo(a)anthracene	+/-16.1%	110%
Benzo(a)pyrene	+/-26%	115%
Benzo(b)fluoranthene	+/-19%	113%
Benzo(e)pyrene	+/-19.2%	111%
Benzo(g,h,i)perylene	+/-20.2%	112%
Benzo(k)fluoranthene	+/-15.5%	109%
Chrysene	+/-14%	108%
Dibenz(a,h)anthracene	+/-15.6%	103%
Fluoranthene	+/-16.2%	110%
Fluorene	+/-12.4%	109%
Indeno(1,2,3-cd)pyrene	+/-19.5%	113%
Naphthalene	+/-13.3%	105%
Phenanthrene	+/-13.4%	108%
Pyrene	+/-14.6%	112%

Parameter	Method	PEL
1-Nitropyrene	mod. NIOSH 5506; HPLC/UV	NA
Acenaphthene	mod. NIOSH 5506; HPLC/UV	NA
Acenaphthylene	mod. NIOSH 5506; HPLC/UV	NA
Anthracene	mod. NIOSH 5506; HPLC/UV	NA
Benzo(a)anthracene	mod. NIOSH 5506; HPLC/UV	NA
Benzo(a)pyrene	mod. NIOSH 5506; HPLC/UV	0.2 mg/m3 (TWA)
Benzo(b)fluoranthene	mod. NIOSH 5506; HPLC/UV	NA
Benzo(e)pyrene	mod. NIOSH 5506; HPLC/UV	NA
Benzo(g,h,i)perylene	mod. NIOSH 5506; HPLC/UV	NA
Benzo(k)fluoranthene	mod. NIOSH 5506; HPLC/UV	NA
Chrysene	mod. NIOSH 5506; HPLC/UV	0.2 mg/m3 (TWA)
Dibenz(a,h)anthracene	mod. NIOSH 5506; HPLC/UV	NA
Fluoranthene	mod. NIOSH 5506; HPLC/UV	NA
Fluorene	mod. NIOSH 5506; HPLC/UV	NA
Indeno(1,2,3-cd)pyrene	mod. NIOSH 5506; HPLC/UV	NA
Naphthalene	mod. NIOSH 5506; HPLC/UV	10 ppm (TWA)
Phenanthrene	mod. NIOSH 5506; HPLC/UV	NA

< -Less Than mg -Milligrams m3 -Cubic Meters kg -Kilograms ppm -Parts per Million
> -Greater Than ug -Micrograms l -Liters NS -Not Specified ND -Not Detected NA -Not Applicable

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LABORATORY FOOTNOTE REPORT

Client Name : Center for Toxicology & Env. Health LLC
Site :
Project No. : 107907

Date Sampled : 19-FEB-16 Account No.: 13913
Date Received: 23-FEB-16 Login No. : L367779
Date Analyzed: 23-FEB-16 - 25-FEB-16

L367779 (Report ID: 923955):

Parameter	Method	PEL
Pyrene	mod. NIOSH 5506; HPLC/UV	NA

L367779 (Report ID: 923600):
SOPs: GRAV-SOP-5(15), GRAV-SOP-6(15)
Gravimetric analytical accuracy of the sampling media is -0.001 +/- 0.006 mg (average blank weight change +/- 95% confidence interval or k=2). The estimated uncertainly applies to the media, technology, and SOP(s) referenced in this report and does not account for any uncertainty associated with the sampling process.

< -Less Than mg -Milligrams m3 -Cubic Meters kg -Kilograms ppm -Parts per Million
> -Greater Than ug -Micrograms l -Liters NS -Not Specified ND -Not Detected NA -Not Applicable

GRAVIMETRICS QC SUMMARY REPORT

Login: L367779
Matnum: 306
Matrix: PVC PW 37mm
Instrument Description: Mettler MX-5, M2
Method: mod. EPA Method IP-10A; Gravimetric
Reporting Level (mg): 0.050 mg
Analysis: Particulate Matter - PM10

Type	Sample #	Analysis Date	True Value (mg)	Found Value (mg)	Difference (mg)	Control Limit (mg)
CCV	WG339907-1	2/25/2016 06:53:00	19.943	19.941	-0.002	0.008
BLANK	WG339907-2	2/25/2016 06:53:00	13.219	13.214	-0.005	-0.010
CCV	WG339907-5	2/25/2016 07:03:00	19.943	19.941	-0.002	0.008

Type	Sample #	Analysis Date	Sample Result (mg)	Duplicate Result (mg)	Abs. Val. of mg Difference	Control Limit (mg)
DUP	WG339907-4	2/25/2016 07:00:00	1.024	1.028	0.004	0.004

Dup Workgroup number **Sample number**
WG339907-4 L367779-5

Sample: WG339705-1 **Spikelot:** IH607685-2
QC Type: DLS **Raw File:**
Analysis date 02/23/16 12:25:53 **Approval Status:** YES
Instrument: LC5

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
NAPHTHALENE	.089983	.099	90.9	70.0 to 130.				
BENZO(A)ANTHRACENE	.073813	.099	74.6	70.0 to 130.				
CHRYSENE	.087785	.099	88.7	70.0 to 130.				
BENZO(E)PYRENE	.094318	.1	94.3	70.0 to 130.				
BENZO(B)FLUORANTHENE	.095085	.099	96	70.0 to 130.				
BENZO(K)FLUORANTHENE	.081233	.099	82.1	70.0 to 130.				
BENZO(A)PYRENE	.096040	.099	97	70.0 to 130.				
DIBENZ(A,H)ANTHRACENE	.092397	.099	93.3	70.0 to 130.				
BENZO(G,H,I)PERYLENE	.088213	.099	89.1	70.0 to 130.				
INDENO-1,2,3-CD-PYRENE	.083954	.099	84.8	70.0 to 130.				
ACENAPHTHYLENE	.088727	.099	89.6	70.0 to 130.				
ACENAPHTHENE	.079574	.1	79.6	70.0 to 130.				
FLUORENE	.077467	.098	79	70.0 to 130.				
PHENANTHRENE	.091040	.098	92.9	70.0 to 130.				
ANTHRACENE	.111126	.099	112	70.0 to 130.				
FLUORANTHENE	.089519	.098	91.3	70.0 to 130.				
1-NITROPYRENE	.094572	.099	95.5	70.0 to 130.				
PYRENE	.072857	.099	73.6	70.0 to 130.				

Sample: WG339705-2 **Spikelot:** IH607685-1
QC Type: CCV **Raw File:**
Analysis date 02/23/16 12:45:51 **Approval Status:** YES
Instrument: LC5

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
NAPHTHALENE	4.76080	4.95	96.2	88.5 to 120.				
PYRENE	5.00755	4.95	101	92.5 to 125.				
BENZO(A)ANTHRACENE	5.09322	4.95	103	93.7 to 119.				
CHRYSENE	4.87553	4.95	98.5	88.3 to 120.				
BENZO(E)PYRENE	4.95121	4.9995	99	90.6 to 127.				
BENZO(B)FLUORANTHENE	5.01827	4.95	101	93.8 to 125.				
BENZO(K)FLUORANTHENE	4.91228	4.95	99.2	88.6 to 118.				
BENZO(A)PYRENE	5.12333	4.95	104	80.0 to 138.				
DIBENZ(A,H)ANTHRACENE	4.82683	4.95	97.5	86.7 to 122.				
BENZO(G,H,I)PERYLENE	4.86940	4.95	98.4	87.6 to 124.				
INDENO-1,2,3-CD-PYRENE	5.03637	4.95	102	94.8 to 127.				

Sample: WG339705-2 **Spikelot:** IH607685-1
QC Type: CCV **Raw File:**
Analysis date 02/23/16 12:45:51 **Approval Status:** YES
Instrument: LC5

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
ACENAPHTHYLENE	4.85849	4.95	98.2	89.8 to 117.				
ACENAPHTHENE	4.91212	4.9995	98.3	88.1 to 121.				
FLUORENE	4.98700	4.9	102	92.7 to 123.				
PHENANTHRENE	4.91375	4.9	100	91.1 to 120.				
ANTHRACENE	5.73838	4.95	116	85.6 to 123.				
FLUORANTHENE	4.82804	4.9	98.5	92.0 to 120.				
1-NITROPYRENE	4.78343	4.95	96.6	86.8 to 123.				

Sample: WG339704-2 **Spikelot:** NA
QC Type: MBLANK **Raw File:**
Analysis date 02/23/16 13:45:44 **Approval Status:** YES
Instrument: LC5

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
ACENAPHTHENE(FRONT)	0	<.3						
ACENAPHTHENE(BACK)	0	<.3						
ACENAPHTHYLENE(FRONT)	0	<.3						
ACENAPHTHYLENE(BACK)	0	<.3						
ANTHRACENE(FRONT)	0	<.3						
ANTHRACENE(BACK)	0	<.3						
BENZO(A)ANTHRACENE(FRONT)	0	<.3						
BENZO(A)ANTHRACENE(BACK)	0	<.3						
BENZO(A)PYRENE(FRONT)	0	<.3						
BENZO(A)PYRENE(BACK)	0	<.3						
BENZO(B)FLUORANTHENE(FRONT)	0	<.3						
BENZO(B)FLUORANTHENE(BACK)	0	<.3						
BENZO(E)PYRENE(FRONT)	0	<.3						
BENZO(E)PYRENE(BACK)	0	<.3						
BENZO(G,H,I)PERYLENE(FRONT)	0	<.3						
BENZO(G,H,I)PERYLENE(BACK)	0	<.3						
BENZO(K)FLUORANTHENE(FRONT)	0	<.3						
BENZO(K)FLUORANTHENE(BACK)	0	<.3						
CHRYSENE(FRONT)	0	<.3						
CHRYSENE(BACK)	0	<.3						
DIBENZ(A,H)ANTHRACENE(FRONT)	0	<.3						
DIBENZ(A,H)ANTHRACENE(BACK)	0	<.3						

Sample: WG339704-2 **Spikelot:** NA
QC Type: MBLANK **Raw File:**
Analysis date 02/23/16 13:45:44 **Approval Status:** YES
Instrument: LC5

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
FLUORANTHENE(FRONT)	0	<.3						
FLUORANTHENE(BACK)	0	<.3						
FLUORENE(FRONT)	0	<.3						
FLUORENE(BACK)	0	<.3						
INDENO-1,2,3-CD-PYRENE(FRONT)	0	<.3						
INDENO-1,2,3-CD-PYRENE(BACK)	0	<.3						
NAPHTHALENE(FRONT)	0	<.3						
NAPHTHALENE(BACK)	0	<.3						
1-NITROPYRENE(FRONT)	0	<.3						
1-NITROPYRENE(BACK)	0	<.3						
PHENANTHRENE(FRONT)	0	<.3						
PHENANTHRENE(BACK)	0	<.3						
PYRENE(FRONT)	0	<.3						
PYRENE(BACK)	0	<.3						

Sample: WG339704-3 **Spikelot:** IH609142
QC Type: BS **Raw File:**
Analysis date 02/23/16 14:25:40 **Approval Status:** YES
Instrument: LC5

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
NAPHTHALENE	4.68606	4.95	94.7		95.6	85.2 to 125		
BENZO(A)ANTHRACENE	4.99195	4.95	101		103	85.3 to 134		
CHRYSENE	4.83303	4.95	97.6		99.6	86.7 to 129		
BENZO(E)PYRENE	4.85035	4.9995	97		99	82.4 to 140		
BENZO(B)FLUORANTHENE	4.91151	4.95	99.2		102	85.0 to 142		
BENZO(K)FLUORANTHENE	4.90344	4.95	99.1		102	85.3 to 132		
BENZO(A)PYRENE	5.22565	4.95	106		108	76.5 to 154		
DIBENZ(A,H)ANTHRACENE	4.73465	4.95	95.6		96.6	79.8 to 127		
BENZO(G,H,I)PERYLENE	4.87196	4.95	98.4		103	81.7 to 142		
INDENO-1,2,3-CD-PYRENE	4.84956	4.95	98		99	83.3 to 142		
ACENAPHTHYLENE	4.65415	4.95	94		92.2	82.8 to 118		
ACENAPHTHENE	4.78680	4.9995	95.7		93.9	82.3 to 125		
FLUORENE	4.83377	4.9	98.6		102	90.7 to 128		
PHENANTHRENE	4.82099	4.9	98.4		100	87.8 to 128		
ANTHRACENE	5.64586	4.95	114		116	90.2 to 137		

Sample: WG339704-3 **Spikelot:** IH609142
QC Type: BS **Raw File:**
Analysis date 02/23/16 14:25:40 **Approval Status:** YES
Instrument: LC5

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
FLUORANTHENE	4.74302	4.9	96.8		98.8	85.5 to 134		
1-NITROPYRENE	4.69723	4.95	94.9		95.9	82.7 to 131		
PYRENE	4.88879	4.95	98.8		99.8	89.7 to 134		

Sample: WG339704-4 **Spikelot:** IH609142
QC Type: BSD **Raw File:**
Analysis date 02/23/16 14:45:39 **Approval Status:** YES
Instrument: LC5

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
NAPHTHALENE	4.67587	4.95	94.5		95.4	85.2 to 125	.209	-10 to 10.0
BENZO(A)ANTHRACENE	4.93876	4.95	99.8		102	85.3 to 134	.976	-10 to 10.0
CHRYSENE	4.77033	4.95	96.4		98.3	86.7 to 129	1.31	-10 to 10.0
BENZO(E)PYRENE	4.81249	4.9995	96.3		98.2	82.4 to 140	.811	-10 to 10.0
BENZO(B)FLUORANTHENE	4.90234	4.95	99		102	85.0 to 142	0	-10 to 10.0
BENZO(K)FLUORANTHENE	4.82442	4.95	97.5		100	85.3 to 132	1.98	-10 to 10.0
BENZO(A)PYRENE	5.23298	4.95	106		108	76.5 to 154	0	-10 to 10.0
DIBENZ(A,H)ANTHRACENE	4.69792	4.95	94.9		95.9	79.8 to 127	.727	-11.5 to 9.87
BENZO(G,H,I)PERYLENE	4.82112	4.95	97.4		101	81.7 to 142	1.96	-10 to 10.0
INDENO-1,2,3-CD-PYRENE	4.91453	4.95	99.3		100	83.3 to 142	-1.01	-10 to 10.0
ACENAPHTHYLENE	4.82713	4.95	97.5		95.6	82.8 to 118	-3.62	-10 to 10.0
ACENAPHTHENE	4.84094	4.9995	96.8		94.9	82.3 to 125	-1.06	-10 to 10.0
FLUORENE	4.86254	4.9	99.2		102	90.7 to 128	0	-10 to 10.0
PHENANTHRENE	4.80904	4.9	98.1		100	87.8 to 128	0	-10 to 10.0
ANTHRACENE	5.60964	4.95	113		116	90.2 to 137	0	-10 to 10.0
FLUORANTHENE	4.69045	4.9	95.7		97.7	85.5 to 134	1.12	-10 to 10.0
1-NITROPYRENE	4.66830	4.95	94.3		95.3	82.7 to 131	.628	-10 to 10.0
PYRENE	4.81639	4.95	97.3		98.3	89.7 to 134	1.51	-10.4 to 8.90

Sample: WG339704-5 **Spikelot:** IH609142
QC Type: BS **Raw File:**
Analysis date 02/23/16 15:05:39 **Approval Status:** YES
Instrument: LC5

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
NAPHTHALENE	4.45912	4.95	90.1		97.9	85.2 to 125		
BENZO(A)ANTHRACENE	4.01500	4.95	81.1		104	85.3 to 134		

Sample: WG339704-5 **Spikelot:** IH609142
QC Type: BS **Raw File:**
Analysis date 02/23/16 15:05:39 **Approval Status:** YES
Instrument: LC5

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
CHRYSENE	3.86220	4.95	78		101	86.7 to 129		
BENZO(E)PYRENE	3.42939	4.9995	68.6		101	82.4 to 140		
BENZO(B)FLUORANTHENE	3.71471	4.95	75		104	85.0 to 142		
BENZO(K)FLUORANTHENE	3.70190	4.95	74.8		104	85.3 to 132		
BENZO(A)PYRENE	3.67257	4.95	74.2		112	76.5 to 154		
DIBENZ(A,H)ANTHRACENE	3.27052	4.95	66.1		91.8	79.8 to 127		
BENZO(G,H,I)PERYLENE	2.72020	4.95	55		93.1	81.7 to 142		
INDENO-1,2,3-CD-PYRENE	3.17181	4.95	64.1		100	83.3 to 142		
ACENAPHTHYLENE	4.38196	4.95	88.5		92.2	82.8 to 118		
ACENAPHTHENE	4.41851	4.9995	88.4		98.2	82.3 to 125		
FLUORENE	4.46668	4.9	91.2		101	90.7 to 128		
PHENANTHRENE	4.34253	4.9	88.6		103	87.8 to 128		
ANTHRACENE	4.99102	4.95	101		119	90.2 to 137		
FLUORANTHENE	4.14782	4.9	84.6		102	85.5 to 134		
1-NITROPYRENE	4.16499	4.95	84.1		100	82.7 to 131		
PYRENE	4.12059	4.95	83.2		102	89.7 to 134		

Sample: WG339704-6 **Spikelot:** IH609142
QC Type: BSD **Raw File:**
Analysis date 02/23/16 15:25:39 **Approval Status:** YES
Instrument: LC5

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
NAPHTHALENE	4.42873	4.95	89.5		97.2	85.2 to 125	.718	-10 to 10.0
BENZO(A)ANTHRACENE	3.97059	4.95	80.2		103	85.3 to 134	.966	-10 to 10.0
CHRYSENE	3.80294	4.95	76.8		99.8	86.7 to 129	1.2	-10 to 10.0
BENZO(E)PYRENE	3.42950	4.9995	68.6		101	82.4 to 140	0	-10 to 10.0
BENZO(B)FLUORANTHENE	3.66721	4.95	74.1		103	85.0 to 142	.966	-10 to 10.0
BENZO(K)FLUORANTHENE	3.64261	4.95	73.6		102	85.3 to 132	1.94	-10 to 10.0
BENZO(A)PYRENE	3.58827	4.95	72.5		110	76.5 to 154	1.8	-10 to 10.0
DIBENZ(A,H)ANTHRACENE	3.24299	4.95	65.5		91	79.8 to 127	.875	-11.5 to 9.87
BENZO(G,H,I)PERYLENE	2.71106	4.95	54.8		92.8	81.7 to 142	.323	-10 to 10.0
INDENO-1,2,3-CD-PYRENE	2.96667	4.95	59.9		93.6	83.3 to 142	6.61	-10 to 10.0
ACENAPHTHYLENE	4.31430	4.95	87.2		90.8	82.8 to 118	1.53	-10 to 10.0
ACENAPHTHENE	4.39273	4.9995	87.9		97.6	82.3 to 125	.613	-10 to 10.0
FLUORENE	4.42740	4.9	90.4		100	90.7 to 128	.995	-10 to 10.0

Sample: WG339704-6 **Spikelot:** IH609142
QC Type: BSD **Raw File:**
Analysis date 02/23/16 15:25:39 **Approval Status:** YES
Instrument: LC5

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
PHENANTHRENE	4.27958	4.9	87.3		102	87.8 to 128	.976	-10 to 10.0
ANTHRACENE	4.91708	4.95	99.3		117	90.2 to 137	1.69	-10 to 10.0
FLUORANTHENE	4.08294	4.9	83.3		100	85.5 to 134	1.98	-10 to 10.0
1-NITROPYRENE	4.09732	4.95	82.8		98.5	82.7 to 131	1.51	-10 to 10.0
PYRENE	4.05479	4.95	81.9		99.9	89.7 to 134	2.08	-10.4 to 8.90

Sample: WG339705-3 **Spikelot:** IH607685-1
QC Type: CCV **Raw File:**
Analysis date 02/23/16 18:45:22 **Approval Status:** YES
Instrument: LC5

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
NAPHTHALENE	4.76620	4.95	96.3	88.5 to 120.				
PYRENE	5.00489	4.95	101	92.5 to 125.				
BENZO(A)ANTHRACENE	5.13200	4.95	104	93.7 to 119.				
CHRYSENE	4.89386	4.95	98.9	88.3 to 120.				
BENZO(E)PYRENE	4.96957	4.9995	99.4	90.6 to 127.				
BENZO(B)FLUORANTHENE	5.03909	4.95	102	93.8 to 125.				
BENZO(K)FLUORANTHENE	4.90377	4.95	99.1	88.6 to 118.				
BENZO(A)PYRENE	4.75381	4.95	96	80.0 to 138.				
DIBENZ(A,H)ANTHRACENE	4.84104	4.95	97.8	86.7 to 122.				
BENZO(G,H,I)PERYLENE	4.79393	4.95	96.8	87.6 to 124.				
INDENO-1,2,3-CD-PYRENE	5.01751	4.95	101	94.8 to 127.				
ACENAPHTHYLENE	4.86195	4.95	98.2	89.8 to 117.				
ACENAPHTHENE	4.99696	4.9995	99.9	88.1 to 121.				
FLUORENE	5.00562	4.9	102	92.7 to 123.				
PHENANTHRENE	4.90660	4.9	100	91.1 to 120.				
ANTHRACENE	5.72133	4.95	116	85.6 to 123.				
FLUORANTHENE	4.82576	4.9	98.5	92.0 to 120.				
1-NITROPYRENE	4.82483	4.95	97.5	86.8 to 123.				

Sample: WG339705-4 **Spikelot:** IH607685-1
QC Type: CCV **Raw File:**
Analysis date 02/24/16 00:04:52 **Approval Status:** YES
Instrument: LC5

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits

Sample: WG339705-4 **Spikelot:** IH607685-1
QC Type: CCV **Raw File:**
Analysis date 02/24/16 00:04:52 **Approval Status:** YES
Instrument: LC5

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
NAPHTHALENE	4.77942	4.95	96.6	88.5 to 120.				
PYRENE	5.00811	4.95	101	92.5 to 125.				
BENZO(A)ANTHRACENE	5.05797	4.95	102	93.7 to 119.				
CHRYSENE	4.87380	4.95	98.5	88.3 to 120.				
BENZO(E)PYRENE	4.97646	4.9995	99.5	90.6 to 127.				
BENZO(B)FLUORANTHENE	5.04640	4.95	102	93.8 to 125.				
BENZO(K)FLUORANTHENE	4.91939	4.95	99.4	88.6 to 118.				
BENZO(A)PYRENE	5.11632	4.95	103	83.3 to 137.				
DIBENZ(A,H)ANTHRACENE	4.83773	4.95	97.7	86.7 to 122.				
BENZO(G,H,I)PERYLENE	4.90694	4.95	99.1	87.6 to 124.				
INDENO-1,2,3-CD-PYRENE	5.04591	4.95	102	94.8 to 127.				
ACENAPHTHYLENE	4.86756	4.95	98.3	89.8 to 117.				
ACENAPHTHENE	4.94557	4.9995	98.9	87.1 to 119.				
FLUORENE	4.96413	4.9	101	92.7 to 123.				
PHENANTHRENE	4.91468	4.9	100	91.1 to 120.				
ANTHRACENE	5.76938	4.95	117	91.4 to 130.				
FLUORANTHENE	4.84549	4.9	98.9	92.0 to 120.				
1-NITROPYRENE	4.76843	4.95	96.3	86.8 to 123.				

Sample: WG339705-5 **Spikelot:** IH607685-1
QC Type: CCV **Raw File:**
Analysis date 02/24/16 05:24:36 **Approval Status:** YES
Instrument: LC5

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
NAPHTHALENE	4.76526	4.95	96.3	88.5 to 120.				
PYRENE	5.04453	4.95	102	92.5 to 125.				
BENZO(A)ANTHRACENE	5.06292	4.95	102	93.7 to 119.				
CHRYSENE	4.88442	4.95	98.7	88.3 to 120.				
BENZO(E)PYRENE	4.99588	4.9995	99.9	90.6 to 127.				
BENZO(B)FLUORANTHENE	5.04104	4.95	102	93.8 to 125.				
BENZO(K)FLUORANTHENE	4.93259	4.95	99.6	88.6 to 118.				
BENZO(A)PYRENE	5.19374	4.95	105	83.3 to 137.				
DIBENZ(A,H)ANTHRACENE	4.84612	4.95	97.9	86.7 to 122.				
BENZO(G,H,I)PERYLENE	4.91997	4.95	99.4	87.6 to 124.				
INDENO-1,2,3-CD-PYRENE	5.06205	4.95	102	94.8 to 127.				

Sample: WG339705-5 **Spikelot:** IH607685-1
QC Type: CCV **Raw File:**
Analysis date 02/24/16 05:24:36 **Approval Status:** YES
Instrument: LC5

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
ACENAPHTHYLENE	4.76260	4.95	96.2	89.8 to 117.				
ACENAPHTHENE	4.93428	4.9995	98.7	87.1 to 119.				
FLUORENE	4.98042	4.9	102	92.7 to 123.				
PHENANTHRENE	4.93555	4.9	101	91.1 to 120.				
ANTHRACENE	5.77666	4.95	117	91.4 to 130.				
FLUORANTHENE	4.84628	4.9	98.9	92.0 to 120.				
1-NITROPYRENE	4.77001	4.95	96.4	86.8 to 123.				

Sample: WG339701-2 **Spikelot:** NA
QC Type: MBLANK **Raw File:**
Analysis date 02/24/16 05:44:35 **Approval Status:** YES
Instrument: LC5

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
ANTHRACENE(RAW)	0	<0.3						
BENZO(A)PYRENE(RAW)	0	<0.3						
CHRYSENE(RAW)	0	<0.3						
PHENANTHRENE(RAW)	0	<0.3						
PYRENE(RAW)	0	<0.3						

Sample: WG339701-3 **Spikelot:** IH609142
QC Type: BS **Raw File:**
Analysis date 02/24/16 06:04:35 **Approval Status:** YES
Instrument: LC5

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
PYRENE	4.93676	4.95	99.7		103	75.0 to 125		
CHRYSENE	4.85374	4.95	98.1		99			
BENZO(A)PYRENE	5.09886	4.95	103		105			
PHENANTHRENE	4.89752	4.9	99.9		101			
ANTHRACENE	5.66129	4.95	114		117			

Sample: WG339701-4 **Spikelot:** IH609142
QC Type: BSD **Raw File:**
Analysis date 02/24/16 06:24:34 **Approval Status:** YES
Instrument: LC5

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
PYRENE	4.91188	4.95	99.2		102	75.0 to 125	.976	

Sample: WG339701-4 **Spikelot:** IH609142
QC Type: BSD **Raw File:**
Analysis date 02/24/16 06:24:34 **Approval Status:** YES
Instrument: LC5

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
CHRYSENE	4.85751	4.95	98.1		99.1		-.101	-20 to 20.0
BENZO(A)PYRENE	5.21219	4.95	105		107		-1.89	-20 to 20.0
PHENANTHRENE	4.90914	4.9	100		101		0	-20 to 20.0
ANTHRACENE	5.61716	4.95	113		116		.858	-20 to 20.0

Sample: WG339705-6 **Spikelot:** IH607685-1
QC Type: CCV **Raw File:**
Analysis date 02/24/16 08:44:30 **Approval Status:** YES
Instrument: LC5

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
NAPHTHALENE	4.77009	4.95	96.4	88.5 to 120.				
PYRENE	5.02389	4.95	101	92.5 to 125.				
BENZO(A)ANTHRACENE	5.12716	4.95	104	93.7 to 119.				
CHRYSENE	4.88759	4.95	98.7	88.3 to 120.				
BENZO(E)PYRENE	4.96321	4.9995	99.3	90.6 to 127.				
BENZO(B)FLUORANTHENE	5.02911	4.95	102	93.8 to 125.				
BENZO(K)FLUORANTHENE	4.90891	4.95	99.2	88.6 to 118.				
BENZO(A)PYRENE	5.19826	4.95	105	83.3 to 137.				
DIBENZ(A,H)ANTHRACENE	4.84549	4.95	97.9	86.7 to 122.				
BENZO(G,H,I)PERYLENE	4.87043	4.95	98.4	87.6 to 124.				
INDENO-1,2,3-CD-PYRENE	5.03477	4.95	102	94.8 to 127.				
ACENAPHTHYLENE	4.84634	4.95	97.9	89.8 to 117.				
ACENAPHTHENE	4.92318	4.9995	98.5	87.1 to 119.				
FLUORENE	4.97840	4.9	102	92.7 to 123.				
PHENANTHRENE	4.93766	4.9	101	91.1 to 120.				
ANTHRACENE	5.76889	4.95	117	91.4 to 130.				
FLUORANTHENE	4.82687	4.9	98.5	92.0 to 120.				
1-NITROPYRENE	4.86542	4.95	98.3	86.8 to 123.				

L3607779

775699809498
Date: 02/23/16
Shipper: FEDEX
Initials: GMB
Prep: UNKNOWN

5120 North Shore Drive
North Little Rock, AR 72118
Phone: (501) 801-8500
Fax: (501) 801-8501
Website: www.cteh.com

r for Toxicology and Environmental Health L.L.C.
E CHAIN OF CUSTODY AND ANALYSIS REQUEST FORM

R 84

Page ___ of ___

	Send Report To:	Send Invoice To:
Name	M Berg C. Connolly	Accounts Payable
Company	CTEH	CTEH
Address	2000 Anders Lane Kemah, Texas 77565	5120 North Shore Drive North Little Rock, AR 72118
Phone	(281)535-2834	(501)801-8500
Fax	(281)535-0232	(501)801-8501
e-mail	labresults@cteh.com MBerg@cteh.com cconnolly@cteh.com	lraccounting@cteh.com

CTEH Project #: 107907

Turnaround Requested:
Same Day __Next Day (24 hour) ___ Normal
__Other (Specify) 2 day TAT

Complete Data Packet Requested ☐Yes ☒No

Lab Contact Information:
Galson Laboratories
(6601 Kirkville Road)
E. Syracuse NY 13057

Client Sample Identification	Other Sample Identification	Sample Size	Units (Check one) X L __cm²	Sample Date	Sample Time (for non-air samples)	Initials	PNAH NIOSH 5506	PM10 Mod EPA-IP10A
HOTX0219PNAH001	AS14	909.96	L	2-19-16		AS	X	
HOTX0219PNAH002	AS12	975.05	L	2-19-16		AS	X	
HOTX0219PNAH003	AS15	980.14	L	2-19-16		AS	X	
HOTX0219PNAH004	blank	0	L	2-19-16		AS	X	
HOTX0219PM001	AS14	1170.87	L	2-19-16		AS		X
HOTX0219PM002	AS12	1070.56	L	2-19-16		AS		X
HOTX0219PM003	AS15	1045.57	L	2-19-16		AS		X
HOTX0219PM004	blank	-	L	2-19-16		AS		X

Matrix
A = air
B = bulk
S = soil
SW = wipe
T = tape
W = water

Matrix: A A A A A A A A

Samples Received in Light Sensitive Material: Yes or No

RELINQUISHED BY	DATE/TIME	RECEIVED BY	DATE/TIME
A. Sanpon	02/22/16 16:00	Fed Ex	
		Murray Kay	2/23/16 724

COMMENTS
Rec'd intact & all accounted for? Yes or No KM
Rec'd w/custody seals intact? Yes or No NA KM
Rec'd in light sensitive packaging? Yes or No KM
Rec'd with ice pack? Yes or No KM
Rec'd temperature compliant? Yes or No KM

Mr. Charles Connolly
Center for Toxicology & Env. Health LLC
5120 North Shore Drive
North Little Rock, AR 72118

February 25, 2016

DOH ELAP #11626 Account# 13913 Login# L367784
AIHA-LAP #100324

Dear Mr. Connolly:

Enclosed are the analytical results for the samples received by our laboratory on February 23, 2016. All test results meet the quality control requirements of AIHA-LAP and NELAC unless otherwise stated in this report. All samples on the chain of custody were received in good condition unless otherwise noted.

Results in this report are based on the sampling data provided by the client and refer only to the samples as they were received at the laboratory. Unless otherwise requested, all samples will be discarded 14 days from the date of this report, with the exception of IOMs, which will be cleaned and disposed of after seven calendar days.

Current Scopes of Accreditation can be viewed at www.galsonlabs.com in the accreditations section under the "about Galson" tab.

Please contact Pamela Weaver at (888) 432-5227, if you would like any additional information regarding this report. Thank you for using SGS Galson Laboratories.

Sincerely,

SGS Galson Laboratories

Lisa Swab
Laboratory Director

Enclosure(s)

Galson Laboratories, Inc. is now a part of SGS, the world's leading inspection, verification, testing, and certification company. As part of our transition to SGS, you will begin to see some formatting changes with reports that will improve the presentation of data and allow for the transition to the new logo.

SGS GALSON LABORATORIES

6601 Kirkville Road
East Syracuse, NY 13057
(315) 432-5227
FAX: (315) 437-0571
www.galsonlabs.com

LABORATORY ANALYSIS REPORT

Client : Center for Toxicology & Env. H
Site : NS
Project No. : 107907
Date Sampled : 20-FEB-16
Date Received : 23-FEB-16

Account No.: 13913
Login No. : L367784
Date Analyzed : 23-FEB-16
Report ID : 923956

Client ID : HOTX0220PNAH001 **Lab ID : L367784-1** **Air Volume : 1030 Liter**
Date Sampled : 02/20/16 **Date Analyzed : 02/23/16**

Parameter	LOQ ug	Filter ug	Front ug	Back ug	Total ug	Conc mg/m3	ppm
1-Nitropyrene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0003	<0.00003
Acenaphthene	0.3	<0.3	0.7	<0.3	0.8	0.0008	0.0001
Acenaphthylene	0.3	<0.3	<0.3	<0.3	<0.3	<0.0003	<0.00005
Anthracene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0003	<0.00005
Benzo(a)anthracene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Benzo(a)pyrene	0.3	<0.3	<0.3	<0.3	<0.5	<0.0004	<0.00004
Benzo(b)fluoranthene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Benzo(e)pyrene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Benzo(g,h,i)perylene	0.3	<0.3	<0.3	<0.3	<0.5	<0.0005	<0.00004
Benzo(k)fluoranthene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Chrysene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Dibenz(a,h)anthracene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Fluoranthene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Fluorene	0.3	<0.3	<0.3	<0.3	<0.3	<0.0003	<0.00005
Indeno(1,2,3-cd)pyrene	0.3	<0.3	<0.3	<0.3	<0.5	<0.0005	<0.00004

COMMENTS: Please see attached lab footnote report for any applicable footnotes.

Collection Media: FilterTube
Date : 25-FEB-16

Submitted by: BCF
NYS DOH # : 11626

Approved by: nkp
Supervisor: MWJ QC by: TJB

< -Less Than mg -Milligrams m3 -Cubic Meters kg -Kilograms NA -Not Applicable ND -Not Detected
> -Greater Than ug -Micrograms l -Liters NS -Not Specified ppm -Parts per Million LOQ-Limit of Quantitation

SGS GALSON LABORATORIES

6601 Kirkville Road
East Syracuse, NY 13057
(315) 432-5227
FAX: (315) 437-0571
www.galsonlabs.com

LABORATORY ANALYSIS REPORT

Client : Center for Toxicology & Env. H
Site : NS
Project No. : 107907
Date Sampled : 20-FEB-16
Date Received : 23-FEB-16

Account No.: 13913
Login No. : L367784

Date Analyzed : 23-FEB-16
Report ID : 923956

Client ID : HOTX0220PNAH001 **Lab ID : L367784-1** **Air Volume : 1030 Liter**
Date Sampled : 02/20/16 **Date Analyzed : 02/23/16**

Parameter	LOQ ug	Filter ug	Front ug	Back ug	Total ug	Conc mg/m3	ppm
Naphthalene	0.3	<0.3	3.1	1.0	*4.5	*0.0043	*0.00083
Phenanthrene	0.3	<0.3	<0.3	<0.3	<0.3	<0.0003	<0.00005
Pyrene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004

COMMENTS: Please see attached lab footnote report for any applicable footnotes.

Collection Media: FilterTube
Date : 25-FEB-16

Submitted by: BCF
NYS DOH # : 11626

Approved by: nkp
Supervisor: MWJ QC by: TJB

< -Less Than mg -Milligrams m3 -Cubic Meters kg -Kilograms NA -Not Applicable ND -Not Detected
> -Greater Than ug -Micrograms l -Liters NS -Not Specified ppm -Parts per Million LOQ-Limit of Quantitation

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East Syracuse, NY 13057
(315) 432-5227
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LABORATORY ANALYSIS REPORT

Client : Center for Toxicology & Env. H
Site : NS
Project No. : 107907
Date Sampled : 20-FEB-16
Date Received : 23-FEB-16

Account No.: 13913
Login No. : L367784
Date Analyzed : 23-FEB-16
Report ID : 923956

Client ID : HOTX0220PNAH002 **Lab ID : L367784-2** **Air Volume : 957 Liter**
Date Sampled : 02/20/16 **Date Analyzed : 02/23/16**

Parameter	LOQ ug	Filter ug	Front ug	Back ug	Total ug	Conc mg/m3	ppm
1-Nitropyrene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Acenaphthene	0.3	<0.3	<0.3	<0.3	<0.3	<0.0003	<0.00006
Acenaphthylene	0.3	<0.3	<0.3	<0.3	<0.3	<0.0003	<0.00005
Anthracene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00005
Benzo(a)anthracene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Benzo(a)pyrene	0.3	<0.3	<0.3	<0.3	<0.5	<0.0005	<0.00005
Benzo(b)fluoranthene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Benzo(e)pyrene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0005	<0.00004
Benzo(g,h,i)perylene	0.3	<0.3	<0.3	<0.3	<0.5	<0.0005	<0.00005
Benzo(k)fluoranthene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Chrysene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Dibenz(a,h)anthracene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Fluoranthene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00005
Fluorene	0.3	<0.3	<0.3	<0.3	<0.3	<0.0003	<0.00005
Indeno(1,2,3-cd)pyrene	0.3	<0.3	<0.3	<0.3	<0.5	<0.0005	<0.00004

COMMENTS: Please see attached lab footnote report for any applicable footnotes.

Collection Media: FilterTube
Date : 25-FEB-16

Submitted by: BCF
NYS DOH # : 11626

Approved by: nkp
Supervisor: MWJ QC by: TJB

< -Less Than mg -Milligrams m3 -Cubic Meters kg -Kilograms NA -Not Applicable ND -Not Detected
> -Greater Than ug -Micrograms l -Liters NS -Not Specified ppm -Parts per Million LOQ-Limit of Quantitation

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LABORATORY ANALYSIS REPORT

Client : Center for Toxicology & Env. H
Site : NS
Project No. : 107907
Date Sampled : 20-FEB-16
Date Received : 23-FEB-16

Account No.: 13913
Login No. : L367784
Date Analyzed : 23-FEB-16
Report ID : 923956

Client ID : HOTX0220PNAH002 **Lab ID : L367784-2** **Air Volume : 957 Liter**
Date Sampled : 02/20/16 **Date Analyzed : 02/23/16**

Parameter	LOQ ug	Filter ug	Front ug	Back ug	Total ug	Conc mg/m3	ppm
Naphthalene	0.3	<0.3	<0.3	<0.3	<0.3	<0.0003	<0.00007
Phenanthrene	0.3	<0.3	<0.3	<0.3	<0.3	<0.0004	<0.00005
Pyrene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00005

COMMENTS: Please see attached lab footnote report for any applicable footnotes.

Collection Media: FilterTube
Date : 25-FEB-16

Submitted by: BCF
NYS DOH # : 11626

Approved by: nkp
Supervisor: MWJ QC by: TJB

< -Less Than mg -Milligrams m3 -Cubic Meters kg -Kilograms NA -Not Applicable ND -Not Detected
> -Greater Than ug -Micrograms l -Liters NS -Not Specified ppm -Parts per Million LOQ-Limit of Quantitation

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LABORATORY ANALYSIS REPORT

Client : Center for Toxicology & Env. H
Site : NS
Project No. : 107907
Date Sampled : 20-FEB-16
Date Received : 23-FEB-16

Account No.: 13913
Login No. : L367784
Date Analyzed : 23-FEB-16
Report ID : 923956

Client ID : HOTX0220PNAH003 **Lab ID : L367784-3** **Air Volume : 1002 Liter**
Date Sampled : 02/20/16 **Date Analyzed : 02/23/16**

Parameter	LOQ ug	Filter ug	Front ug	Back ug	Total ug	Conc mg/m3	ppm
1-Nitropyrene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Acenaphthene	0.3	<0.3	<0.3	<0.3	<0.3	<0.0003	<0.00005
Acenaphthylene	0.3	<0.3	<0.3	<0.3	<0.3	<0.0003	<0.00005
Anthracene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00005
Benzo(a)anthracene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Benzo(a)pyrene	0.3	<0.3	<0.3	<0.3	<0.5	<0.0005	<0.00004
Benzo(b)fluoranthene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Benzo(e)pyrene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Benzo(g,h,i)perylene	0.3	<0.3	<0.3	<0.3	<0.5	<0.0005	<0.00004
Benzo(k)fluoranthene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Chrysene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Dibenz(a,h)anthracene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Fluoranthene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Fluorene	0.3	<0.3	<0.3	<0.3	<0.3	<0.0003	<0.00005
Indeno(1,2,3-cd)pyrene	0.3	<0.3	<0.3	<0.3	<0.5	<0.0005	<0.00004

COMMENTS: Please see attached lab footnote report for any applicable footnotes.

Collection Media: FilterTube
Date : 25-FEB-16

Submitted by: BCF
NYS DOH # : 11626

Approved by: nkp
Supervisor: MWJ QC by: TJB

< -Less Than mg -Milligrams m3 -Cubic Meters kg -Kilograms NA -Not Applicable ND -Not Detected
> -Greater Than ug -Micrograms l -Liters NS -Not Specified ppm -Parts per Million LOQ-Limit of Quantitation

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LABORATORY ANALYSIS REPORT

Client : Center for Toxicology & Env. H
Site : NS
Project No. : 107907
Date Sampled : 20-FEB-16
Date Received : 23-FEB-16

Account No.: 13913
Login No. : L367784
Date Analyzed : 23-FEB-16
Report ID : 923956

Client ID : HOTX0220PNAH003 **Lab ID : L367784-3** **Air Volume : 1002 Liter**
Date Sampled : 02/20/16 **Date Analyzed : 02/23/16**

Parameter	LOQ ug	Filter ug	Front ug	Back ug	Total ug	Conc mg/m3	ppm
Naphthalene	0.3	<0.3	<0.3	<0.3	<0.3	<0.0003	<0.00006
Phenanthrene	0.3	<0.3	<0.3	<0.3	<0.3	<0.0003	<0.00005
Pyrene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004

COMMENTS: Please see attached lab footnote report for any applicable footnotes.

Collection Media: FilterTube
Date : 25-FEB-16

Submitted by: BCF
NYS DOH # : 11626

Approved by: nkp
Supervisor: MWJ QC by: TJB

< -Less Than mg -Milligrams m3 -Cubic Meters kg -Kilograms NA -Not Applicable ND -Not Detected
> -Greater Than ug -Micrograms l -Liters NS -Not Specified ppm -Parts per Million LOQ-Limit of Quantitation

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LABORATORY ANALYSIS REPORT

Client : Center for Toxicology & Env. H
Site : NS
Project No. : 107907
Date Sampled : 20-FEB-16
Date Received : 23-FEB-16

Account No.: 13913
Login No. : L367784
Date Analyzed : 23-FEB-16
Report ID : 923956

Client ID : HOTX0220PNAH004 **Lab ID : L367784-4** **Air Volume : NA**
Date Sampled : 02/20/16 **Date Analyzed : 02/23/16**

Parameter	LOQ ug	Filter ug	Front ug	Back ug	Total ug	Conc mg/m3	ppm
1-Nitropyrene	0.3	<0.3	<0.3	<0.3	<0.4	NA	NA
Acenaphthene	0.3	<0.3	<0.3	<0.3	<0.3	NA	NA
Acenaphthylene	0.3	<0.3	<0.3	<0.3	<0.3	NA	NA
Anthracene	0.3	<0.3	<0.3	<0.3	<0.4	NA	NA
Benzo(a)anthracene	0.3	<0.3	<0.3	<0.3	<0.4	NA	NA
Benzo(a)pyrene	0.3	<0.3	<0.3	<0.3	<0.5	NA	NA
Benzo(b)fluoranthene	0.3	<0.3	<0.3	<0.3	<0.4	NA	NA
Benzo(e)pyrene	0.3	<0.3	<0.3	<0.3	<0.4	NA	NA
Benzo(g,h,i)perylene	0.3	<0.3	<0.3	<0.3	<0.5	NA	NA
Benzo(k)fluoranthene	0.3	<0.3	<0.3	<0.3	<0.4	NA	NA
Chrysene	0.3	<0.3	<0.3	<0.3	<0.4	NA	NA
Dibenz(a,h)anthracene	0.3	<0.3	<0.3	<0.3	<0.4	NA	NA
Fluoranthene	0.3	<0.3	<0.3	<0.3	<0.4	NA	NA
Fluorene	0.3	<0.3	<0.3	<0.3	<0.3	NA	NA
Indeno(1,2,3-cd)pyrene	0.3	<0.3	<0.3	<0.3	<0.5	NA	NA

COMMENTS: Please see attached lab footnote report for any applicable footnotes.

Collection Media: FilterTube
Date : 25-FEB-16

Submitted by: BCF
NYS DOH # : 11626

Approved by: nkp
Supervisor: MWJ QC by: TJB

< -Less Than mg -Milligrams m3 -Cubic Meters kg -Kilograms NA -Not Applicable ND -Not Detected
> -Greater Than ug -Micrograms l -Liters NS -Not Specified ppm -Parts per Million LOQ-Limit of Quantitation

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LABORATORY ANALYSIS REPORT

Client : Center for Toxicology & Env. H
Site : NS
Project No. : 107907
Date Sampled : 20-FEB-16
Date Received : 23-FEB-16

Account No.: 13913
Login No. : L367784
Date Analyzed : 23-FEB-16
Report ID : 923956

Client ID : HOTX0220PNAH004 **Lab ID : L367784-4** **Air Volume : NA**
Date Sampled : 02/20/16 **Date Analyzed : 02/23/16**

Parameter	LOQ ug	Filter ug	Front ug	Back ug	Total ug	Conc mg/m3	ppm
Naphthalene	0.3	<0.3	<0.3	<0.3	<0.3	NA	NA
Phenanthrene	0.3	<0.3	<0.3	<0.3	<0.3	NA	NA
Pyrene	0.3	<0.3	<0.3	<0.3	<0.4	NA	NA

COMMENTS: Please see attached lab footnote report for any applicable footnotes.

Collection Media: FilterTube
Date : 25-FEB-16

Submitted by: BCF
NYS DOH # : 11626

Approved by: nkp
Supervisor: MWJ QC by: TJB

< -Less Than mg -Milligrams m3 -Cubic Meters kg -Kilograms NA -Not Applicable ND -Not Detected
> -Greater Than ug -Micrograms l -Liters NS -Not Specified ppm -Parts per Million LOQ-Limit of Quantitation

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LABORATORY ANALYSIS REPORT

Client : Center for Toxicology & Env. H
Site : NS
Project No. : 107907
Date Sampled : 20-FEB-16
Date Received : 23-FEB-16

Account No.: 13913
Login No. : L367784
Date Analyzed : 25-FEB-16
Report ID : 923601

Particulate Matter - PM10

	Sample ID	Lab ID	Air Vol liter	Total mg	Conc mg/m3
#	HOTX0220PM001	L367784-5	1088	0.32	0.29
	HOTX0220PM002	L367784-6	667	0.16	0.23
#	HOTX0220PM003	L367784-7	1567	0.48	0.31
	HOTX0220PM004	L367784-8	NA	<0.050	NA

COMMENTS: Please see attached lab footnote report for any applicable footnotes.

Level of quantitation: 0.050 mg
Analytical Method : mod. EPA Method IP-10A; Gravimetric
OSHA PEL : NA
Collection Media : PVC PW 37mm

Submitted by: PAH
Approved by : CRI
Date : 25-FEB-16
Supervisor: CRI

NYS DOH # : 11626
QC by: TJB

< -Less Than mg -Milligrams m3 -Cubic Meters kg -Kilograms NA -Not Applicable ND -Not Detected
> -Greater Than ug -Micrograms l -Liters NS -Not Specified ppm -Parts per Million

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LABORATORY FOOTNOTE REPORT

Client Name : Center for Toxicology & Env. Health LLC
Site :
Project No. : 107907

Date Sampled : 20-FEB-16 Account No.: 13913
Date Received: 23-FEB-16 Login No. : L367784
Date Analyzed: 23-FEB-16 - 25-FEB-16

Unless otherwise noted below, all quality control results associated with the samples were within established control limits or did not impact reported results.

WARNING: The sample(s) to which the findings recorded herein (the "Findings") relate was(were) drawn and / or provided by the Client or by a third party acting at the Client's direction. The Findings constitute no warranty of the sample's representativeness of any goods and strictly relate to the sample(s). The Company accepts no liability with regard to the origin or source from which the sample(s) is/are said to be extracted.

Unrounded results are carried through the calculations that yield the final result and the final result is rounded to the number of significant figures appropriate to the accuracy of the analytical method. Please note that results appearing in the columns preceeding the final result column may have been rounded and therefore, if carried through the calculations, may not yield an identical final result to the one reported.

The stated LOQs for each analyte represent the demonstrated LOQ concentrations prior to correction for desorption efficiency (if applicable).

Unless otherwise noted below, reported results have not been blank corrected for any field blank or method blank.

L367784 (Report ID: 923956):
SOPs: il-n5506(12)
Results corrected for matrix and compound specific desorption efficiencies.
Results reported as (*) designate possible breakthrough or migration.
Reported result may be biased low.

L367784 (Report ID: 923956):
Accuracy and mean recovery data presented below is based on a 95% confidence interval (k=2).
The estimated uncertainty applies to the media, technology, and SOP referenced in this report and does not account for the uncertainty associated with the sampling process.

Parameter	Accuracy	Mean Recovery
1-Nitropyrene	+/-16%	107%
Acenaphthene	+/-14.4%	104%
Acenaphthylene	+/-11.7%	100%
Anthracene	+/-15.7%	114%

< -Less Than mg -Milligrams m3 -Cubic Meters kg -Kilograms ppm -Parts per Million
> -Greater Than ug -Micrograms l -Liters NS -Not Specified ND -Not Detected NA -Not Applicable

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Client Name : Center for Toxicology & Env. Health LLC
Site :
Project No. : 107907

Date Sampled : 20-FEB-16 Account No.: 13913
Date Received: 23-FEB-16 Login No. : L367784
Date Analyzed: 23-FEB-16 - 25-FEB-16

Benzo(a)anthracene	+/-16.1%	110%
Benzo(a)pyrene	+/-26%	115%
Benzo(b)fluoranthene	+/-19%	113%
Benzo(e)pyrene	+/-19.2%	111%
Benzo(g,h,i)perylene	+/-20.2%	112%
Benzo(k)fluoranthene	+/-15.5%	109%
Chrysene	+/-14%	108%
Dibenz(a,h)anthracene	+/-15.6%	103%
Fluoranthene	+/-16.2%	110%
Fluorene	+/-12.4%	109%
Indeno(1,2,3-cd)pyrene	+/-19.5%	113%
Naphthalene	+/-13.3%	105%
Phenanthrene	+/-13.4%	108%
Pyrene	+/-14.6%	112%

Parameter	Method	PEL
1-Nitropyrene	mod. NIOSH 5506; HPLC/UV	NA
Acenaphthene	mod. NIOSH 5506; HPLC/UV	NA
Acenaphthylene	mod. NIOSH 5506; HPLC/UV	NA
Anthracene	mod. NIOSH 5506; HPLC/UV	NA
Benzo(a)anthracene	mod. NIOSH 5506; HPLC/UV	NA
Benzo(a)pyrene	mod. NIOSH 5506; HPLC/UV	0.2 mg/m3 (TWA)
Benzo(b)fluoranthene	mod. NIOSH 5506; HPLC/UV	NA
Benzo(e)pyrene	mod. NIOSH 5506; HPLC/UV	NA
Benzo(g,h,i)perylene	mod. NIOSH 5506; HPLC/UV	NA
Benzo(k)fluoranthene	mod. NIOSH 5506; HPLC/UV	NA
Chrysene	mod. NIOSH 5506; HPLC/UV	0.2 mg/m3 (TWA)
Dibenz(a,h)anthracene	mod. NIOSH 5506; HPLC/UV	NA
Fluoranthene	mod. NIOSH 5506; HPLC/UV	NA
Fluorene	mod. NIOSH 5506; HPLC/UV	NA
Indeno(1,2,3-cd)pyrene	mod. NIOSH 5506; HPLC/UV	NA
Naphthalene	mod. NIOSH 5506; HPLC/UV	10 ppm (TWA)
Phenanthrene	mod. NIOSH 5506; HPLC/UV	NA

< -Less Than mg -Milligrams m3 -Cubic Meters kg -Kilograms ppm -Parts per Million
> -Greater Than ug -Micrograms l -Liters NS -Not Specified ND -Not Detected NA -Not Applicable

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LABORATORY FOOTNOTE REPORT

Client Name : Center for Toxicology & Env. Health LLC
Site :
Project No. : 107907

Date Sampled : 20-FEB-16 Account No.: 13913
Date Received: 23-FEB-16 Login No. : L367784
Date Analyzed: 23-FEB-16 - 25-FEB-16

L367784 (Report ID: 923956):

Parameter	Method	PEL
Pyrene	mod. NIOSH 5506; HPLC/UV	NA

L367784 (Report ID: 923601):
SOPs: GRAV-SOP-5(15), GRAV-SOP-6(15)
Gravimetric analytical accuracy of the sampling media is -0.001 +/- 0.006 mg (average blank weight change +/- 95% confidence interval or k=2). The estimated uncertainly applies to the media, technology, and SOP(s) referenced in this report and does not account for any uncertainty associated with the sampling process.

#L367784-5,7 (Report ID: 923601):
Filter(s) received torn at the laboratory, results may be biased low.

< -Less Than mg -Milligrams m3 -Cubic Meters kg -Kilograms ppm -Parts per Million
> -Greater Than ug -Micrograms l -Liters NS -Not Specified ND -Not Detected NA -Not Applicable

GRAVIMETRICS QC SUMMARY REPORT

Login: L367784
Matnum: 306
Matrix: PVC PW 37mm
Instrument Description: Mettler MX-5, M2
Method: mod. EPA Method IP-10A; Gravimetric
Reporting Level (mg): 0.050 mg
Analysis: Particulate Matter - PM10

Type	Sample #	Analysis Date	True Value (mg)	Found Value (mg)	Difference (mg)	Control Limit (mg)
CCV	WG339907-1	2/25/2016 06:53:00	19.943	19.941	-0.002	0.008
BLANK	WG339907-2	2/25/2016 06:53:00	13.219	13.214	-0.005	-0.010
CCV	WG339907-5	2/25/2016 07:03:00	19.943	19.941	-0.002	0.008

Type	Sample #	Analysis Date	Sample Result (mg)	Duplicate Result (mg)	Abs. Val. of mg Difference	Control Limit (mg)
DUP	WG339907-3	2/25/2016 06:57:00	0.484	0.484	0.000	0.004

Dup Workgroup number **Sample number**
WG339907-3 L367784-7

Sample: WG339705-1 **Spikelot:** IH607685-2
QC Type: DLS **Raw File:**
Analysis date 02/23/16 12:25:53 **Approval Status:** YES
Instrument: LC5

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
NAPHTHALENE	.089983	.099	90.9	70.0 to 130.				
BENZO(A)ANTHRACENE	.073813	.099	74.6	70.0 to 130.				
CHRYSENE	.087785	.099	88.7	70.0 to 130.				
BENZO(E)PYRENE	.094318	.1	94.3	70.0 to 130.				
BENZO(B)FLUORANTHENE	.095085	.099	96	70.0 to 130.				
BENZO(K)FLUORANTHENE	.081233	.099	82.1	70.0 to 130.				
BENZO(A)PYRENE	.096040	.099	97	70.0 to 130.				
DIBENZ(A,H)ANTHRACENE	.092397	.099	93.3	70.0 to 130.				
BENZO(G,H,I)PERYLENE	.088213	.099	89.1	70.0 to 130.				
INDENO-1,2,3-CD-PYRENE	.083954	.099	84.8	70.0 to 130.				
ACENAPHTHYLENE	.088727	.099	89.6	70.0 to 130.				
ACENAPHTHENE	.079574	.1	79.6	70.0 to 130.				
FLUORENE	.077467	.098	79	70.0 to 130.				
PHENANTHRENE	.091040	.098	92.9	70.0 to 130.				
ANTHRACENE	.111126	.099	112	70.0 to 130.				
FLUORANTHENE	.089519	.098	91.3	70.0 to 130.				
1-NITROPYRENE	.094572	.099	95.5	70.0 to 130.				
PYRENE	.072857	.099	73.6	70.0 to 130.				

Sample: WG339705-2 **Spikelot:** IH607685-1
QC Type: CCV **Raw File:**
Analysis date 02/23/16 12:45:51 **Approval Status:** YES
Instrument: LC5

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
NAPHTHALENE	4.76080	4.95	96.2	88.5 to 120.				
PYRENE	5.00755	4.95	101	92.5 to 125.				
BENZO(A)ANTHRACENE	5.09322	4.95	103	93.7 to 119.				
CHRYSENE	4.87553	4.95	98.5	88.3 to 120.				
BENZO(E)PYRENE	4.95121	4.9995	99	90.6 to 127.				
BENZO(B)FLUORANTHENE	5.01827	4.95	101	93.8 to 125.				
BENZO(K)FLUORANTHENE	4.91228	4.95	99.2	88.6 to 118.				
BENZO(A)PYRENE	5.12333	4.95	104	80.0 to 138.				
DIBENZ(A,H)ANTHRACENE	4.82683	4.95	97.5	86.7 to 122.				
BENZO(G,H,I)PERYLENE	4.86940	4.95	98.4	87.6 to 124.				
INDENO-1,2,3-CD-PYRENE	5.03637	4.95	102	94.8 to 127.				

Sample: WG339705-2 **Spikelot:** IH607685-1
QC Type: CCV **Raw File:**
Analysis date 02/23/16 12:45:51 **Approval Status:** YES
Instrument: LC5

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
ACENAPHTHYLENE	4.85849	4.95	98.2	89.8 to 117.				
ACENAPHTHENE	4.91212	4.9995	98.3	88.1 to 121.				
FLUORENE	4.98700	4.9	102	92.7 to 123.				
PHENANTHRENE	4.91375	4.9	100	91.1 to 120.				
ANTHRACENE	5.73838	4.95	116	85.6 to 123.				
FLUORANTHENE	4.82804	4.9	98.5	92.0 to 120.				
1-NITROPYRENE	4.78343	4.95	96.6	86.8 to 123.				

Sample: WG339704-2 **Spikelot:** NA
QC Type: MBLANK **Raw File:**
Analysis date 02/23/16 13:45:44 **Approval Status:** YES
Instrument: LC5

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
ACENAPHTHENE(FRONT)	0	<.3						
ACENAPHTHENE(BACK)	0	<.3						
ACENAPHTHYLENE(FRONT)	0	<.3						
ACENAPHTHYLENE(BACK)	0	<.3						
ANTHRACENE(FRONT)	0	<.3						
ANTHRACENE(BACK)	0	<.3						
BENZO(A)ANTHRACENE(FRONT)	0	<.3						
BENZO(A)ANTHRACENE(BACK)	0	<.3						
BENZO(A)PYRENE(FRONT)	0	<.3						
BENZO(A)PYRENE(BACK)	0	<.3						
BENZO(B)FLUORANTHENE(FRONT)	0	<.3						
BENZO(B)FLUORANTHENE(BACK)	0	<.3						
BENZO(E)PYRENE(FRONT)	0	<.3						
BENZO(E)PYRENE(BACK)	0	<.3						
BENZO(G,H,I)PERYLENE(FRONT)	0	<.3						
BENZO(G,H,I)PERYLENE(BACK)	0	<.3						
BENZO(K)FLUORANTHENE(FRONT)	0	<.3						
BENZO(K)FLUORANTHENE(BACK)	0	<.3						
CHRYSENE(FRONT)	0	<.3						
CHRYSENE(BACK)	0	<.3						
DIBENZ(A,H)ANTHRACENE(FRONT)	0	<.3						
DIBENZ(A,H)ANTHRACENE(BACK)	0	<.3						

Sample: WG339704-2 **Spikelot:** NA
QC Type: MBLANK **Raw File:**
Analysis date 02/23/16 13:45:44 **Approval Status:** YES
Instrument: LC5

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
FLUORANTHENE(FRONT)	0	<.3						
FLUORANTHENE(BACK)	0	<.3						
FLUORENE(FRONT)	0	<.3						
FLUORENE(BACK)	0	<.3						
INDENO-1,2,3-CD-PYRENE(FRONT)	0	<.3						
INDENO-1,2,3-CD-PYRENE(BACK)	0	<.3						
NAPHTHALENE(FRONT)	0	<.3						
NAPHTHALENE(BACK)	0	<.3						
1-NITROPYRENE(FRONT)	0	<.3						
1-NITROPYRENE(BACK)	0	<.3						
PHENANTHRENE(FRONT)	0	<.3						
PHENANTHRENE(BACK)	0	<.3						
PYRENE(FRONT)	0	<.3						
PYRENE(BACK)	0	<.3						

Sample: WG339704-3 **Spikelot:** IH609142
QC Type: BS **Raw File:**
Analysis date 02/23/16 14:25:40 **Approval Status:** YES
Instrument: LC5

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
NAPHTHALENE	4.68606	4.95	94.7		95.6	85.2 to 125		
BENZO(A)ANTHRACENE	4.99195	4.95	101		103	85.3 to 134		
CHRYSENE	4.83303	4.95	97.6		99.6	86.7 to 129		
BENZO(E)PYRENE	4.85035	4.9995	97		99	82.4 to 140		
BENZO(B)FLUORANTHENE	4.91151	4.95	99.2		102	85.0 to 142		
BENZO(K)FLUORANTHENE	4.90344	4.95	99.1		102	85.3 to 132		
BENZO(A)PYRENE	5.22565	4.95	106		108	76.5 to 154		
DIBENZ(A,H)ANTHRACENE	4.73465	4.95	95.6		96.6	79.8 to 127		
BENZO(G,H,I)PERYLENE	4.87196	4.95	98.4		103	81.7 to 142		
INDENO-1,2,3-CD-PYRENE	4.84956	4.95	98		99	83.3 to 142		
ACENAPHTHYLENE	4.65415	4.95	94		92.2	82.8 to 118		
ACENAPHTHENE	4.78680	4.9995	95.7		93.9	82.3 to 125		
FLUORENE	4.83377	4.9	98.6		102	90.7 to 128		
PHENANTHRENE	4.82099	4.9	98.4		100	87.8 to 128		
ANTHRACENE	5.64586	4.95	114		116	90.2 to 137		

Sample: WG339704-3 **Spikelot:** IH609142
QC Type: BS **Raw File:**
Analysis date 02/23/16 14:25:40 **Approval Status:** YES
Instrument: LC5

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
FLUORANTHENE	4.74302	4.9	96.8		98.8	85.5 to 134		
1-NITROPYRENE	4.69723	4.95	94.9		95.9	82.7 to 131		
PYRENE	4.88879	4.95	98.8		99.8	89.7 to 134		

Sample: WG339704-4 **Spikelot:** IH609142
QC Type: BSD **Raw File:**
Analysis date 02/23/16 14:45:39 **Approval Status:** YES
Instrument: LC5

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
NAPHTHALENE	4.67587	4.95	94.5		95.4	85.2 to 125	.209	-10 to 10.0
BENZO(A)ANTHRACENE	4.93876	4.95	99.8		102	85.3 to 134	.976	-10 to 10.0
CHRYSENE	4.77033	4.95	96.4		98.3	86.7 to 129	1.31	-10 to 10.0
BENZO(E)PYRENE	4.81249	4.9995	96.3		98.2	82.4 to 140	.811	-10 to 10.0
BENZO(B)FLUORANTHENE	4.90234	4.95	99		102	85.0 to 142	0	-10 to 10.0
BENZO(K)FLUORANTHENE	4.82442	4.95	97.5		100	85.3 to 132	1.98	-10 to 10.0
BENZO(A)PYRENE	5.23298	4.95	106		108	76.5 to 154	0	-10 to 10.0
DIBENZ(A,H)ANTHRACENE	4.69792	4.95	94.9		95.9	79.8 to 127	.727	-11.5 to 9.87
BENZO(G,H,I)PERYLENE	4.82112	4.95	97.4		101	81.7 to 142	1.96	-10 to 10.0
INDENO-1,2,3-CD-PYRENE	4.91453	4.95	99.3		100	83.3 to 142	-1.01	-10 to 10.0
ACENAPHTHYLENE	4.82713	4.95	97.5		95.6	82.8 to 118	-3.62	-10 to 10.0
ACENAPHTHENE	4.84094	4.9995	96.8		94.9	82.3 to 125	-1.06	-10 to 10.0
FLUORENE	4.86254	4.9	99.2		102	90.7 to 128	0	-10 to 10.0
PHENANTHRENE	4.80904	4.9	98.1		100	87.8 to 128	0	-10 to 10.0
ANTHRACENE	5.60964	4.95	113		116	90.2 to 137	0	-10 to 10.0
FLUORANTHENE	4.69045	4.9	95.7		97.7	85.5 to 134	1.12	-10 to 10.0
1-NITROPYRENE	4.66830	4.95	94.3		95.3	82.7 to 131	.628	-10 to 10.0
PYRENE	4.81639	4.95	97.3		98.3	89.7 to 134	1.51	-10.4 to 8.90

Sample: WG339704-5 **Spikelot:** IH609142
QC Type: BS **Raw File:**
Analysis date 02/23/16 15:05:39 **Approval Status:** YES
Instrument: LC5

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
NAPHTHALENE	4.45912	4.95	90.1		97.9	85.2 to 125		
BENZO(A)ANTHRACENE	4.01500	4.95	81.1		104	85.3 to 134		

Sample: WG339704-5 **Spikelot:** IH609142
QC Type: BS **Raw File:**
Analysis date 02/23/16 15:05:39 **Approval Status:** YES
Instrument: LC5

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
CHRYSENE	3.86220	4.95	78		101	86.7 to 129		
BENZO(E)PYRENE	3.42939	4.9995	68.6		101	82.4 to 140		
BENZO(B)FLUORANTHENE	3.71471	4.95	75		104	85.0 to 142		
BENZO(K)FLUORANTHENE	3.70190	4.95	74.8		104	85.3 to 132		
BENZO(A)PYRENE	3.67257	4.95	74.2		112	76.5 to 154		
DIBENZ(A,H)ANTHRACENE	3.27052	4.95	66.1		91.8	79.8 to 127		
BENZO(G,H,I)PERYLENE	2.72020	4.95	55		93.1	81.7 to 142		
INDENO-1,2,3-CD-PYRENE	3.17181	4.95	64.1		100	83.3 to 142		
ACENAPHTHYLENE	4.38196	4.95	88.5		92.2	82.8 to 118		
ACENAPHTHENE	4.41851	4.9995	88.4		98.2	82.3 to 125		
FLUORENE	4.46668	4.9	91.2		101	90.7 to 128		
PHENANTHRENE	4.34253	4.9	88.6		103	87.8 to 128		
ANTHRACENE	4.99102	4.95	101		119	90.2 to 137		
FLUORANTHENE	4.14782	4.9	84.6		102	85.5 to 134		
1-NITROPYRENE	4.16499	4.95	84.1		100	82.7 to 131		
PYRENE	4.12059	4.95	83.2		102	89.7 to 134		

Sample: WG339704-6 **Spikelot:** IH609142
QC Type: BSD **Raw File:**
Analysis date 02/23/16 15:25:39 **Approval Status:** YES
Instrument: LC5

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
NAPHTHALENE	4.42873	4.95	89.5		97.2	85.2 to 125	.718	-10 to 10.0
BENZO(A)ANTHRACENE	3.97059	4.95	80.2		103	85.3 to 134	.966	-10 to 10.0
CHRYSENE	3.80294	4.95	76.8		99.8	86.7 to 129	1.2	-10 to 10.0
BENZO(E)PYRENE	3.42950	4.9995	68.6		101	82.4 to 140	0	-10 to 10.0
BENZO(B)FLUORANTHENE	3.66721	4.95	74.1		103	85.0 to 142	.966	-10 to 10.0
BENZO(K)FLUORANTHENE	3.64261	4.95	73.6		102	85.3 to 132	1.94	-10 to 10.0
BENZO(A)PYRENE	3.58827	4.95	72.5		110	76.5 to 154	1.8	-10 to 10.0
DIBENZ(A,H)ANTHRACENE	3.24299	4.95	65.5		91	79.8 to 127	.875	-11.5 to 9.87
BENZO(G,H,I)PERYLENE	2.71106	4.95	54.8		92.8	81.7 to 142	.323	-10 to 10.0
INDENO-1,2,3-CD-PYRENE	2.96667	4.95	59.9		93.6	83.3 to 142	6.61	-10 to 10.0
ACENAPHTHYLENE	4.31430	4.95	87.2		90.8	82.8 to 118	1.53	-10 to 10.0
ACENAPHTHENE	4.39273	4.9995	87.9		97.6	82.3 to 125	.613	-10 to 10.0
FLUORENE	4.42740	4.9	90.4		100	90.7 to 128	.995	-10 to 10.0

Sample: WG339704-6 **Spikelot:** IH609142
QC Type: BSD **Raw File:**
Analysis date 02/23/16 15:25:39 **Approval Status:** YES
Instrument: LC5

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
PHENANTHRENE	4.27958	4.9	87.3		102	87.8 to 128	.976	-10 to 10.0
ANTHRACENE	4.91708	4.95	99.3		117	90.2 to 137	1.69	-10 to 10.0
FLUORANTHENE	4.08294	4.9	83.3		100	85.5 to 134	1.98	-10 to 10.0
1-NITROPYRENE	4.09732	4.95	82.8		98.5	82.7 to 131	1.51	-10 to 10.0
PYRENE	4.05479	4.95	81.9		99.9	89.7 to 134	2.08	-10.4 to 8.90

Sample: WG339705-3 **Spikelot:** IH607685-1
QC Type: CCV **Raw File:**
Analysis date 02/23/16 18:45:22 **Approval Status:** YES
Instrument: LC5

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
NAPHTHALENE	4.76620	4.95	96.3	88.5 to 120.				
PYRENE	5.00489	4.95	101	92.5 to 125.				
BENZO(A)ANTHRACENE	5.13200	4.95	104	93.7 to 119.				
CHRYSENE	4.89386	4.95	98.9	88.3 to 120.				
BENZO(E)PYRENE	4.96957	4.9995	99.4	90.6 to 127.				
BENZO(B)FLUORANTHENE	5.03909	4.95	102	93.8 to 125.				
BENZO(K)FLUORANTHENE	4.90377	4.95	99.1	88.6 to 118.				
BENZO(A)PYRENE	4.75381	4.95	96	80.0 to 138.				
DIBENZ(A,H)ANTHRACENE	4.84104	4.95	97.8	86.7 to 122.				
BENZO(G,H,I)PERYLENE	4.79393	4.95	96.8	87.6 to 124.				
INDENO-1,2,3-CD-PYRENE	5.01751	4.95	101	94.8 to 127.				
ACENAPHTHYLENE	4.86195	4.95	98.2	89.8 to 117.				
ACENAPHTHENE	4.99696	4.9995	99.9	88.1 to 121.				
FLUORENE	5.00562	4.9	102	92.7 to 123.				
PHENANTHRENE	4.90660	4.9	100	91.1 to 120.				
ANTHRACENE	5.72133	4.95	116	85.6 to 123.				
FLUORANTHENE	4.82576	4.9	98.5	92.0 to 120.				
1-NITROPYRENE	4.82483	4.95	97.5	86.8 to 123.				

Sample: WG339705-4 **Spikelot:** IH607685-1
QC Type: CCV **Raw File:**
Analysis date 02/24/16 00:04:52 **Approval Status:** YES
Instrument: LC5

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits

Sample: WG339705-4 **Spikelot:** IH607685-1
QC Type: CCV **Raw File:**
Analysis date 02/24/16 00:04:52 **Approval Status:** YES
Instrument: LC5

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
NAPHTHALENE	4.77942	4.95	96.6	88.5 to 120.				
PYRENE	5.00811	4.95	101	92.5 to 125.				
BENZO(A)ANTHRACENE	5.05797	4.95	102	93.7 to 119.				
CHRYSENE	4.87380	4.95	98.5	88.3 to 120.				
BENZO(E)PYRENE	4.97646	4.9995	99.5	90.6 to 127.				
BENZO(B)FLUORANTHENE	5.04640	4.95	102	93.8 to 125.				
BENZO(K)FLUORANTHENE	4.91939	4.95	99.4	88.6 to 118.				
BENZO(A)PYRENE	5.11632	4.95	103	83.3 to 137.				
DIBENZ(A,H)ANTHRACENE	4.83773	4.95	97.7	86.7 to 122.				
BENZO(G,H,I)PERYLENE	4.90694	4.95	99.1	87.6 to 124.				
INDENO-1,2,3-CD-PYRENE	5.04591	4.95	102	94.8 to 127.				
ACENAPHTHYLENE	4.86756	4.95	98.3	89.8 to 117.				
ACENAPHTHENE	4.94557	4.9995	98.9	87.1 to 119.				
FLUORENE	4.96413	4.9	101	92.7 to 123.				
PHENANTHRENE	4.91468	4.9	100	91.1 to 120.				
ANTHRACENE	5.76938	4.95	117	91.4 to 130.				
FLUORANTHENE	4.84549	4.9	98.9	92.0 to 120.				
1-NITROPYRENE	4.76843	4.95	96.3	86.8 to 123.				

Sample: WG339705-5 **Spikelot:** IH607685-1
QC Type: CCV **Raw File:**
Analysis date 02/24/16 05:24:36 **Approval Status:** YES
Instrument: LC5

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
NAPHTHALENE	4.76526	4.95	96.3	88.5 to 120.				
PYRENE	5.04453	4.95	102	92.5 to 125.				
BENZO(A)ANTHRACENE	5.06292	4.95	102	93.7 to 119.				
CHRYSENE	4.88442	4.95	98.7	88.3 to 120.				
BENZO(E)PYRENE	4.99588	4.9995	99.9	90.6 to 127.				
BENZO(B)FLUORANTHENE	5.04104	4.95	102	93.8 to 125.				
BENZO(K)FLUORANTHENE	4.93259	4.95	99.6	88.6 to 118.				
BENZO(A)PYRENE	5.19374	4.95	105	83.3 to 137.				
DIBENZ(A,H)ANTHRACENE	4.84612	4.95	97.9	86.7 to 122.				
BENZO(G,H,I)PERYLENE	4.91997	4.95	99.4	87.6 to 124.				
INDENO-1,2,3-CD-PYRENE	5.06205	4.95	102	94.8 to 127.				

Sample: WG339705-5 **Spikelot:** IH607685-1
QC Type: CCV **Raw File:**
Analysis date 02/24/16 05:24:36 **Approval Status:** YES
Instrument: LC5

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
ACENAPHTHYLENE	4.76260	4.95	96.2	89.8 to 117.				
ACENAPHTHENE	4.93428	4.9995	98.7	87.1 to 119.				
FLUORENE	4.98042	4.9	102	92.7 to 123.				
PHENANTHRENE	4.93555	4.9	101	91.1 to 120.				
ANTHRACENE	5.77666	4.95	117	91.4 to 130.				
FLUORANTHENE	4.84628	4.9	98.9	92.0 to 120.				
1-NITROPYRENE	4.77001	4.95	96.4	86.8 to 123.				

Sample: WG339701-2 **Spikelot:** NA
QC Type: MBLANK **Raw File:**
Analysis date 02/24/16 05:44:35 **Approval Status:** YES
Instrument: LC5

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
ANTHRACENE(RAW)	0	<0.3						
BENZO(A)PYRENE(RAW)	0	<0.3						
CHRYSENE(RAW)	0	<0.3						
PHENANTHRENE(RAW)	0	<0.3						
PYRENE(RAW)	0	<0.3						

Sample: WG339701-3 **Spikelot:** IH609142
QC Type: BS **Raw File:**
Analysis date 02/24/16 06:04:35 **Approval Status:** YES
Instrument: LC5

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
PYRENE	4.93676	4.95	99.7		103	75.0 to 125		
CHRYSENE	4.85374	4.95	98.1		99			
BENZO(A)PYRENE	5.09886	4.95	103		105			
PHENANTHRENE	4.89752	4.9	99.9		101			
ANTHRACENE	5.66129	4.95	114		117			

Sample: WG339701-4 **Spikelot:** IH609142
QC Type: BSD **Raw File:**
Analysis date 02/24/16 06:24:34 **Approval Status:** YES
Instrument: LC5

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
PYRENE	4.91188	4.95	99.2		102	75.0 to 125	.976	

Sample: WG339701-4 **Spikelot:** IH609142
QC Type: BSD **Raw File:**
Analysis date 02/24/16 06:24:34 **Approval Status:** YES
Instrument: LC5

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
CHRYSENE	4.85751	4.95	98.1		99.1		-.101	-20 to 20.0
BENZO(A)PYRENE	5.21219	4.95	105		107		-1.89	-20 to 20.0
PHENANTHRENE	4.90914	4.9	100		101		0	-20 to 20.0
ANTHRACENE	5.61716	4.95	113		116		.858	-20 to 20.0

Sample: WG339705-6 **Spikelot:** IH607685-1
QC Type: CCV **Raw File:**
Analysis date 02/24/16 08:44:30 **Approval Status:** YES
Instrument: LC5

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
NAPHTHALENE	4.77009	4.95	96.4	88.5 to 120.				
PYRENE	5.02389	4.95	101	92.5 to 125.				
BENZO(A)ANTHRACENE	5.12716	4.95	104	93.7 to 119.				
CHRYSENE	4.88759	4.95	98.7	88.3 to 120.				
BENZO(E)PYRENE	4.96321	4.9995	99.3	90.6 to 127.				
BENZO(B)FLUORANTHENE	5.02911	4.95	102	93.8 to 125.				
BENZO(K)FLUORANTHENE	4.90891	4.95	99.2	88.6 to 118.				
BENZO(A)PYRENE	5.19826	4.95	105	83.3 to 137.				
DIBENZ(A,H)ANTHRACENE	4.84549	4.95	97.9	86.7 to 122.				
BENZO(G,H,I)PERYLENE	4.87043	4.95	98.4	87.6 to 124.				
INDENO-1,2,3-CD-PYRENE	5.03477	4.95	102	94.8 to 127.				
ACENAPHTHYLENE	4.84634	4.95	97.9	89.8 to 117.				
ACENAPHTHENE	4.92318	4.9995	98.5	87.1 to 119.				
FLUORENE	4.97840	4.9	102	92.7 to 123.				
PHENANTHRENE	4.93766	4.9	101	91.1 to 120.				
ANTHRACENE	5.76889	4.95	117	91.4 to 130.				
FLUORANTHENE	4.82687	4.9	98.5	92.0 to 120.				
1-NITROPYRENE	4.86542	4.95	98.3	86.8 to 123.				

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5120 North Shore Drive
North Little Rock, AR 72118
Phone: (501) 801-8500
Fax: (501) 801-8501
Website: www.cteh.com

Prep:UNKNOWN

for Toxicology and Environmental Health L.L.C.
CHAIN OF CUSTODY AND ANALYSIS REQUEST FORM

Page ___ of ___

	Send Report To:	Send Invoice To:
Name	cconnolly@cteh.com;mberg@cteh.co	
Company	CTEH	CTEH
Address	5120 North Shore Drive North Little Rock, AR 72118	5120 North Shore Drive North Little Rock, AR 72118
Phone	(501)801-8500	(501)801-8500
Fax	(501)801-8501	(501)801-8501
e-mail	labresults@cteh.com	

CTEH Project #: 107907

Turnaround Requested:
Same Day ___Next Day (24 hour) ___ Normal
X Other (Specify) 2 Day
Complete Data Packet Requested X Yes ☐No

Lab Contact Information:
Galson Laboratories
6601 Kirkville Road
E. Syracuse, NY 13057

Client Sample Identification	Other Sample Identification	Sample Size	Units (Check one) ___L ___cm² ___	Sample Date	Sample Time (for non-air samples)	Initials	NIOSH 5506 PNAH	Mod EPA IP-10A PM10								Matrix A = air B = bulk S = soil SW = wipe T = tape W = water
HOTX0220PNAH001	AS14	1030	L	02/20/16		JA	X									A
HOTX0220PNAH002	AS12	957	L	02/20/16		JA	X									A
HOTX0220PNAH003	AS07	1002	L	02/20/16		JA	X									A
HOTX0220PNAH004	BL	0	L	02/20/16		JA	X									A
HOTX0220PM001	AS14	1088	L	02/20/16		JA		X								A
HOTX0220PM002	AS12	667	L	02/20/16		JA		X								A
HOTX0220PM003	AS07	1567	L	02/20/16		JA		X								A
HOTX0220PM004	BL	0	L	02/20/16		JA		X								A

Samples Received in Light Sensitive Material: Yes or No

RELINQUISHED BY	DATE/TIME	RECEIVED BY	DATE/TIME	COMMENTS
Justin Langley	02/22/16 16:00	Fed Ex		Rec'd intact & all accounted for? Yes or No KM Rec'd w/custody seals intact? Yes or No NA KM Rec'd in light sensitive packaging? Yes or No KM Rec'd with ice pack? Yes or No KM Rec'd temperature compliant? Yes or No KM

Mr. Charles Connolly
Center for Toxicology & Env. Health LLC
5120 North Shore Drive
North Little Rock, AR 72118

February 25, 2016

DOH ELAP #11626 Account# 13913 Login# L367787
AIHA-LAP #100324

Dear Mr. Connolly:

Enclosed are the analytical results for the samples received by our laboratory on February 23, 2016. All test results meet the quality control requirements of AIHA-LAP and NELAC unless otherwise stated in this report. All samples on the chain of custody were received in good condition unless otherwise noted.

Results in this report are based on the sampling data provided by the client and refer only to the samples as they were received at the laboratory. Unless otherwise requested, all samples will be discarded 14 days from the date of this report, with the exception of IOMs, which will be cleaned and disposed of after seven calendar days.

Current Scopes of Accreditation can be viewed at www.galsonlabs.com in the accreditations section under the "about Galson" tab.

Please contact Pamela Weaver at (888) 432-5227, if you would like any additional information regarding this report. Thank you for using SGS Galson Laboratories.

Sincerely,

SGS Galson Laboratories

Lisa Swab
Laboratory Director

Enclosure(s)

Galson Laboratories, Inc. is now a part of SGS, the world's leading inspection, verification, testing, and certification company. As part of our transition to SGS, you will begin to see some formatting changes with reports that will improve the presentation of data and allow for the transition to the new logo.

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East Syracuse, NY 13057
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FAX: (315) 437-0571
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LABORATORY ANALYSIS REPORT

Client : Center for Toxicology & Env. H
Site : NS
Project No. : 107907
Date Sampled : 20-FEB-16
Date Received : 23-FEB-16

Account No.: 13913
Login No. : L367787
Date Analyzed : 23-FEB-16
Report ID : 923540

Respirable Dust

Sample ID	Lab ID	Air Vol liter	Total mg	Conc mg/m3
HOTX0220RD001	L367787-1	1355	<0.050	<0.037
HOTX0220RD002	L367787-2	1327	<0.050	<0.038
HOTX0220RD003	L367787-3	1208	<0.050	<0.041
HOTX0220RD004	L367787-4	NA	<0.050	NA

COMMENTS: Please see attached lab footnote report for any applicable footnotes.

Level of quantitation: 0.050 mg
Analytical Method : mod. NIOSH 0600; Gravimetric
OSHA PEL : PNOR 5 mg/m3 (TWA)
Collection Media : PVC PW 37mm

Submitted by: PAH
Approved by : CRI
Date : 25-FEB-16
Supervisor: CRI

NYS DOH # : 11626
QC by: TJB

< -Less Than mg -Milligrams m3 -Cubic Meters kg -Kilograms NA -Not Applicable ND -Not Detected
> -Greater Than ug -Micrograms l -Liters NS -Not Specified ppm -Parts per Million

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LABORATORY ANALYSIS REPORT

Client : Center for Toxicology & Env. H
Site : NS
Project No. : 107907
Date Sampled : 20-FEB-16
Date Received : 23-FEB-16

Account No.: 13913
Login No. : L367787
Date Analyzed : 23-FEB-16
Report ID : 923536

Total Dust

Sample ID	Lab ID	Air Vol liter	Total mg	Conc mg/m3
HOTX0220TD001	L367787-5	1098	<0.050	<0.046
HOTX0220TD002	L367787-6	1054	<0.050	<0.047
HOTX0220TD003	L367787-7	955	0.087	0.091
HOTX0220TD004	L367787-8	NA	<0.050	NA

COMMENTS: Please see attached lab footnote report for any applicable footnotes.

Level of quantitation: 0.050 mg
Analytical Method : mod. NIOSH 0500; Gravimetric
OSHA PEL : PNOR 15 mg/m3 (TWA)
Collection Media : PVC PW 37mm

Submitted by: MNS/PAH
Approved by : CRI
Date : 25-FEB-16
Supervisor: CRI

NYS DOH # : 11626
QC by: TJB

< -Less Than mg -Milligrams m3 -Cubic Meters kg -Kilograms NA -Not Applicable ND -Not Detected
> -Greater Than ug -Micrograms l -Liters NS -Not Specified ppm -Parts per Million

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East Syracuse, NY 13057
(315) 432-5227
FAX: (315) 437-0571
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LABORATORY FOOTNOTE REPORT

Client Name : Center for Toxicology & Env. Health LLC
Site :
Project No. : 107907

Date Sampled : 20-FEB-16
Date Received: 23-FEB-16
Date Analyzed: 23-FEB-16

Account No.: 13913
Login No. : L367787

Unless otherwise noted below, all quality control results associated with the samples were within established control limits or did not impact reported results.

WARNING: The sample(s) to which the findings recorded herein (the "Findings") relate was(were) drawn and / or provided by the Client or by a third party acting at the Client's direction. The Findings constitute no warranty of the sample's representativeness of any goods and strictly relate to the sample(s). The Company accepts no liability with regard to the origin or source from which the sample(s) is/are said to be extracted.

Unrounded results are carried through the calculations that yield the final result and the final result is rounded to the number of significant figures appropriate to the accuracy of the analytical method. Please note that results appearing in the columns preceeding the final result column may have been rounded and therefore, if carried through the calculations, may not yield an identical final result to the one reported.

The stated LOQs for each analyte represent the demonstrated LOQ concentrations prior to correction for desorption efficiency (if applicable).

Unless otherwise noted below, reported results have not been blank corrected for any field blank or method blank.

L367787 (Report ID: 923540):
SOPs: GRAV-SOP-5(15), GRAV-SOP-6(15)
Gravimetric analytical accuracy of the sampling media is -0.005 +/- 0.007 mg (average blank weight change +/- 95% confidence interval or k=2). The estimated uncertainly applies to the media, technology, and SOP(s) referenced in this report and does not account for any uncertainty associated with the sampling process.
PNOR = Particulates Not Otherwise Regulated.

L367787 (Report ID: 923536):
SOPs: GRAV-SOP-5(15), GRAV-SOP-6(15)
Gravimetric analytical accuracy of the sampling media is -0.005 +/- 0.007 mg (average blank weight change +/- 95% confidence interval or k=2). The estimated uncertainly applies to the media, technology, and SOP(s) referenced in this report and does not account for any uncertainty associated with the sampling process.
PNOR = Particulates Not Otherwise Regulated.

L367787-6-8 (Report ID: 923536):
No duplicate analysis performed for these samples. No effect on results.

<	-Less Than	mg	-Milligrams	m3	-Cubic Meters	kg	-Kilograms	ppm	-Parts per Million
>	-Greater Than	ug	-Micrograms	l	-Liters	NS	-Not Specified	ND	-Not Detected	NA	-Not Applicable

GRAVIMETRICS QC SUMMARY REPORT

Login: L367787
Matnum: 306
Matrix: PVC PW 37mm
Instrument Description: Mettler MX-5, M2
Method: mod. NIOSH 0500; GRAV
Reporting Level (mg): 0.050 mg
Analysis: Total Dust

Type	Sample #	Analysis Date	True Value (mg)	Found Value (mg)	Difference (mg)	Control Limit (mg)
CCV	WG339671-1	2/23/2016 07:11:00	19.943	19.941	-0.002	0.008
BLANK	WG339671-3	2/23/2016 07:13:00	13.219	13.211	-0.008	-0.010
CCV	WG339671-7	2/23/2016 07:23:00	19.943	19.943	0.000	0.008
CCV	WG339718-4	2/23/2016 12:41:00	19.943	19.943	0.000	0.008
CCV	WG339718-6	2/23/2016 12:47:00	19.943	19.947	0.004	0.008

Instrument Description: Mettler MX-5, M3
Method: mod. NIOSH 0600/0500; GRAV
Analysis: Respirable and Total Dust

Type	Sample #	Analysis Date	True Value (mg)	Found Value (mg)	Difference (mg)	Control Limit (mg)
CCV	WG339673-1	2/23/2016 07:42:00	19.939	19.936	-0.003	0.008
BLANK	WG339673-3	2/23/2016 07:44:00	10.952	10.953	0.001	0.008
CCV	WG339673-7	2/23/2016 07:54:00	19.939	19.937	-0.002	0.008
CCV	WG339719-1	2/23/2016 12:37:00	19.939	19.937	-0.002	0.008
CCV	WG339719-7	2/23/2016 12:47:00	19.939	19.937	-0.002	0.008

Type	Sample #	Analysis Date	Sample Result (mg)	Duplicate Result (mg)	Abs. Val. of mg Difference	Control Limit (mg)
DUP	WG339719-5	2/23/2016 12:45:00	-0.018	-0.018	0.000	0.004
DUP	WG339719-6	2/23/2016 12:46:00	-0.017	-0.016	0.001	0.004

Dup Workgroup number	**Sample number**
WG339719-5	L367787-4
WG339719-6	L367787-5

Instrument Description: Mettler XP6, M4
Method: mod. NIOSH 0600; GRAV
Analysis: Respirable Dust

Type	Sample #	Analysis Date	True Value (mg)	Found Value (mg)	Difference (mg)	Control Limit (mg)
CCV	WG339684-1	2/23/2016 09:04:00	19.948	19.950	0.002	0.008
BLANK	WG339684-3	2/23/2016 09:05:00	10.166	10.159	-0.007	-0.010
CCV	WG339684-5	2/23/2016 09:14:00	19.948	19.950	0.002	0.008
CCV	WG339720-1	2/23/2016 12:58:00	19.948	19.951	0.003	0.008
CCV	WG339720-3	2/23/2016 13:01:00	19.948	19.949	0.001	0.008

Type	Sample #	Analysis Date	Sample Result (mg)	Duplicate Result (mg)	Abs. Val. of mg Difference	Control Limit (mg)
DUP	WG339720-2	2/23/2016 12:59:00	-0.015	-0.015	0.000	0.004

Dup Workgroup number	**Sample number**
WG339720-2	L367787-1

775699809498
Date:02/23/16
Shipper:FEDEX
Initials:GMB

5120 North Shore Drive
North Little Rock, AR 72118
Phone: (501) 801-8500
Fax: (501) 801-8501
Website: www.cteh.com

Prep:UNKNOWN

for Toxicology and Environmental Health L.L.C.

E CHAIN OF CUSTODY AND ANALYSIS REQUEST FORM

R8

Page ___ of ___

	Send Report To:	Send Invoice To:
Name	cconnolly@cteh.com;mberg@cteh.co	Accounts Payable
Company	CTEH	CTEH
Address	5120 North Shore Drive North Little Rock, AR 72118	5120 North Shore Drive North Little Rock, AR 72118
Phone	(501)801-8500	(501)801-8500
Fax	(501)801-8501	(501)801-8501
e-mail	labresults@cteh.com	

CTEH Project #: 107907

Turnaround Requested:
Same Day ___ Next Day (24 hour) ___ Normal
X Other (Specify) 2 Day

Complete Data Packet Requested X Yes ☐No

Lab Contact Information:
Galson Laboratories
6601 Kirkville Road
E. Syracuse, NY 13057

Client Sample Identification	Other Sample Identification	Sample Size	Units (Check one) ___L ___cm²	Sample Date	Sample Time (for non-air samples)	Initials	NIOSH 0600 Resp dust	NIOSH 0500 Total Dust								Matrix A = air B = bulk S = soil SW = wipe T = tape W = water
HOTX0220RD001	AS14	1355	L	02/20/16		JA	X									A
HOTX0220RD002	AS12	1327	L	02/20/16		JA	X									A
HOTX0220RD003	AS07	1208	L	02/20/16		JA	X									A
HOTX0220RD004	BL	0	L	02/20/16		JA	X									A
HOTX0220TD001	AS14	1098	L	02/20/16		JA		X								A
HOTX0220TD002	AS12	1054	L	02/20/16		JA		X								A
HOTX0220TD003	AS07	955	L	02/20/16		JA		X								A
HOTX0220TD004	BL	0	L	02/20/16		JA		X								A

RELINQUISHED BY	DATE/TIME	RECEIVED BY	DATE/TIME	COMMENTS
Justin Langley	02/22/16 16:00	FedEx		Rec'd intact & all accounted for? Yes or No KM
				Rec'd w/custody seals intact? Yes or No NA KM
				Rec'd in light sensitive packaging? Yes or No NA KM
				Rec'd with ice pack? Yes or No NA KM
				Rec'd temperature compliant? Yes or No KM

Mr. Charles Connolly
Center for Toxicology & Env. Health LLC
5120 North Shore Drive
North Little Rock, AR 72118

March 01, 2016

DOH ELAP #11626 Account# 13913 Login# L368113
AIHA-LAP #100324

Dear Mr. Connolly:

Enclosed are the analytical results for the samples received by our laboratory on February 26, 2016. All test results meet the quality control requirements of AIHA-LAP and NELAC unless otherwise stated in this report. All samples on the chain of custody were received in good condition unless otherwise noted.

Results in this report are based on the sampling data provided by the client and refer only to the samples as they were received at the laboratory. Unless otherwise requested, all samples will be discarded 14 days from the date of this report, with the exception of IOMs, which will be cleaned and disposed of after seven calendar days.

Current Scopes of Accreditation can be viewed at www.galsonlabs.com in the accreditations section under the "about Galson" tab.

Please contact Pamela Weaver at (888) 432-5227, if you would like any additional information regarding this report. Thank you for using SGS Galson Laboratories.

Sincerely,

SGS Galson Laboratories

Lisa Swab
Laboratory Director

Enclosure(s)

Galson Laboratories, Inc. is now a part of SGS, the world's leading inspection, verification, testing, and certification company. As part of our transition to SGS, you will begin to see some formatting changes with reports that will improve the presentation of data and allow for the transition to the new logo.

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LABORATORY ANALYSIS REPORT

Client : Center for Toxicology & Env. H
Site : NS
Project No. : 107907
Date Sampled : 24-FEB-16
Date Received : 26-FEB-16

Account No.: 13913
Login No. : L368113
Date Analyzed : 26-FEB-16
Report ID : 924554

Client ID : HOTX0224PNAH001 **Lab ID : L368113-1** **Air Volume : 991.8 Liter**
Date Sampled : 02/24/16 **Date Analyzed : 02/26/16**

Parameter	LOQ ug	Filter ug	Front ug	Back ug	Total ug	Conc mg/m3	ppm
1-Nitropyrene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Acenaphthene	0.3	<0.3	<0.3	<0.3	<0.3	<0.0003	<0.00005
Acenaphthylene	0.3	<0.3	<0.3	<0.3	<0.3	<0.0003	<0.00005
Anthracene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00005
Benzo(a)anthracene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Benzo(a)pyrene	0.3	<0.3	<0.3	<0.3	<0.5	<0.0005	<0.00004
Benzo(b)fluoranthene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Benzo(e)pyrene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Benzo(g,h,i)perylene	0.3	<0.3	<0.3	<0.3	<0.5	<0.0005	<0.00005
Benzo(k)fluoranthene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Chrysene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Dibenz(a,h)anthracene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Fluoranthene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Fluorene	0.3	<0.3	<0.3	<0.3	<0.3	<0.0003	<0.00005
Indeno(1,2,3-cd)pyrene	0.3	<0.3	<0.3	<0.3	<0.5	<0.0005	<0.00004

COMMENTS: Please see attached lab footnote report for any applicable footnotes.

Collection Media: FilterTube
Date : 01-MAR-16

Submitted by: EAW
NYS DOH # : 11626

Approved by: nkp
Supervisor: MWJ QC by: KSB

< -Less Than mg -Milligrams m3 -Cubic Meters kg -Kilograms NA -Not Applicable ND -Not Detected
> -Greater Than ug -Micrograms l -Liters NS -Not Specified ppm -Parts per Million LOQ-Limit of Quantitation

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LABORATORY ANALYSIS REPORT

Client : Center for Toxicology & Env. H
Site : NS
Project No. : 107907
Date Sampled : 24-FEB-16
Date Received : 26-FEB-16

Account No.: 13913
Login No. : L368113
Date Analyzed : 26-FEB-16
Report ID : 924554

Client ID : HOTX0224PNAH001 **Lab ID : L368113-1** **Air Volume : 991.8 Liter**
Date Sampled : 02/24/16 **Date Analyzed : 02/26/16**

Parameter	LOQ ug	Filter ug	Front ug	Back ug	Total ug	Conc mg/m3	ppm
Naphthalene	0.3	<0.3	<0.3	<0.3	<0.3	<0.0003	<0.00006
Phenanthrene	0.3	<0.3	<0.3	<0.3	<0.3	<0.0004	<0.00005
Pyrene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004

COMMENTS: Please see attached lab footnote report for any applicable footnotes.

Collection Media: FilterTube
Date : 01-MAR-16

Submitted by: EAW
NYS DOH # : 11626

Approved by: nkp
Supervisor: MWJ QC by: KSB

< -Less Than mg -Milligrams m3 -Cubic Meters kg -Kilograms NA -Not Applicable ND -Not Detected
> -Greater Than ug -Micrograms l -Liters NS -Not Specified ppm -Parts per Million LOQ-Limit of Quantitation

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LABORATORY ANALYSIS REPORT

Client : Center for Toxicology & Env. H
Site : NS
Project No. : 107907
Date Sampled : 24-FEB-16
Date Received : 26-FEB-16

Account No.: 13913
Login No. : L368113
Date Analyzed : 26-FEB-16
Report ID : 924554

Client ID : HOTX0224PNAH002 **Lab ID : L368113-2** **Air Volume : 996.2 Liter**
Date Sampled : 02/24/16 **Date Analyzed : 02/26/16**

Parameter	LOQ ug	Filter ug	Front ug	Back ug	Total ug	Conc mg/m3	ppm
1-Nitropyrene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Acenaphthene	0.3	<0.3	<0.3	<0.3	<0.3	<0.0003	<0.00005
Acenaphthylene	0.3	<0.3	<0.3	<0.3	<0.3	<0.0003	<0.00005
Anthracene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00005
Benzo(a)anthracene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Benzo(a)pyrene	0.3	<0.3	<0.3	<0.3	<0.5	<0.0005	<0.00004
Benzo(b)fluoranthene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Benzo(e)pyrene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Benzo(g,h,i)perylene	0.3	<0.3	<0.3	<0.3	<0.5	<0.0005	<0.00005
Benzo(k)fluoranthene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Chrysene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Dibenz(a,h)anthracene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Fluoranthene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Fluorene	0.3	<0.3	<0.3	<0.3	<0.3	<0.0003	<0.00005
Indeno(1,2,3-cd)pyrene	0.3	<0.3	<0.3	<0.3	<0.5	<0.0005	<0.00004

COMMENTS: Please see attached lab footnote report for any applicable footnotes.

Collection Media: FilterTube
Date : 01-MAR-16

Submitted by: EAW
NYS DOH # : 11626

Approved by: nkp
Supervisor: MWJ QC by: KSB

< -Less Than mg -Milligrams m3 -Cubic Meters kg -Kilograms NA -Not Applicable ND -Not Detected
> -Greater Than ug -Micrograms l -Liters NS -Not Specified ppm -Parts per Million LOQ-Limit of Quantitation

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LABORATORY ANALYSIS REPORT

Client : Center for Toxicology & Env. H
Site : NS
Project No. : 107907
Date Sampled : 24-FEB-16
Date Received : 26-FEB-16

Account No.: 13913
Login No. : L368113
Date Analyzed : 26-FEB-16
Report ID : 924554

Client ID : HOTX0224PNAH002 **Lab ID : L368113-2** **Air Volume : 996.2 Liter**
Date Sampled : 02/24/16 **Date Analyzed : 02/26/16**

Parameter	LOQ ug	Filter ug	Front ug	Back ug	Total ug	Conc mg/m3	ppm
Naphthalene	0.3	<0.3	<0.3	<0.3	<0.3	<0.0003	<0.00006
Phenanthrene	0.3	<0.3	<0.3	<0.3	<0.3	<0.0004	<0.00005
Pyrene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004

COMMENTS: Please see attached lab footnote report for any applicable footnotes.

Collection Media: FilterTube
Date : 01-MAR-16

Submitted by: EAW
NYS DOH # : 11626

Approved by: nkp
Supervisor: MWJ QC by: KSB

< -Less Than mg -Milligrams m3 -Cubic Meters kg -Kilograms NA -Not Applicable ND -Not Detected
> -Greater Than ug -Micrograms l -Liters NS -Not Specified ppm -Parts per Million LOQ-Limit of Quantitation

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LABORATORY ANALYSIS REPORT

Client : Center for Toxicology & Env. H
Site : NS
Project No. : 107907
Date Sampled : 24-FEB-16
Date Received : 26-FEB-16

Account No.: 13913
Login No. : L368113
Date Analyzed : 26-FEB-16
Report ID : 924554

Client ID : HOTX0224PNAH003 **Lab ID : L368113-3** **Air Volume : 916.2 Liter**
Date Sampled : 02/24/16 **Date Analyzed : 02/26/16**

Parameter	LOQ ug	Filter ug	Front ug	Back ug	Total ug	Conc mg/m3	ppm
1-Nitropyrene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Acenaphthene	0.3	<0.3	<0.3	<0.3	<0.3	<0.0004	<0.00006
Acenaphthylene	0.3	<0.3	<0.3	<0.3	<0.3	<0.0003	<0.00005
Anthracene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00005
Benzo(a)anthracene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Benzo(a)pyrene	0.3	<0.3	<0.3	<0.3	<0.5	<0.0005	<0.00005
Benzo(b)fluoranthene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0005	<0.00004
Benzo(e)pyrene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0005	<0.00005
Benzo(g,h,i)perylene	0.3	<0.3	<0.3	<0.3	<0.5	<0.0006	<0.00005
Benzo(k)fluoranthene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0005	<0.00004
Chrysene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00005
Dibenz(a,h)anthracene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0005	<0.00004
Fluoranthene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00005
Fluorene	0.3	<0.3	<0.3	<0.3	<0.3	<0.0004	<0.00005
Indeno(1,2,3-cd)pyrene	0.3	<0.3	<0.3	<0.3	<0.5	<0.0005	<0.00005

COMMENTS: Please see attached lab footnote report for any applicable footnotes.

Collection Media: FilterTube
Date : 01-MAR-16

Submitted by: EAW
NYS DOH # : 11626

Approved by: nkp
Supervisor: MWJ QC by: KSB

< -Less Than mg -Milligrams m3 -Cubic Meters kg -Kilograms NA -Not Applicable ND -Not Detected
> -Greater Than ug -Micrograms l -Liters NS -Not Specified ppm -Parts per Million LOQ-Limit of Quantitation

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LABORATORY ANALYSIS REPORT

Client : Center for Toxicology & Env. H
Site : NS
Project No. : 107907
Date Sampled : 24-FEB-16
Date Received : 26-FEB-16

Account No.: 13913
Login No. : L368113
Date Analyzed : 26-FEB-16
Report ID : 924554

Client ID : HOTX0224PNAH003 **Lab ID : L368113-3** **Air Volume : 916.2 Liter**
Date Sampled : 02/24/16 **Date Analyzed : 02/26/16**

Parameter	LOQ ug	Filter ug	Front ug	Back ug	Total ug	Conc mg/m3	ppm
Naphthalene	0.3	<0.3	<0.3	<0.3	<0.3	<0.0004	<0.00007
Phenanthrene	0.3	<0.3	<0.3	<0.3	<0.3	<0.0004	<0.00005
Pyrene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00005

COMMENTS: Please see attached lab footnote report for any applicable footnotes.

Collection Media: FilterTube
Date : 01-MAR-16

Submitted by: EAW
NYS DOH # : 11626

Approved by: nkp
Supervisor: MWJ QC by: KSB

< -Less Than mg -Milligrams m3 -Cubic Meters kg -Kilograms NA -Not Applicable ND -Not Detected
> -Greater Than ug -Micrograms l -Liters NS -Not Specified ppm -Parts per Million LOQ-Limit of Quantitation

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LABORATORY ANALYSIS REPORT

Client : Center for Toxicology & Env. H
Site : NS
Project No. : 107907
Date Sampled : 24-FEB-16
Date Received : 26-FEB-16

Account No.: 13913
Login No. : L368113
Date Analyzed : 26-FEB-16
Report ID : 924554

Client ID : HOTX0224PNAH004 **Lab ID : L368113-4** **Air Volume : NA**
Date Sampled : 02/24/16 **Date Analyzed : 02/26/16**

Parameter	LOQ ug	Filter ug	Front ug	Back ug	Total ug	Conc mg/m3	ppm
1-Nitropyrene	0.3	<0.3	<0.3	<0.3	<0.4	NA	NA
Acenaphthene	0.3	<0.3	<0.3	<0.3	<0.3	NA	NA
Acenaphthylene	0.3	<0.3	<0.3	<0.3	<0.3	NA	NA
Anthracene	0.3	<0.3	<0.3	<0.3	<0.4	NA	NA
Benzo(a)anthracene	0.3	<0.3	<0.3	<0.3	<0.4	NA	NA
Benzo(a)pyrene	0.3	<0.3	<0.3	<0.3	<0.5	NA	NA
Benzo(b)fluoranthene	0.3	<0.3	<0.3	<0.3	<0.4	NA	NA
Benzo(e)pyrene	0.3	<0.3	<0.3	<0.3	<0.4	NA	NA
Benzo(g,h,i)perylene	0.3	<0.3	<0.3	<0.3	<0.5	NA	NA
Benzo(k)fluoranthene	0.3	<0.3	<0.3	<0.3	<0.4	NA	NA
Chrysene	0.3	<0.3	<0.3	<0.3	<0.4	NA	NA
Dibenz(a,h)anthracene	0.3	<0.3	<0.3	<0.3	<0.4	NA	NA
Fluoranthene	0.3	<0.3	<0.3	<0.3	<0.4	NA	NA
Fluorene	0.3	<0.3	<0.3	<0.3	<0.3	NA	NA
Indeno(1,2,3-cd)pyrene	0.3	<0.3	<0.3	<0.3	<0.5	NA	NA

COMMENTS: Please see attached lab footnote report for any applicable footnotes.

Collection Media: FilterTube
Date : 01-MAR-16

Submitted by: EAW
NYS DOH # : 11626

Approved by: nkp
Supervisor: MWJ QC by: KSB

< -Less Than mg -Milligrams m3 -Cubic Meters kg -Kilograms NA -Not Applicable ND -Not Detected
> -Greater Than ug -Micrograms l -Liters NS -Not Specified ppm -Parts per Million LOQ-Limit of Quantitation

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LABORATORY ANALYSIS REPORT

Client : Center for Toxicology & Env. H
Site : NS
Project No. : 107907
Date Sampled : 24-FEB-16
Date Received : 26-FEB-16

Account No.: 13913
Login No. : L368113
Date Analyzed : 26-FEB-16
Report ID : 924554

Client ID : HOTX0224PNAH004 **Lab ID : L368113-4** **Air Volume : NA**
Date Sampled : 02/24/16 **Date Analyzed : 02/26/16**

Parameter	LOQ ug	Filter ug	Front ug	Back ug	Total ug	Conc mg/m3	ppm
Naphthalene	0.3	<0.3	<0.3	<0.3	<0.3	NA	NA
Phenanthrene	0.3	<0.3	<0.3	<0.3	<0.3	NA	NA
Pyrene	0.3	<0.3	<0.3	<0.3	<0.4	NA	NA

COMMENTS: Please see attached lab footnote report for any applicable footnotes.

Collection Media: FilterTube
Date : 01-MAR-16

Submitted by: EAW
NYS DOH # : 11626

Approved by: nkp
Supervisor: MWJ QC by: KSB

< -Less Than mg -Milligrams m3 -Cubic Meters kg -Kilograms NA -Not Applicable ND -Not Detected
> -Greater Than ug -Micrograms l -Liters NS -Not Specified ppm -Parts per Million LOQ-Limit of Quantitation

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LABORATORY ANALYSIS REPORT

Client : Center for Toxicology & Env. H
Site : NS
Project No. : 107907
Date Sampled : 24-FEB-16
Date Received : 26-FEB-16

Account No.: 13913
Login No. : L368113
Date Analyzed : 29-FEB-16
Report ID : 924244

Particulate Matter - PM10

Sample ID	Lab ID	Air Vol liter	Total mg	Conc mg/m3
HOTX0224PM001	L368113-5	711	0.48	0.68
HOTX0224PM002	L368113-6	760.6	0.24	0.32
HOTX0224PM003	L368113-7	707.3	0.23	0.33
HOTX0224PM004	L368113-8	NA	<0.050	NA

COMMENTS: Please see attached lab footnote report for any applicable footnotes.

Level of quantitation: 0.050 mg
Analytical Method : mod. EPA Method IP-10A; Gravimetric
OSHA PEL : NA
Collection Media : PVC PW 37mm

Submitted by: PAH
Approved by : CRI
Date : 01-MAR-16
Supervisor: CRI

NYS DOH # : 11626
QC by: KSB

< -Less Than mg -Milligrams m3 -Cubic Meters kg -Kilograms NA -Not Applicable ND -Not Detected
> -Greater Than ug -Micrograms l -Liters NS -Not Specified ppm -Parts per Million

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LABORATORY FOOTNOTE REPORT

Client Name : Center for Toxicology & Env. Health LLC
Site :
Project No. : 107907

Date Sampled : 24-FEB-16 Account No.: 13913
Date Received: 26-FEB-16 Login No. : L368113
Date Analyzed: 26-FEB-16 - 29-FEB-16

Unless otherwise noted below, all quality control results associated with the samples were within established control limits or did not impact reported results.

WARNING: The sample(s) to which the findings recorded herein (the "Findings") relate was(were) drawn and / or provided by the Client or by a third party acting at the Client's direction. The Findings constitute no warranty of the sample's representativeness of any goods and strictly relate to the sample(s). The Company accepts no liability with regard to the origin or source from which the sample(s) is/are said to be extracted.

Unrounded results are carried through the calculations that yield the final result and the final result is rounded to the number of significant figures appropriate to the accuracy of the analytical method. Please note that results appearing in the columns preceeding the final result column may have been rounded and therefore, if carried through the calculations, may not yield an identical final result to the one reported.

The stated LOQs for each analyte represent the demonstrated LOQ concentrations prior to correction for desorption efficiency (if applicable).

Unless otherwise noted below, reported results have not been blank corrected for any field blank or method blank.

L368113 (Report ID: 924554):
SOPs: il-n5506(12)
Results corrected for matrix and compound specific desorption efficiencies.

L368113 (Report ID: 924554):
Accuracy and mean recovery data presented below is based on a 95% confidence interval (k=2).
The estimated uncertainty applies to the media, technology, and SOP referenced in this report and does not account for the uncertainty associated with the sampling process.

Parameter	Accuracy	Mean Recovery
1-Nitropyrene	+/-16%	107%
Acenaphthene	+/-14.4%	104%
Acenaphthylene	+/-11.7%	100%
Anthracene	+/-15.7%	114%
Benzo(a)anthracene	+/-16.1%	110%
Benzo(a)pyrene	+/-26%	115%

< -Less Than mg -Milligrams m3 -Cubic Meters kg -Kilograms ppm -Parts per Million
> -Greater Than ug -Micrograms l -Liters NS -Not Specified ND -Not Detected NA -Not Applicable

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Client Name : Center for Toxicology & Env. Health LLC
Site :
Project No. : 107907

Date Sampled : 24-FEB-16 Account No.: 13913
Date Received: 26-FEB-16 Login No. : L368113
Date Analyzed: 26-FEB-16 - 29-FEB-16

Benzo(b)fluoranthene	+/-19%	113%
Benzo(e)pyrene	+/-19.2%	111%
Benzo(g,h,i)perylene	+/-20.2%	112%
Benzo(k)fluoranthene	+/-15.5%	109%
Chrysene	+/-14%	108%
Dibenz(a,h)anthracene	+/-15.6%	103%
Fluoranthene	+/-16.2%	110%
Fluorene	+/-12.4%	109%
Indeno(1,2,3-cd)pyrene	+/-19.5%	113%
Naphthalene	+/-13.3%	105%
Phenanthrene	+/-13.4%	108%
Pyrene	+/-14.6%	112%

Parameter	Method	PEL
1-Nitropyrene	mod. NIOSH 5506; HPLC/UV	NA
Acenaphthene	mod. NIOSH 5506; HPLC/UV	NA
Acenaphthylene	mod. NIOSH 5506; HPLC/UV	NA
Anthracene	mod. NIOSH 5506; HPLC/UV	NA
Benzo(a)anthracene	mod. NIOSH 5506; HPLC/UV	NA
Benzo(a)pyrene	mod. NIOSH 5506; HPLC/UV	0.2 mg/m3 (TWA)
Benzo(b)fluoranthene	mod. NIOSH 5506; HPLC/UV	NA
Benzo(e)pyrene	mod. NIOSH 5506; HPLC/UV	NA
Benzo(g,h,i)perylene	mod. NIOSH 5506; HPLC/UV	NA
Benzo(k)fluoranthene	mod. NIOSH 5506; HPLC/UV	NA
Chrysene	mod. NIOSH 5506; HPLC/UV	0.2 mg/m3 (TWA)
Dibenz(a,h)anthracene	mod. NIOSH 5506; HPLC/UV	NA
Fluoranthene	mod. NIOSH 5506; HPLC/UV	NA
Fluorene	mod. NIOSH 5506; HPLC/UV	NA
Indeno(1,2,3-cd)pyrene	mod. NIOSH 5506; HPLC/UV	NA
Naphthalene	mod. NIOSH 5506; HPLC/UV	10 ppm (TWA)
Phenanthrene	mod. NIOSH 5506; HPLC/UV	NA
Pyrene	mod. NIOSH 5506; HPLC/UV	NA

L368113 (Report ID: 924244):
SOPs: GRAV-SOP-5(15), GRAV-SOP-6(15)

< -Less Than mg -Milligrams m3 -Cubic Meters kg -Kilograms ppm -Parts per Million
> -Greater Than ug -Micrograms l -Liters NS -Not Specified ND -Not Detected NA -Not Applicable

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LABORATORY FOOTNOTE REPORT

Client Name : Center for Toxicology & Env. Health LLC
Site :
Project No. : 107907

Date Sampled : 24-FEB-16 Account No.: 13913
Date Received: 26-FEB-16 Login No. : L368113
Date Analyzed: 26-FEB-16 - 29-FEB-16

L368113 (Report ID: 924244):
Gravimetric analytical accuracy of the sampling media is -0.001 +/- 0.006 mg (average blank weight change +/- 95% confidence interval or k=2). The estimated uncertainly applies to the media, technology, and SOP(s) referenced in this report and does not account for any uncertainty associated with the sampling process.

<	-Less Than	mg	-Milligrams	m3	-Cubic Meters	kg	-Kilograms	ppm	-Parts per Million
>	-Greater Than	ug	-Micrograms	l	-Liters	NS	-Not Specified	ND	-Not Detected	NA	-Not Applicable

GRAVIMETRICS QC SUMMARY REPORT

Login: L368113
Matnum: 306
Matrix: PVC PW 37mm
Instrument Description: Mettler MX-5, M2
Method: mod. EPA Method IP-10A; Gravimetric
Reporting Level (mg): 0.050 mg
Analysis: Particulate Matter - PM10

Type	Sample #	Analysis Date	True Value (mg)	Found Value (mg)	Difference (mg)	Control Limit (mg)
CCV	WG340174-1	2/29/2016 07:10:00	19.943	19.943	0.000	0.008
BLANK	WG340174-3	2/29/2016 07:11:00	13.219	13.218	-0.001	-0.010
CCV	WG340174-6	2/29/2016 07:25:00	19.943	19.949	0.006	0.008

Type	Sample #	Analysis Date	Sample Result (mg)	Duplicate Result (mg)	Abs. Val. of mg Difference	Control Limit (mg)
DUP	WG340174-4	2/29/2016 07:13:00	0.234	0.235	0.001	0.004

Dup Workgroup number **Sample number**
WG340174-4 L368113-7

Sample: WG340112-1 **Spikelot:** IH609142-2
QC Type: DLS **Raw File:**
Analysis date 02/26/16 16:08:38 **Approval Status:** YES
Instrument: LC5

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
NAPHTHALENE	.094997	.099	96	70.0 to 130.				
BENZO(A)ANTHRACENE	.095011	.099	96	70.0 to 130.				
CHRYSENE	.098504	.099	99.5	70.0 to 130.				
BENZO(E)PYRENE	.081538	.1	81.5	70.0 to 130.				
BENZO(B)FLUORANTHENE	.101941	.099	103	70.0 to 130.				
BENZO(K)FLUORANTHENE	.079713	.099	80.5	70.0 to 130.				
BENZO(A)PYRENE	.117560	.099	119	70.0 to 130.				
DIBENZ(A,H)ANTHRACENE	.092959	.099	93.9	70.0 to 130.				
BENZO(G,H,I)PERYLENE	.091060	.099	92	70.0 to 130.				
INDENO-1,2,3-CD-PYRENE	.085090	.099	85.9	70.0 to 130.				
ACENAPHTHYLENE	.101914	.099	103	70.0 to 130.				
ACENAPHTHENE	.096764	.1	96.8	70.0 to 130.				
FLUORENE	.099612	.098	102	70.0 to 130.				
PHENANTHRENE	.095674	.098	97.6	70.0 to 130.				
ANTHRACENE	.113650	.099	115	70.0 to 130.				
FLUORANTHENE	.092765	.098	94.7	70.0 to 130.				
1-NITROPYRENE	.077672	.099	78.5	70.0 to 130.				
PYRENE	.071028	.099	71.7	70.0 to 130.				

Sample: WG340112-2 **Spikelot:** IH609142-1
QC Type: CCV **Raw File:**
Analysis date 02/26/16 16:28:37 **Approval Status:** YES
Instrument: LC5

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
NAPHTHALENE	4.64991	4.95	93.9	88.5 to 120.				
PYRENE	4.80277	4.95	97	92.5 to 125.				
BENZO(A)ANTHRACENE	4.91471	4.95	99.3	93.7 to 119.				
CHRYSENE	4.71067	4.95	95.2	88.9 to 118.				
BENZO(E)PYRENE	4.79034	4.9995	95.8	90.6 to 127.				
BENZO(B)FLUORANTHENE	4.86045	4.95	98.2	93.8 to 125.				
BENZO(K)FLUORANTHENE	4.75530	4.95	96.1	88.2 to 117.				
BENZO(A)PYRENE	5.06290	4.95	102	83.3 to 137.				
DIBENZ(A,H)ANTHRACENE	4.68962	4.95	94.7	85.0 to 120.				
BENZO(G,H,I)PERYLENE	4.75742	4.95	96.1	88.6 to 123.				
INDENO-1,2,3-CD-PYRENE	4.88982	4.95	98.8	94.8 to 127.				

Sample: WG340112-2 **Spikelot:** IH609142-1
QC Type: CCV **Raw File:**
Analysis date 02/26/16 16:28:37 **Approval Status:** YES
Instrument: LC5

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
ACENAPHTHYLENE	4.73238	4.95	95.6	89.8 to 117.				
ACENAPHTHENE	4.76884	4.9995	95.4	87.1 to 119.				
FLUORENE	4.83196	4.9	98.6	92.7 to 123.				
PHENANTHRENE	4.77709	4.9	97.5	91.1 to 120.				
ANTHRACENE	5.60723	4.95	113	91.4 to 130.				
FLUORANTHENE	4.64857	4.9	94.9	92.0 to 120.				
1-NITROPYRENE	4.73151	4.95	95.6	86.8 to 123.				

Sample: WG340108-2 **Spikelot:** NA
QC Type: MBLANK **Raw File:**
Analysis date 02/26/16 17:28:31 **Approval Status:** YES
Instrument: LC5

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
ACENAPHTHENE(FRONT)	0	<.3						
ACENAPHTHENE(BACK)	0	<.3						
ACENAPHTHYLENE(FRONT)	0	<.3						
ACENAPHTHYLENE(BACK)	0	<.3						
ANTHRACENE(FRONT)	0	<.3						
ANTHRACENE(BACK)	0	<.3						
BENZO(A)ANTHRACENE(FRONT)	0	<.3						
BENZO(A)ANTHRACENE(BACK)	0	<.3						
BENZO(A)PYRENE(FRONT)	0	<.3						
BENZO(A)PYRENE(BACK)	0	<.3						
BENZO(B)FLUORANTHENE(FRONT)	0	<.3						
BENZO(B)FLUORANTHENE(BACK)	0	<.3						
BENZO(E)PYRENE(FRONT)	0	<.3						
BENZO(E)PYRENE(BACK)	0	<.3						
BENZO(G,H,I)PERYLENE(FRONT)	0	<.3						
BENZO(G,H,I)PERYLENE(BACK)	0	<.3						
BENZO(K)FLUORANTHENE(FRONT)	0	<.3						
BENZO(K)FLUORANTHENE(BACK)	0	<.3						
CHRYSENE(FRONT)	0	<.3						
CHRYSENE(BACK)	0	<.3						
DIBENZ(A,H)ANTHRACENE(FRONT)	0	<.3						
DIBENZ(A,H)ANTHRACENE(BACK)	0	<.3						

Sample: WG340108-2 **Spikelot:** NA
QC Type: MBLANK **Raw File:**
Analysis date 02/26/16 17:28:31 **Approval Status:** YES
Instrument: LC5

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
FLUORANTHENE(FRONT)	0	<.3						
FLUORANTHENE(BACK)	0	<.3						
FLUORENE(FRONT)	0	<.3						
FLUORENE(BACK)	0	<.3						
INDENO-1,2,3-CD-PYRENE(FRONT)	0	<.3						
INDENO-1,2,3-CD-PYRENE(BACK)	0	<.3						
NAPHTHALENE(FRONT)	0	<.3						
NAPHTHALENE(BACK)	0	<.3						
1-NITROPYRENE(FRONT)	0	<.3						
1-NITROPYRENE(BACK)	0	<.3						
PHENANTHRENE(FRONT)	0	<.3						
PHENANTHRENE(BACK)	0	<.3						
PYRENE(FRONT)	0	<.3						
PYRENE(BACK)	0	<.3						

Sample: WG340108-3 **Spikelot:** IH609142
QC Type: BS **Raw File:**
Analysis date 02/26/16 18:08:28 **Approval Status:** YES
Instrument: LC5

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
NAPHTHALENE	4.70661	4.95	95.1		96	85.2 to 125		
BENZO(A)ANTHRACENE	4.98216	4.95	101		103	85.3 to 134		
CHRYSENE	4.79031	4.95	96.8		98.7	86.7 to 129		
BENZO(E)PYRENE	4.85905	4.9995	97.2		99.2	82.4 to 140		
BENZO(B)FLUORANTHENE	4.91513	4.95	99.3		102	85.0 to 142		
BENZO(K)FLUORANTHENE	4.86971	4.95	98.4		101	85.3 to 132		
BENZO(A)PYRENE	5.28657	4.95	107		109	76.5 to 154		
DIBENZ(A,H)ANTHRACENE	4.76428	4.95	96.2		97.2	79.8 to 127		
BENZO(G,H,I)PERYLENE	4.88132	4.95	98.6		103	81.7 to 142		
INDENO-1,2,3-CD-PYRENE	4.88553	4.95	98.7		99.7	83.3 to 142		
ACENAPHTHYLENE	4.75044	4.95	96		94.1	82.8 to 118		
ACENAPHTHENE	4.83140	4.9995	96.6		94.7	82.3 to 125		
FLUORENE	4.84163	4.9	98.8		102	90.7 to 128		
PHENANTHRENE	4.82618	4.9	98.5		101	87.8 to 128		
ANTHRACENE	5.60062	4.95	113		115	90.2 to 137		

Sample: WG340108-3 **Spikelot:** IH609142
QC Type: BS **Raw File:**
Analysis date 02/26/16 18:08:28 **Approval Status:** YES
Instrument: LC5

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
FLUORANTHENE	4.71876	4.9	96.3		98.3	85.5 to 134		
1-NITROPYRENE	4.75336	4.95	96		97	82.7 to 131		
PYRENE	4.77006	4.95	96.4		97.3	89.7 to 134		

Sample: WG340108-4 **Spikelot:** IH609142
QC Type: BSD **Raw File:**
Analysis date 02/26/16 18:28:25 **Approval Status:** YES
Instrument: LC5

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
NAPHTHALENE	4.71776	4.95	95.3		96.3	85.2 to 125	-.312	-10 to 10.0
BENZO(A)ANTHRACENE	4.95478	4.95	100		102	85.3 to 134	.976	-10 to 10.0
CHRYSENE	4.77676	4.95	96.5		98.5	86.7 to 129	.203	-10 to 10.0
BENZO(E)PYRENE	4.84017	4.9995	96.8		98.8	82.4 to 140	.404	-10 to 10.0
BENZO(B)FLUORANTHENE	4.93425	4.95	99.7		103	85.0 to 142	-.976	-10 to 10.0
BENZO(K)FLUORANTHENE	4.85805	4.95	98.1		101	85.3 to 132	0	-10 to 10.0
BENZO(A)PYRENE	5.21906	4.95	105		108	76.5 to 154	.922	-10 to 10.0
DIBENZ(A,H)ANTHRACENE	4.74991	4.95	96		96.9	79.8 to 127	.309	-11.5 to 9.87
BENZO(G,H,I)PERYLENE	4.85824	4.95	98.1		102	81.7 to 142	.976	-10 to 10.0
INDENO-1,2,3-CD-PYRENE	4.93935	4.95	99.8		101	83.3 to 142	-1.3	-10 to 10.0
ACENAPHTHYLENE	4.76836	4.95	96.3		94.4	82.8 to 118	-.318	-10 to 10.0
ACENAPHTHENE	4.81911	4.9995	96.4		94.5	82.3 to 125	.211	-10 to 10.0
FLUORENE	4.85681	4.9	99.1		102	90.7 to 128	0	-10 to 10.0
PHENANTHRENE	4.79441	4.9	97.8		99.8	87.8 to 128	1.2	-10 to 10.0
ANTHRACENE	5.65013	4.95	114		116	90.2 to 137	-.866	-10 to 10.0
FLUORANTHENE	4.69698	4.9	95.9		97.8	85.5 to 134	.51	-10 to 10.0
1-NITROPYRENE	4.73560	4.95	95.7		96.6	82.7 to 131	.413	-10 to 10.0
PYRENE	4.77855	4.95	96.5		97.5	89.7 to 134	-.205	-10.4 to 8.90

Sample: WG340108-5 **Spikelot:** IH609142
QC Type: BS **Raw File:**
Analysis date 02/26/16 18:48:23 **Approval Status:** YES
Instrument: LC5

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
NAPHTHALENE	4.38656	4.95	88.6		96.3	85.2 to 125		
BENZO(A)ANTHRACENE	4.01143	4.95	81		104	85.3 to 134		

Sample: WG340108-5 **Spikelot:** IH609142
QC Type: BS **Raw File:**
Analysis date 02/26/16 18:48:23 **Approval Status:** YES
Instrument: LC5

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
CHRYSENE	3.86335	4.95	78		101	86.7 to 129		
BENZO(E)PYRENE	3.47290	4.9995	69.5		102	82.4 to 140		
BENZO(B)FLUORANTHENE	3.70260	4.95	74.8		104	85.0 to 142		
BENZO(K)FLUORANTHENE	3.70565	4.95	74.9		104	85.3 to 132		
BENZO(A)PYRENE	3.77233	4.95	76.2		115	76.5 to 154		
DIBENZ(A,H)ANTHRACENE	3.30336	4.95	66.7		92.7	79.8 to 127		
BENZO(G,H,I)PERYLENE	2.80765	4.95	56.7		96.1	81.7 to 142		
INDENO-1,2,3-CD-PYRENE	3.14757	4.95	63.6		99.4	83.3 to 142		
ACENAPHTHYLENE	4.31533	4.95	87.2		90.8	82.8 to 118		
ACENAPHTHENE	4.38603	4.9995	87.7		97.5	82.3 to 125		
FLUORENE	4.41829	4.9	90.2		100	90.7 to 128		
PHENANTHRENE	4.30923	4.9	87.9		102	87.8 to 128		
ANTHRACENE	4.92835	4.95	99.6		117	90.2 to 137		
FLUORANTHENE	4.13882	4.9	84.5		102	85.5 to 134		
1-NITROPYRENE	4.18026	4.95	84.4		101	82.7 to 131		
PYRENE	4.07290	4.95	82.3		100	89.7 to 134		

Sample: WG340108-6 **Spikelot:** IH609142
QC Type: BSD **Raw File:**
Analysis date 02/26/16 19:08:21 **Approval Status:** YES
Instrument: LC5

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
NAPHTHALENE	4.47517	4.95	90.4		98.3	85.2 to 125	-2.06	-10 to 10.0
BENZO(A)ANTHRACENE	4.11026	4.95	83		106	85.3 to 134	-1.9	-10 to 10.0
CHRYSENE	3.94903	4.95	79.8		104	86.7 to 129	-2.93	-10 to 10.0
BENZO(E)PYRENE	3.62370	4.9995	72.5		107	82.4 to 140	-4.78	-10 to 10.0
BENZO(B)FLUORANTHENE	3.82651	4.95	77.3		107	85.0 to 142	-2.84	-10 to 10.0
BENZO(K)FLUORANTHENE	3.83289	4.95	77.4		108	85.3 to 132	-3.77	-10 to 10.0
BENZO(A)PYRENE	3.86663	4.95	78.1		118	76.5 to 154	-2.58	-10 to 10.0
DIBENZ(A,H)ANTHRACENE	3.42897	4.95	69.3		96.2	79.8 to 127	-3.71	-11.5 to 9.87
BENZO(G,H,I)PERYLENE	2.99414	4.95	60.5		103	81.7 to 142	-6.93	-10 to 10.0
INDENO-1,2,3-CD-PYRENE	3.18073	4.95	64.3		100	83.3 to 142	-.602	-10 to 10.0
ACENAPHTHYLENE	4.37830	4.95	88.5		92.1	82.8 to 118	-1.42	-10 to 10.0
ACENAPHTHENE	4.43239	4.9995	88.7		98.5	82.3 to 125	-1.02	-10 to 10.0
FLUORENE	4.46940	4.9	91.2		101	90.7 to 128	-.995	-10 to 10.0

Sample: WG340108-6 **Spikelot:** IH609142
QC Type: BSD **Raw File:**
Analysis date 02/26/16 19:08:21 **Approval Status:** YES
Instrument: LC5

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
PHENANTHRENE	4.36867	4.9	89.2		104	87.8 to 128	-1.94	-10 to 10.0
ANTHRACENE	5.01956	4.95	101		119	90.2 to 137	-1.69	-10 to 10.0
FLUORANTHENE	4.20403	4.9	85.8		103	85.5 to 134	-.976	-10 to 10.0
1-NITROPYRENE	4.20011	4.95	84.9		101	82.7 to 131	0	-10 to 10.0
PYRENE	4.10757	4.95	83		101	89.7 to 134	-.995	-10.4 to 8.90

Sample: WG340112-3 **Spikelot:** IH609142-1
QC Type: CCV **Raw File:**
Analysis date 02/26/16 23:27:58 **Approval Status:** YES
Instrument: LC5

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
NAPHTHALENE	4.66618	4.95	94.3	88.5 to 120.				
PYRENE	4.81743	4.95	97.3	92.5 to 125.				
BENZO(A)ANTHRACENE	4.93902	4.95	99.8	93.7 to 119.				
CHRYSENE	4.73650	4.95	95.7	88.9 to 118.				
BENZO(E)PYRENE	4.80434	4.9995	96.1	90.6 to 127.				
BENZO(B)FLUORANTHENE	4.86738	4.95	98.3	93.8 to 125.				
BENZO(K)FLUORANTHENE	4.76378	4.95	96.2	88.2 to 117.				
BENZO(A)PYRENE	5.01549	4.95	101	83.3 to 137.				
DIBENZ(A,H)ANTHRACENE	4.69070	4.95	94.8	85.0 to 120.				
BENZO(G,H,I)PERYLENE	4.71732	4.95	95.3	88.6 to 123.				
INDENO-1,2,3-CD-PYRENE	4.80708	4.95	97.1	94.8 to 127.				
ACENAPHTHYLENE	4.74171	4.95	95.8	89.8 to 117.				
ACENAPHTHENE	4.79303	4.9995	95.9	87.1 to 119.				
FLUORENE	4.85258	4.9	99	92.7 to 123.				
PHENANTHRENE	4.78126	4.9	97.6	91.1 to 120.				
ANTHRACENE	5.61316	4.95	113	91.4 to 130.				
FLUORANTHENE	4.67315	4.9	95.4	92.0 to 120.				
1-NITROPYRENE	4.67289	4.95	94.4	86.8 to 123.				

5120 North Shore Drive
North Little Rock, AR 72118
Phone: (501) 801-8500
Fax: (501) 801-8501
Website: www.cteh.com

Center for Toxicology and Environmental Health L.L.C.

SAMPLE CHAIN OF CUSTODY AND ANALYSIS REQUEST FORM

R1/9

Page ___ of ___

	Send Report To:	Send Invoice To:
Name	cconnolly@cteh.com;mberg@cteh.co	
Company	CTEH	CTEH
Address	5120 North Shore Drive North Little Rock, AR 72118	5120 North Shore Drive North Little Rock, AR 72118
Phone	(501)801-8500	(501)801-8500
Fax	(501)801-8501	(501)801-8501
e-mail	labresults@cteh.com	

CTEH Project #: 107907

Turnaround Requested:
Same Day ___ Next Day (24 hour) ___ Normal
_X_ Other (Specify) 2 Day

Complete Data Packet Requested X Yes ☐No

Lab Contact Information:
Galson Laboratories
6601 Kirkville Road
E. Syracuse, NY 13057

Client Sample Identification	Other Sample Identification	Sample Size	Units (Check one) ___L ___cm²	Sample Date	Sample Time (for non-air samples)	Initials	NIOSH 5506 PNAH	Mod EPA IP-10A PM10								Matrix A = air B = bulk S = soil SW = wipe T = tape W = water
HOTX0224PNAH001	AS14	991.8	L	02/24/16		JA	X									A
HOTX0224PNAH002	AS12	996.2	L	02/24/16		JA	X									A
HOTX0224PNAH003	AS07	916.2	L	02/24/16		JA	X									A
HOTX0224PNAH004	BL	0	L	02/24/16		JA	X									A
HOTX0224PM001	AS14	711	L	02/24/16		JA		X								A
HOTX0224PM002	AS12	760.6	L	02/24/16		JA		X								A
HOTX0224PM003	AS07	707.3	L	02/24/16		JA		X								A
HOTX0224PM004	BL	0	L	02/24/16		JA		X								A

775731084796
Date:02/26/16
Shipper:FEDEX
Initials:SK
Prep:UNKNOWN

Intermittent 060043

PVC

SK 2/24/16

RELINQUISHED BY	DATE/TIME	RECEIVED BY	DATE/TIME	COMMENTS
Justin Langley	02/25/16 16:00	Fed Ex		Rec'd intact & all accounted for? Yes or No SK Rec'd w/custody seals intact? Yes or No NA Rec'd in light sensitive packaging? Yes or No SK Rec'd with ice pack? Yes or No SK Rec'd temperature compliant? Yes or No SK
		M Krause	2/26/16 0741	

Mr. Charles Connolly
Center for Toxicology & Env. Health LLC
5120 North Shore Drive
North Little Rock, AR 72118

March 01, 2016

DOH ELAP #11626 Account# 13913 Login# L368115
AIHA-LAP #100324

Dear Mr. Connolly:

Enclosed are the analytical results for the samples received by our laboratory on February 26, 2016. All test results meet the quality control requirements of AIHA-LAP and NELAC unless otherwise stated in this report. All samples on the chain of custody were received in good condition unless otherwise noted.

Results in this report are based on the sampling data provided by the client and refer only to the samples as they were received at the laboratory. Unless otherwise requested, all samples will be discarded 14 days from the date of this report, with the exception of IOMs, which will be cleaned and disposed of after seven calendar days.

Current Scopes of Accreditation can be viewed at www.galsonlabs.com in the accreditations section under the "about Galson" tab.

Please contact Pamela Weaver at (888) 432-5227, if you would like any additional information regarding this report. Thank you for using SGS Galson Laboratories.

Sincerely,

SGS Galson Laboratories

Lisa Swab
Laboratory Director

Enclosure(s)

Galson Laboratories, Inc. is now a part of SGS, the world's leading inspection, verification, testing, and certification company. As part of our transition to SGS, you will begin to see some formatting changes with reports that will improve the presentation of data and allow for the transition to the new logo.

SGS GALSON LABORATORIES

6601 Kirkville Road
East Syracuse, NY 13057
(315) 432-5227
FAX: (315) 437-0571
www.galsonlabs.com

LABORATORY ANALYSIS REPORT

Client : Center for Toxicology & Env. H
Site : NS
Project No. : 107907
Date Sampled : 24-FEB-16
Date Received : 26-FEB-16

Account No.: 13913
Login No. : L368115
Date Analyzed : 29-FEB-16
Report ID : 924245

Respirable Dust

Sample ID	Lab ID	Air Vol liter	Total mg	Conc mg/m3
HOTX0224RD001	L368115-1	1352	<0.050	<0.037
HOTX0224RD002	L368115-2	1352	<0.050	<0.037
HOTX0224RD003	L368115-3	1357	<0.050	<0.037
HOTX0224RD004	L368115-4	NA	<0.050	NA

COMMENTS: Please see attached lab footnote report for any applicable footnotes.

Level of quantitation: 0.050 mg
Analytical Method : mod. NIOSH 0600; Gravimetric
OSHA PEL : PNOR 5 mg/m3 (TWA)
Collection Media : PVC PW 37mm

Submitted by: PAH
Approved by : CRI
Date : 01-MAR-16
Supervisor: CRI

NYS DOH # : 11626
QC by: TJB

< -Less Than mg -Milligrams m3 -Cubic Meters kg -Kilograms NA -Not Applicable ND -Not Detected
> -Greater Than ug -Micrograms l -Liters NS -Not Specified ppm -Parts per Million

SGS GALSON LABORATORIES

6601 Kirkville Road
East Syracuse, NY 13057
(315) 432-5227
FAX: (315) 437-0571
www.galsonlabs.com

LABORATORY ANALYSIS REPORT

Client : Center for Toxicology & Env. H
Site : NS
Project No. : 107907
Date Sampled : 24-FEB-16
Date Received : 26-FEB-16

Account No.: 13913
Login No. : L368115
Date Analyzed : 29-FEB-16
Report ID : 924246

Total Dust

Sample ID	Lab ID	Air Vol liter	Total mg	Conc mg/m3
HOTX0224TD001	L368115-5	1100.5	<0.050	<0.045
HOTX0224TD002	L368115-6	1099	<0.050	<0.045
HOTX0224TD003	L368115-7	1086	<0.050	<0.046
HOTX0224TD004	L368115-8	NA	<0.050	NA

COMMENTS: Please see attached lab footnote report for any applicable footnotes.

Level of quantitation: 0.050 mg
Analytical Method : mod. NIOSH 0500; Gravimetric
OSHA PEL : PNOR 15 mg/m3 (TWA)
Collection Media : PVC PW 37mm

Submitted by: PAH
Approved by : CRI
Date : 01-MAR-16
Supervisor: CRI

NYS DOH # : 11626
QC by: TJB

< -Less Than mg -Milligrams m3 -Cubic Meters kg -Kilograms NA -Not Applicable ND -Not Detected
> -Greater Than ug -Micrograms l -Liters NS -Not Specified ppm -Parts per Million

GALSON LABORATORIES

6601 Kirkville Road
East Syracuse, NY 13057
(315) 432-5227
FAX: (315) 437-0571
www.galsonlabs.com

LABORATORY FOOTNOTE REPORT

Client Name : Center for Toxicology & Env. Health LLC
Site :
Project No. : 107907

Date Sampled : 24-FEB-16
Date Received: 26-FEB-16
Date Analyzed: 29-FEB-16

Account No.: 13913
Login No. : L368115

Unless otherwise noted below, all quality control results associated with the samples were within established control limits or did not impact reported results.

WARNING: The sample(s) to which the findings recorded herein (the "Findings") relate was(were) drawn and / or provided by the Client or by a third party acting at the Client's direction. The Findings constitute no warranty of the sample's representativeness of any goods and strictly relate to the sample(s). The Company accepts no liability with regard to the origin or source from which the sample(s) is/are said to be extracted.

Unrounded results are carried through the calculations that yield the final result and the final result is rounded to the number of significant figures appropriate to the accuracy of the analytical method. Please note that results appearing in the columns preceeding the final result column may have been rounded and therefore, if carried through the calculations, may not yield an identical final result to the one reported.

The stated LOQs for each analyte represent the demonstrated LOQ concentrations prior to correction for desorption efficiency (if applicable).

Unless otherwise noted below, reported results have not been blank corrected for any field blank or method blank.

L368115 (Report ID: 924245):
SOPs: GRAV-SOP-5(15), GRAV-SOP-6(15)
Gravimetric analytical accuracy of the sampling media is -0.001 +/- 0.006 mg (average blank weight change +/- 95% confidence interval or k=2). The estimated uncertainly applies to the media, technology, and SOP(s) referenced in this report and does not account for any uncertainty associated with the sampling process.
PNOR = Particulates Not Otherwise Regulated.

L368115 (Report ID: 924246):
SOPs: GRAV-SOP-5(15), GRAV-SOP-6(15)
Gravimetric analytical accuracy of the sampling media is -0.001 +/- 0.006 mg (average blank weight change +/- 95% confidence interval or k=2). The estimated uncertainly applies to the media, technology, and SOP(s) referenced in this report and does not account for any uncertainty associated with the sampling process.
PNOR = Particulates Not Otherwise Regulated.

< -Less Than	mg -Milligrams	m3 -Cubic Meters	kg -Kilograms	ppm -Parts per Million		
> -Greater Than	ug -Micrograms	l -Liters	NS -Not Specified	ND -Not Detected	NA -Not Applicable	

GRAVIMETRICS QC SUMMARY REPORT

Login: L368115
Matnum: 306
Matrix: PVC PW 37mm
Instrument Description: Mettler MX-5, M2
Method: mod. NIOSH 0500; GRAV
Reporting Level (mg): 0.050 mg
Analysis: Total Dust

Type	Sample #	Analysis Date	True Value (mg)	Found Value (mg)	Difference (mg)	Control Limit (mg)
CCV	WG340174-1	2/29/2016 07:10:00	19.943	19.943	0.000	0.008
BLANK	WG340174-3	2/29/2016 07:11:00	13.219	13.218	-0.001	-0.010
CCV	WG340174-6	2/29/2016 07:25:00	19.943	19.949	0.006	0.008

Type	Sample #	Analysis Date	Sample Result (mg)	Duplicate Result (mg)	Abs. Val. of mg Difference	Control Limit (mg)
DUP	WG340174-5	2/29/2016 07:21:00	0.007	0.004	0.003	0.004

Dup Workgroup number **Sample number**
WG340174-5 L368115-5

Instrument Description: Mettler MX-5, M3
Method: mod. NIOSH 0600; GRAV
Analysis: Respirable Dust

Type	Sample #	Analysis Date	True Value (mg)	Found Value (mg)	Difference (mg)	Control Limit (mg)
CCV	WG340190-1	2/29/2016 08:59:00	19.939	19.937	-0.002	0.008
BLANK	WG340190-3	2/29/2016 09:04:00	10.952	10.947	-0.005	-0.010
CCV	WG340190-6	2/23/2016 09:14:00	19.939	19.933	-0.006	0.008

Type	Sample #	Analysis Date	Sample Result (mg)	Duplicate Result (mg)	Abs. Val. of mg Difference	Control Limit (mg)
DUP	WG340190-4	2/29/2016 09:06:00	-0.009	-0.009	0.000	0.004

Dup Workgroup number **Sample number**
WG340190-4 L368115-1

R117

5120 North Shore Drive
North Little Rock, AR 72118
Phone: (501) 801-8500
Fax: (501) 801-8501
Website: www.cteh.com

Center for Toxicology and Environmental Health L.L.C.

SAMPLE CHAIN OF CUSTODY AND ANALYSIS REQUEST FORM

Page ___ of ___

	Send Report To:	Send Invoice To:
Name	cconnolly@cteh.com;mberg@cteh.co	
Company	CTEH	CTEH
Address	5120 North Shore Drive North Little Rock, AR 72118	5120 North Shore Drive North Little Rock, AR 72118
Phone	(501)801-8500	(501)801-8500
Fax	(501)801-8501	(501)801-8501
e-mail	labresults@cteh.com	

CTEH Project #: 107907

Turnaround Requested:
Same Day ___Next Day (24 hour) ___ Normal
_X_ Other (Specify) 2 Day

Complete Data Packet Requested X Yes ☐No

Lab Contact Information:
Galson Laboratories
6601 Kirkville Road
E. Syracuse, NY 13057

Client Sample Identification	Other Sample Identification	Sample Size	Units (Check one) ___L ___cm² ___	Sample Date	Sample Time (for non-air samples)	Initials	NIOSH 0600 Resp dust	NIOSH 0500 Total Dust								Matrix A = air B = bulk S = soil SW = wipe T = tape W = water
HOTX0224RD001	AS16	1352	L	02/24/16		JA	X									A
HOTX0224RD002	AS07	1352	L	02/24/16		JA	X									A
HOTX0224RD003	AS12	1357	L	02/24/16		JA	X									A
HOTX0224RD004	BL	0	L	02/24/16		JA	X									A
HOTX0224TD001	AS16	1100.5	L	02/24/16		JA		X								A
HOTX0224TD002	AS07	1099	L	02/24/16		JA		X								A
HOTX0224TD003	AS12	1086	L	02/24/16		JA		X								A
HOTX0224TD004	BL	0	L	02/24/16		JA		X								A

3pc PW PVC

2pc PW PVC

775731084796
Date:02/26/16
Shipper:FEDEX
Initials:SK
Prep:UNKNOWN

SK 2/26/16

RELINQUISHED BY	DATE/TIME	RECEIVED BY	DATE/TIME
Justin Langley	02/25/16 16:00	FedEx	
		M. Krause	2/26/16 0741

Rec'd intact & all accounted for? Yes or No SK
Rec'd w/custody seals intact? Yes or No NA
Rec'd in light sensitive packaging? Yes or No NA
Rec'd with ice pack? Yes or No SK
Rec'd temperature compliant? Yes or No SK

Mr. Charles Connolly
Center for Toxicology & Env. Health LLC
5120 North Shore Drive
North Little Rock, AR 72118

March 02, 2016

DOH ELAP #11626 Account# 13913 Login# L368254
AIHA-LAP #100324

Dear Mr. Connolly:

Enclosed are the analytical results for the samples received by our laboratory on February 29, 2016. All test results meet the quality control requirements of AIHA-LAP and NELAC unless otherwise stated in this report. All samples on the chain of custody were received in good condition unless otherwise noted.

Results in this report are based on the sampling data provided by the client and refer only to the samples as they were received at the laboratory. Unless otherwise requested, all samples will be discarded 14 days from the date of this report, with the exception of IOMs, which will be cleaned and disposed of after seven calendar days.

Current Scopes of Accreditation can be viewed at www.galsonlabs.com in the accreditations section under the "about Galson" tab.

Please contact Pamela Weaver at (888) 432-5227, if you would like any additional information regarding this report. Thank you for using SGS Galson Laboratories.

Sincerely,

SGS Galson Laboratories

Lisa Swab
Laboratory Director

Enclosure(s)

Galson Laboratories, Inc. is now a part of SGS, the world's leading inspection, verification, testing, and certification company. As part of our transition to SGS, you will begin to see some formatting changes with reports that will improve the presentation of data and allow for the transition to the new logo.

SGS GALSON LABORATORIES

6601 Kirkville Road
East Syracuse, NY 13057
(315) 432-5227
FAX: (315) 437-0571
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LABORATORY ANALYSIS REPORT

Client : Center for Toxicology & Env. H
Site : NS
Project No. : 107907
Date Sampled : 26-FEB-16
Date Received : 29-FEB-16

Account No.: 13913
Login No. : L368254
Date Analyzed : 29-FEB-16
Report ID : 924612

Client ID : HOTX0226PNAH001 **Lab ID : L368254-1** **Air Volume : 961 Liter**
Date Sampled : 02/26/16 **Date Analyzed : 02/29/16**

Parameter	LOQ ug	Filter ug	Front ug	Back ug	Total ug	Conc mg/m3	ppm
1-Nitropyrene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Acenaphthene	0.3	<0.3	<0.3	<0.3	<0.3	<0.0003	<0.00005
Acenaphthylene	0.3	<0.3	<0.3	<0.3	<0.3	<0.0003	<0.00005
Anthracene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00005
Benzo(a)anthracene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Benzo(a)pyrene	0.3	<0.3	<0.3	<0.3	<0.5	<0.0005	<0.00005
Benzo(b)fluoranthene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Benzo(e)pyrene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0005	<0.00004
Benzo(g,h,i)perylene	0.3	<0.3	<0.3	<0.3	<0.5	<0.0005	<0.00005
Benzo(k)fluoranthene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Chrysene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Dibenz(a,h)anthracene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Fluoranthene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00005
Fluorene	0.3	<0.3	<0.3	<0.3	<0.3	<0.0003	<0.00005
Indeno(1,2,3-cd)pyrene	0.3	<0.3	<0.3	<0.3	<0.5	<0.0005	<0.00004

COMMENTS: Please see attached lab footnote report for any applicable footnotes.

Collection Media: FilterTube
Date : 02-MAR-16

Submitted by: EAW
NYS DOH # : 11626

Approved by: nkp
Supervisor: MWJ QC by: CRD

< -Less Than mg -Milligrams m3 -Cubic Meters kg -Kilograms NA -Not Applicable ND -Not Detected
> -Greater Than ug -Micrograms l -Liters NS -Not Specified ppm -Parts per Million LOQ-Limit of Quantitation

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LABORATORY ANALYSIS REPORT

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Site : NS
Project No. : 107907
Date Sampled : 26-FEB-16
Date Received : 29-FEB-16

Account No.: 13913
Login No. : L368254
Date Analyzed : 29-FEB-16
Report ID : 924612

Client ID : HOTX0226PNAH001 **Lab ID : L368254-1** **Air Volume : 961 Liter**
Date Sampled : 02/26/16 **Date Analyzed : 02/29/16**

Parameter	LOQ ug	Filter ug	Front ug	Back ug	Total ug	Conc mg/m3	ppm
Naphthalene	0.3	<0.3	<0.3	<0.3	<0.3	<0.0003	<0.00006
Phenanthrene	0.3	<0.3	<0.3	<0.3	<0.3	<0.0004	<0.00005
Pyrene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00005

COMMENTS: Please see attached lab footnote report for any applicable footnotes.

Collection Media: FilterTube
Date : 02-MAR-16

Submitted by: EAW
NYS DOH # : 11626

Approved by: nkp
Supervisor: MWJ QC by: CRD

< -Less Than mg -Milligrams m3 -Cubic Meters kg -Kilograms NA -Not Applicable ND -Not Detected
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LABORATORY ANALYSIS REPORT

Client : Center for Toxicology & Env. H
Site : NS
Project No. : 107907
Date Sampled : 26-FEB-16
Date Received : 29-FEB-16

Account No.: 13913
Login No. : L368254
Date Analyzed : 29-FEB-16
Report ID : 924612

Client ID : HOTX0226PNAH002 **Lab ID : L368254-2** **Air Volume : 963 Liter**
Date Sampled : 02/26/16 **Date Analyzed : 02/29/16**

Parameter	LOQ ug	Filter ug	Front ug	Back ug	Total ug	Conc mg/m3	ppm
1-Nitropyrene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Acenaphthene	0.3	<0.3	<0.3	<0.3	<0.3	<0.0003	<0.00005
Acenaphthylene	0.3	<0.3	<0.3	<0.3	<0.3	<0.0003	<0.00005
Anthracene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00005
Benzo(a)anthracene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Benzo(a)pyrene	0.3	<0.3	<0.3	<0.3	<0.5	<0.0005	<0.00005
Benzo(b)fluoranthene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Benzo(e)pyrene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0005	<0.00004
Benzo(g,h,i)perylene	0.3	<0.3	<0.3	<0.3	<0.5	<0.0005	<0.00005
Benzo(k)fluoranthene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Chrysene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Dibenz(a,h)anthracene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Fluoranthene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00005
Fluorene	0.3	<0.3	<0.3	<0.3	<0.3	<0.0003	<0.00005
Indeno(1,2,3-cd)pyrene	0.3	<0.3	<0.3	<0.3	<0.5	<0.0005	<0.00004

COMMENTS: Please see attached lab footnote report for any applicable footnotes.

Collection Media: FilterTube
Date : 02-MAR-16

Submitted by: EAW
NYS DOH # : 11626

Approved by: nkp
Supervisor: MWJ QC by: CRD

< -Less Than mg -Milligrams m3 -Cubic Meters kg -Kilograms NA -Not Applicable ND -Not Detected
> -Greater Than ug -Micrograms l -Liters NS -Not Specified ppm -Parts per Million LOQ-Limit of Quantitation

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LABORATORY ANALYSIS REPORT

Client : Center for Toxicology & Env. H
Site : NS
Project No. : 107907
Date Sampled : 26-FEB-16
Date Received : 29-FEB-16

Account No.: 13913
Login No. : L368254
Date Analyzed : 29-FEB-16
Report ID : 924612

Client ID : HOTX0226PNAH002 **Lab ID : L368254-2** **Air Volume : 963 Liter**
Date Sampled : 02/26/16 **Date Analyzed : 02/29/16**

Parameter	LOQ ug	Filter ug	Front ug	Back ug	Total ug	Conc mg/m3	ppm
Naphthalene	0.3	<0.3	<0.3	<0.3	<0.3	<0.0003	<0.00006
Phenanthrene	0.3	<0.3	<0.3	<0.3	<0.3	<0.0004	<0.00005
Pyrene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00005

COMMENTS: Please see attached lab footnote report for any applicable footnotes.

Collection Media: FilterTube
Date : 02-MAR-16

Submitted by: EAW
NYS DOH # : 11626

Approved by: nkp
Supervisor: MWJ QC by: CRD

< -Less Than mg -Milligrams m3 -Cubic Meters kg -Kilograms NA -Not Applicable ND -Not Detected
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LABORATORY ANALYSIS REPORT

Client : Center for Toxicology & Env. H
Site : NS
Project No. : 107907
Date Sampled : 26-FEB-16
Date Received : 29-FEB-16

Account No.: 13913
Login No. : L368254
Date Analyzed : 29-FEB-16
Report ID : 924612

Client ID : HOTX0226PNAH003 **Lab ID : L368254-3** **Air Volume : 976 Liter**
Date Sampled : 02/26/16 **Date Analyzed : 02/29/16**

Parameter	LOQ ug	Filter ug	Front ug	Back ug	Total ug	Conc mg/m3	ppm
1-Nitropyrene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Acenaphthene	0.3	<0.3	<0.3	<0.3	<0.3	<0.0003	<0.00005
Acenaphthylene	0.3	<0.3	<0.3	<0.3	<0.3	<0.0003	<0.00005
Anthracene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00005
Benzo(a)anthracene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Benzo(a)pyrene	0.3	<0.3	<0.3	<0.3	<0.5	<0.0005	<0.00005
Benzo(b)fluoranthene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Benzo(e)pyrene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0005	<0.00004
Benzo(g,h,i)perylene	0.3	<0.3	<0.3	<0.3	<0.5	<0.0005	<0.00005
Benzo(k)fluoranthene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Chrysene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Dibenz(a,h)anthracene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Fluoranthene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Fluorene	0.3	<0.3	<0.3	<0.3	<0.3	<0.0003	<0.00005
Indeno(1,2,3-cd)pyrene	0.3	<0.3	<0.3	<0.3	<0.5	<0.0005	<0.00004

COMMENTS: Please see attached lab footnote report for any applicable footnotes.

Collection Media: FilterTube
Date : 02-MAR-16

Submitted by: EAW
NYS DOH # : 11626

Approved by: nkp
Supervisor: MWJ QC by: CRD

< -Less Than mg -Milligrams m3 -Cubic Meters kg -Kilograms NA -Not Applicable ND -Not Detected
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LABORATORY ANALYSIS REPORT

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Project No. : 107907
Date Sampled : 26-FEB-16
Date Received : 29-FEB-16

Account No.: 13913
Login No. : L368254

Date Analyzed : 29-FEB-16
Report ID : 924612

Client ID : HOTX0226PNAH003 **Lab ID : L368254-3** **Air Volume : 976 Liter**
Date Sampled : 02/26/16 **Date Analyzed : 02/29/16**

Parameter	LOQ ug	Filter ug	Front ug	Back ug	Total ug	Conc mg/m3	ppm
Naphthalene	0.3	<0.3	0.3	<0.3	0.3	0.0004	0.00007
Phenanthrene	0.3	<0.3	<0.3	<0.3	<0.3	<0.0004	<0.00005
Pyrene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00005

COMMENTS: Please see attached lab footnote report for any applicable footnotes.

Collection Media: FilterTube
Date : 02-MAR-16

Submitted by: EAW
NYS DOH # : 11626

Approved by: nkp
Supervisor: MWJ QC by: CRD

< -Less Than mg -Milligrams m3 -Cubic Meters kg -Kilograms NA -Not Applicable ND -Not Detected
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LABORATORY ANALYSIS REPORT

Client : Center for Toxicology & Env. H
Site : NS
Project No. : 107907
Date Sampled : 26-FEB-16
Date Received : 29-FEB-16

Account No.: 13913
Login No. : L368254
Date Analyzed : 29-FEB-16
Report ID : 924612

Client ID : HOTX0226PNAH004 **Lab ID : L368254-4** **Air Volume : NA**
Date Sampled : 02/26/16 **Date Analyzed : 02/29/16**

Parameter	LOQ ug	Filter ug	Front ug	Back ug	Total ug	Conc mg/m3	ppm
1-Nitropyrene	0.3	<0.3	<0.3	<0.3	<0.4	NA	NA
Acenaphthene	0.3	<0.3	<0.3	<0.3	<0.3	NA	NA
Acenaphthylene	0.3	<0.3	<0.3	<0.3	<0.3	NA	NA
Anthracene	0.3	<0.3	<0.3	<0.3	<0.4	NA	NA
Benzo(a)anthracene	0.3	<0.3	<0.3	<0.3	<0.4	NA	NA
Benzo(a)pyrene	0.3	<0.3	<0.3	<0.3	<0.5	NA	NA
Benzo(b)fluoranthene	0.3	<0.3	<0.3	<0.3	<0.4	NA	NA
Benzo(e)pyrene	0.3	<0.3	<0.3	<0.3	<0.4	NA	NA
Benzo(g,h,i)perylene	0.3	<0.3	<0.3	<0.3	<0.5	NA	NA
Benzo(k)fluoranthene	0.3	<0.3	<0.3	<0.3	<0.4	NA	NA
Chrysene	0.3	<0.3	<0.3	<0.3	<0.4	NA	NA
Dibenz(a,h)anthracene	0.3	<0.3	<0.3	<0.3	<0.4	NA	NA
Fluoranthene	0.3	<0.3	<0.3	<0.3	<0.4	NA	NA
Fluorene	0.3	<0.3	<0.3	<0.3	<0.3	NA	NA
Indeno(1,2,3-cd)pyrene	0.3	<0.3	<0.3	<0.3	<0.5	NA	NA

COMMENTS: Please see attached lab footnote report for any applicable footnotes.

Collection Media: FilterTube
Date : 02-MAR-16

Submitted by: EAW
NYS DOH # : 11626

Approved by: nkp
Supervisor: MWJ QC by: CRD

< -Less Than mg -Milligrams m3 -Cubic Meters kg -Kilograms NA -Not Applicable ND -Not Detected
> -Greater Than ug -Micrograms l -Liters NS -Not Specified ppm -Parts per Million LOQ-Limit of Quantitation

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LABORATORY ANALYSIS REPORT

Client : Center for Toxicology & Env. H
Site : NS
Project No. : 107907
Date Sampled : 26-FEB-16
Date Received : 29-FEB-16

Account No.: 13913
Login No. : L368254
Date Analyzed : 29-FEB-16
Report ID : 924612

Client ID : HOTX0226PNAH004 **Lab ID : L368254-4** **Air Volume : NA**
Date Sampled : 02/26/16 **Date Analyzed : 02/29/16**

Parameter	LOQ ug	Filter ug	Front ug	Back ug	Total ug	Conc mg/m3	ppm
Naphthalene	0.3	<0.3	<0.3	<0.3	<0.3	NA	NA
Phenanthrene	0.3	<0.3	<0.3	<0.3	<0.3	NA	NA
Pyrene	0.3	<0.3	<0.3	<0.3	<0.4	NA	NA

COMMENTS: Please see attached lab footnote report for any applicable footnotes.

Collection Media: FilterTube
Date : 02-MAR-16

Submitted by: EAW
NYS DOH # : 11626

Approved by: nkp
Supervisor: MWJ QC by: CRD

< -Less Than mg -Milligrams m3 -Cubic Meters kg -Kilograms NA -Not Applicable ND -Not Detected
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LABORATORY FOOTNOTE REPORT

Client Name : Center for Toxicology & Env. Health LLC
Site :
Project No. : 107907

Date Sampled : 26-FEB-16 Account No.: 13913
Date Received: 29-FEB-16 Login No. : L368254
Date Analyzed: 29-FEB-16

Unless otherwise noted below, all quality control results associated with the samples were within established control limits or did not impact reported results.

WARNING: The sample(s) to which the findings recorded herein (the "Findings") relate was(were) drawn and / or provided by the Client or by a third party acting at the Client's direction. The Findings constitute no warranty of the sample's representativeness of any goods and strictly relate to the sample(s). The Company accepts no liability with regard to the origin or source from which the sample(s) is/are said to be extracted.

Unrounded results are carried through the calculations that yield the final result and the final result is rounded to the number of significant figures appropriate to the accuracy of the analytical method. Please note that results appearing in the columns preceeding the final result column may have been rounded and therefore, if carried through the calculations, may not yield an identical final result to the one reported.

The stated LOQs for each analyte represent the demonstrated LOQ concentrations prior to correction for desorption efficiency (if applicable).

Unless otherwise noted below, reported results have not been blank corrected for any field blank or method blank.

L368254 (Report ID: 924612):
SOPs: il-n5506(12)
Results corrected for matrix and compound specific desorption efficiencies.

L368254 (Report ID: 924612):
Accuracy and mean recovery data presented below is based on a 95% confidence interval (k=2).
The estimated uncertainty applies to the media, technology, and SOP referenced in this report and does not account for the uncertainty associated with the sampling process.

Parameter	Accuracy	Mean Recovery
1-Nitropyrene	+/-16%	107%
Acenaphthene	+/-14.4%	104%
Acenaphthylene	+/-11.7%	100%
Anthracene	+/-15.7%	114%
Benzo(a)anthracene	+/-16.1%	110%
Benzo(a)pyrene	+/-26%	115%

< -Less Than mg -Milligrams m3 -Cubic Meters kg -Kilograms ppm -Parts per Million
> -Greater Than ug -Micrograms l -Liters NS -Not Specified ND -Not Detected NA -Not Applicable

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Client Name : Center for Toxicology & Env. Health LLC
Site :
Project No. : 107907

Date Sampled : 26-FEB-16 Account No.: 13913
Date Received: 29-FEB-16 Login No. : L368254
Date Analyzed: 29-FEB-16

Benzo(b)fluoranthene	+/-19%	113%
Benzo(e)pyrene	+/-19.2%	111%
Benzo(g,h,i)perylene	+/-20.2%	112%
Benzo(k)fluoranthene	+/-15.5%	109%
Chrysene	+/-14%	108%
Dibenz(a,h)anthracene	+/-15.6%	103%
Fluoranthene	+/-16.2%	110%
Fluorene	+/-12.4%	109%
Indeno(1,2,3-cd)pyrene	+/-19.5%	113%
Naphthalene	+/-13.3%	105%
Phenanthrene	+/-13.4%	108%
Pyrene	+/-14.6%	112%

Parameter	Method	PEL
1-Nitropyrene	mod. NIOSH 5506; HPLC/UV	NA
Acenaphthene	mod. NIOSH 5506; HPLC/UV	NA
Acenaphthylene	mod. NIOSH 5506; HPLC/UV	NA
Anthracene	mod. NIOSH 5506; HPLC/UV	NA
Benzo(a)anthracene	mod. NIOSH 5506; HPLC/UV	NA
Benzo(a)pyrene	mod. NIOSH 5506; HPLC/UV	0.2 mg/m3 (TWA)
Benzo(b)fluoranthene	mod. NIOSH 5506; HPLC/UV	NA
Benzo(e)pyrene	mod. NIOSH 5506; HPLC/UV	NA
Benzo(g,h,i)perylene	mod. NIOSH 5506; HPLC/UV	NA
Benzo(k)fluoranthene	mod. NIOSH 5506; HPLC/UV	NA
Chrysene	mod. NIOSH 5506; HPLC/UV	0.2 mg/m3 (TWA)
Dibenz(a,h)anthracene	mod. NIOSH 5506; HPLC/UV	NA
Fluoranthene	mod. NIOSH 5506; HPLC/UV	NA
Fluorene	mod. NIOSH 5506; HPLC/UV	NA
Indeno(1,2,3-cd)pyrene	mod. NIOSH 5506; HPLC/UV	NA
Naphthalene	mod. NIOSH 5506; HPLC/UV	10 ppm (TWA)
Phenanthrene	mod. NIOSH 5506; HPLC/UV	NA
Pyrene	mod. NIOSH 5506; HPLC/UV	NA

< -Less Than mg -Milligrams m3 -Cubic Meters kg -Kilograms ppm -Parts per Million
> -Greater Than ug -Micrograms l -Liters NS -Not Specified ND -Not Detected NA -Not Applicable

Sample: WG340243-1 **Spikelot:** IH609142-2
QC Type: DLS **Raw File:**
Analysis date 02/29/16 16:05:02 **Approval Status:** YES
Instrument: LC5

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
NAPHTHALENE	.095179	.099	96.1	70.0 to 130.				
BENZO(A)ANTHRACENE	.086264	.099	87.1	70.0 to 130.				
CHRYSENE	.102587	.099	104	70.0 to 130.				
BENZO(E)PYRENE	.086566	.1	86.6	70.0 to 130.				
BENZO(B)FLUORANTHENE	.099346	.099	100	70.0 to 130.				
BENZO(K)FLUORANTHENE	.074911	.099	75.7	70.0 to 130.				
BENZO(A)PYRENE	.103007	.099	104	70.0 to 130.				
DIBENZ(A,H)ANTHRACENE	.103065	.099	104	70.0 to 130.				
BENZO(G,H,I)PERYLENE	.105400	.099	106	70.0 to 130.				
INDENO-1,2,3-CD-PYRENE	.080591	.099	81.4	70.0 to 130.				
ACENAPHTHYLENE	.085419	.099	86.3	70.0 to 130.				
ACENAPHTHENE	.097481	.1	97.5	70.0 to 130.				
FLUORENE	.103677	.098	106	70.0 to 130.				
PHENANTHRENE	.099364	.098	101	70.0 to 130.				
ANTHRACENE	.117976	.099	119	70.0 to 130.				
FLUORANTHENE	.074748	.098	76.3	70.0 to 130.				
1-NITROPYRENE	.073223	.099	74	70.0 to 130.				
PYRENE	.078069	.099	78.9	70.0 to 130.				

Sample: WG340243-2 **Spikelot:** IH609142-1
QC Type: CCV **Raw File:**
Analysis date 02/29/16 16:25:02 **Approval Status:** YES
Instrument: LC5

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
NAPHTHALENE	4.67390	4.95	94.4	88.5 to 120.				
PYRENE	4.83961	4.95	97.8	92.5 to 125.				
BENZO(A)ANTHRACENE	5.00679	4.95	101	93.7 to 119.				
CHRYSENE	4.74853	4.95	95.9	88.9 to 118.				
BENZO(E)PYRENE	4.81569	4.9995	96.3	90.6 to 127.				
BENZO(B)FLUORANTHENE	4.90282	4.95	99	93.8 to 125.				
BENZO(K)FLUORANTHENE	4.70854	4.95	95.1	88.2 to 117.				
BENZO(A)PYRENE	5.00980	4.95	101	83.3 to 137.				
DIBENZ(A,H)ANTHRACENE	4.71801	4.95	95.3	85.0 to 120.				
BENZO(G,H,I)PERYLENE	4.77469	4.95	96.5	88.6 to 123.				
INDENO-1,2,3-CD-PYRENE	4.90968	4.95	99.2	94.8 to 127.				

Sample: WG340243-2 **Spikelot:** IH609142-1
QC Type: CCV **Raw File:**
Analysis date 02/29/16 16:25:02 **Approval Status:** YES
Instrument: LC5

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
ACENAPHTHYLENE	4.75662	4.95	96.1	89.8 to 117.				
ACENAPHTHENE	4.80680	4.9995	96.1	87.1 to 119.				
FLUORENE	4.87680	4.9	99.5	92.7 to 123.				
PHENANTHRENE	4.79063	4.9	97.8	91.1 to 120.				
ANTHRACENE	5.61425	4.95	113	91.4 to 130.				
FLUORANTHENE	4.65605	4.9	95	92.0 to 120.				
1-NITROPYRENE	4.78894	4.95	96.7	86.8 to 123.				

Sample: WG340241-3 **Spikelot:** IH609142
QC Type: BS **Raw File:**
Analysis date 02/29/16 17:24:55 **Approval Status:** YES
Instrument: LC5

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
NAPHTHALENE	4.76192	4.95	96.2		97.2	85.2 to 125		
BENZO(A)ANTHRACENE	5.08336	4.95	103		105	85.3 to 134		
CHRYSENE	4.92610	4.95	99.5		102	86.7 to 129		
BENZO(E)PYRENE	4.98599	4.9995	99.7		102	82.4 to 140		
BENZO(B)FLUORANTHENE	5.04972	4.95	102		105	85.0 to 142		
BENZO(K)FLUORANTHENE	4.83353	4.95	97.6		101	85.3 to 132		
BENZO(A)PYRENE	5.25976	4.95	106		108	76.5 to 154		
DIBENZ(A,H)ANTHRACENE	4.83004	4.95	97.6		98.6	79.8 to 127		
BENZO(G,H,I)PERYLENE	4.90459	4.95	99.1		103	81.7 to 142		
INDENO-1,2,3-CD-PYRENE	4.94510	4.95	99.9		101	83.3 to 142		
ACENAPHTHYLENE	4.74045	4.95	95.8		93.9	82.8 to 118		
ACENAPHTHENE	4.92370	4.9995	98.5		96.6	82.3 to 125		
FLUORENE	4.96550	4.9	101		104	90.7 to 128		
PHENANTHRENE	4.92581	4.9	101		103	87.8 to 128		
ANTHRACENE	5.77191	4.95	117		119	90.2 to 137		
FLUORANTHENE	4.78712	4.9	97.7		99.7	85.5 to 134		
1-NITROPYRENE	4.86587	4.95	98.3		99.3	82.7 to 131		
PYRENE	4.91003	4.95	99.2		100	89.7 to 134		

Sample: WG340241-4 **Spikelot:** IH609142
QC Type: BSD **Raw File:**
Analysis date 02/29/16 17:44:56 **Approval Status:** YES
Instrument: LC5

Sample: WG340241-4 **Spikelot:** IH609142
QC Type: BSD **Raw File:**
Analysis date 02/29/16 17:44:56 **Approval Status:** YES
Instrument: LC5

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
NAPHTHALENE	4.78141	4.95	96.6		97.6	85.2 to 125	-.411	-10 to 10.0
BENZO(A)ANTHRACENE	5.08913	4.95	103		105	85.3 to 134	0	-10 to 10.0
CHRYSENE	4.89966	4.95	99		101	86.7 to 129	.985	-10 to 10.0
BENZO(E)PYRENE	4.94095	4.9995	98.8		101	82.4 to 140	.985	-10 to 10.0
BENZO(B)FLUORANTHENE	5.00845	4.95	101		104	85.0 to 142	.957	-10 to 10.0
BENZO(K)FLUORANTHENE	4.90023	4.95	99		102	85.3 to 132	-.985	-10 to 10.0
BENZO(A)PYRENE	5.25392	4.95	106		108	76.5 to 154	0	-10 to 10.0
DIBENZ(A,H)ANTHRACENE	4.83624	4.95	97.7		98.7	79.8 to 127	-.101	-11.5 to 9.87
BENZO(G,H,I)PERYLENE	4.95006	4.95	100		104	81.7 to 142	-.966	-10 to 10.0
INDENO-1,2,3-CD-PYRENE	5.02449	4.95	102		103	83.3 to 142	-1.96	-10 to 10.0
ACENAPHTHYLENE	4.93245	4.95	99.6		97.7	82.8 to 118	-3.97	-10 to 10.0
ACENAPHTHENE	4.98259	4.9995	99.7		97.7	82.3 to 125	-1.13	-10 to 10.0
FLUORENE	5.01405	4.9	102		105	90.7 to 128	-.957	-10 to 10.0
PHENANTHRENE	4.95446	4.9	101		103	87.8 to 128	0	-10 to 10.0
ANTHRACENE	5.75414	4.95	116		119	90.2 to 137	0	-10 to 10.0
FLUORANTHENE	4.79364	4.9	97.8		99.8	85.5 to 134	-.1	-10 to 10.0
1-NITROPYRENE	4.96218	4.95	100		101	82.7 to 131	-1.7	-10 to 10.0
PYRENE	4.97904	4.95	101		102	89.7 to 134	-1.98	-10.4 to 8.90

Sample: WG340241-2 **Spikelot:** NA
QC Type: MBLANK **Raw File:**
Analysis date 02/29/16 18:04:53 **Approval Status:** YES
Instrument: LC5

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
BENZO(A)ANTHRACENE(FRONT)	.100654	<.3						
BENZO(A)ANTHRACENE(BACK)	.041264	<.3						
ACENAPHTHENE(FRONT)	0	<.3						
ACENAPHTHENE(BACK)	0	<.3						
ACENAPHTHYLENE(FRONT)	0	<.3						
ACENAPHTHYLENE(BACK)	0	<.3						
ANTHRACENE(FRONT)	0	<.3						
ANTHRACENE(BACK)	0	<.3						
BENZO(A)PYRENE(FRONT)	0	<.3						
BENZO(A)PYRENE(BACK)	0	<.3						
BENZO(B)FLUORANTHENE(FRONT)	0	<.3						

Sample: WG340241-2 **Spikelot:** NA
QC Type: MBLANK **Raw File:**
Analysis date 02/29/16 18:04:53 **Approval Status:** YES
Instrument: LC5

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
BENZO(B)FLUORANTHENE(BACK)	0	<.3						
BENZO(E)PYRENE(FRONT)	0	<.3						
BENZO(E)PYRENE(BACK)	0	<.3						
BENZO(G,H,I)PERYLENE(FRONT)	0	<.3						
BENZO(G,H,I)PERYLENE(BACK)	0	<.3						
BENZO(K)FLUORANTHENE(FRONT)	0	<.3						
BENZO(K)FLUORANTHENE(BACK)	0	<.3						
CHRYSENE(FRONT)	0	<.3						
CHRYSENE(BACK)	0	<.3						
DIBENZ(A,H)ANTHRACENE(FRONT)	0	<.3						
DIBENZ(A,H)ANTHRACENE(BACK)	0	<.3						
FLUORANTHENE(FRONT)	0	<.3						
FLUORANTHENE(BACK)	0	<.3						
FLUORENE(FRONT)	0	<.3						
FLUORENE(BACK)	0	<.3						
INDENO-1,2,3-CD-PYRENE(FRONT)	0	<.3						
INDENO-1,2,3-CD-PYRENE(BACK)	0	<.3						
NAPHTHALENE(FRONT)	0	<.3						
NAPHTHALENE(BACK)	0	<.3						
1-NITROPYRENE(FRONT)	0	<.3						
1-NITROPYRENE(BACK)	0	<.3						
PHENANTHRENE(FRONT)	0	<.3						
PHENANTHRENE(BACK)	0	<.3						
PYRENE(FRONT)	0	<.3						
PYRENE(BACK)	0	<.3						

Sample: WG340241-5 **Spikelot:** IH609142
QC Type: BS **Raw File:**
Analysis date 02/29/16 18:44:52 **Approval Status:** YES
Instrument: LC5

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
NAPHTHALENE	4.53742	4.95	91.7		99.6	85.2 to 125		
BENZO(A)ANTHRACENE	4.36123	4.95	88.1		113	85.3 to 134		
CHRYSENE	4.05303	4.95	81.9		106	86.7 to 129		
BENZO(E)PYRENE	3.60664	4.9995	72.1		106	82.4 to 140		

Sample: WG340241-5 **Spikelot:** IH609142
QC Type: BS **Raw File:**
Analysis date 02/29/16 18:44:52 **Approval Status:** YES
Instrument: LC5

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
BENZO(B)FLUORANTHENE	3.90024	4.95	78.8		109	85.0 to 142		
BENZO(K)FLUORANTHENE	3.76782	4.95	76.1		106	85.3 to 132		
BENZO(A)PYRENE	3.84593	4.95	77.7		118	76.5 to 154		
DIBENZ(A,H)ANTHRACENE	3.45522	4.95	69.8		96.9	79.8 to 127		
BENZO(G,H,I)PERYLENE	3.10735	4.95	62.8		106	81.7 to 142		
INDENO-1,2,3-CD-PYRENE	3.19161	4.95	64.5		101	83.3 to 142		
ACENAPHTHYLENE	4.49227	4.95	90.8		94.5	82.8 to 118		
ACENAPHTHENE	4.54142	4.9995	90.8		101	82.3 to 125		
FLUORENE	4.66954	4.9	95.3		106	90.7 to 128		
PHENANTHRENE	4.51706	4.9	92.2		107	87.8 to 128		
ANTHRACENE	5.14815	4.95	104		122	90.2 to 137		
FLUORANTHENE	4.44389	4.9	90.7		109	85.5 to 134		
1-NITROPYRENE	4.36961	4.95	88.3		105	82.7 to 131		
PYRENE	4.23776	4.95	85.6		104	89.7 to 134		

Sample: WG340241-6 **Spikelot:** IH609142
QC Type: BSD **Raw File:**
Analysis date 02/29/16 19:04:50 **Approval Status:** YES
Instrument: LC5

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
NAPHTHALENE	4.59062	4.95	92.7		101	85.2 to 125	-1.4	-10 to 10.0
BENZO(A)ANTHRACENE	4.30454	4.95	87		111	85.3 to 134	1.79	-10 to 10.0
CHRYSENE	4.06370	4.95	82.1		107	86.7 to 129	-.939	-10 to 10.0
BENZO(E)PYRENE	3.67854	4.9995	73.6		108	82.4 to 140	-1.87	-10 to 10.0
BENZO(B)FLUORANTHENE	3.98021	4.95	80.4		112	85.0 to 142	-2.71	-10 to 10.0
BENZO(K)FLUORANTHENE	3.81572	4.95	77.1		107	85.3 to 132	-.939	-10 to 10.0
BENZO(A)PYRENE	3.81870	4.95	77.1		117	76.5 to 154	.851	-10 to 10.0
DIBENZ(A,H)ANTHRACENE	3.48351	4.95	70.4		97.7	79.8 to 127	-.822	-11.5 to 9.87
BENZO(G,H,I)PERYLENE	3.01651	4.95	60.9		103	81.7 to 142	2.87	-10 to 10.0
INDENO-1,2,3-CD-PYRENE	3.31468	4.95	67		105	83.3 to 142	-3.88	-10 to 10.0
ACENAPHTHYLENE	4.54244	4.95	91.8		95.6	82.8 to 118	-1.16	-10 to 10.0
ACENAPHTHENE	4.56471	4.9995	91.3		101	82.3 to 125	0	-10 to 10.0
FLUORENE	4.65838	4.9	95.1		106	90.7 to 128	0	-10 to 10.0
PHENANTHRENE	4.50536	4.9	91.9		107	87.8 to 128	0	-10 to 10.0
ANTHRACENE	5.17884	4.95	105		123	90.2 to 137	-.816	-10 to 10.0

Sample: WG340241-6 **Spikelot:** IH609142
QC Type: BSD **Raw File:**
Analysis date 02/29/16 19:04:50 **Approval Status:** YES
Instrument: LC5

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
FLUORANTHENE	4.42523	4.9	90.3		109	85.5 to 134	0	-10 to 10.0
1-NITROPYRENE	4.36740	4.95	88.2		105	82.7 to 131	0	-10 to 10.0
PYRENE	4.19690	4.95	84.8		103	89.7 to 134	.966	-10.4 to 8.90

Sample: WG340243-3 **Spikelot:** IH609142-1
QC Type: CCV **Raw File:**
Analysis date 02/29/16 23:24:30 **Approval Status:** YES
Instrument: LC5

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
NAPHTHALENE	4.67651	4.95	94.5	88.5 to 120.				
PYRENE	4.84037	4.95	97.8	92.5 to 125.				
BENZO(A)ANTHRACENE	4.97944	4.95	101	93.7 to 119.				
CHRYSENE	4.77800	4.95	96.5	88.9 to 118.				
BENZO(E)PYRENE	4.84134	4.9995	96.8	90.6 to 127.				
BENZO(B)FLUORANTHENE	4.89761	4.95	98.9	93.8 to 125.				
BENZO(K)FLUORANTHENE	4.78750	4.95	96.7	88.2 to 117.				
BENZO(A)PYRENE	4.31906	4.95	87.3	83.3 to 137.				
DIBENZ(A,H)ANTHRACENE	4.72166	4.95	95.4	85.0 to 120.				
BENZO(G,H,I)PERYLENE	4.50486	4.95	91	88.6 to 123.				
ACENAPHTHYLENE	4.76129	4.95	96.2	89.8 to 117.				
INDENO-1,2,3-CD-PYRENE	4.84988	4.95	98	94.8 to 127.				
ACENAPHTHENE	4.95133	4.9995	99	87.1 to 119.				
FLUORENE	4.96644	4.9	101	92.7 to 123.				
PHENANTHRENE	4.79892	4.9	97.9	91.1 to 120.				
ANTHRACENE	5.53760	4.95	112	91.4 to 130.				
FLUORANTHENE	4.69467	4.9	95.8	92.0 to 120.				
1-NITROPYRENE	4.73660	4.95	95.7	86.8 to 123.				

L3688254

(84)

5120 North Shore Drive
North Little Rock, AR 72118
Phone: (501) 801-8500
Fax: (501) 801-8501
Website: www.cteh.com

Center for Toxicology and Environmental Health L.L.C.

SAMPLE CHAIN OF CUSTODY AND ANALYSIS REQUEST FORM

Page ___ of ___

	Send Report To:	Send Invoice To:
Name	cconnolly@cteh.com;mberg@cteh.co	
Company	CTEH	CTEH
Address	5120 North Shore Drive North Little Rock, AR 72118	5120 North Shore Drive North Little Rock, AR 72118
Phone	(501)801-8500	(501)801-8500
Fax	(501)801-8501	(501)801-8501
e-mail	labresults@cteh.com	

CTEH Project #: 107907

Turnaround Requested:
Same Day __Next Day (24 hour) ___ Normal
_X_Other (Specify) 2 Day

Complete Data Packet Requested X Yes ☐No

806684141230
Date:02/29/16
Shipper:FEDEX
Initials:KP
Prep:UNKNOWN

Client Sample Identification	Other Sample Identification	Sample Size	Units (Check one) ___L ___cm²	Sample Date	Sample Time (for non-air samples)	Initials	NIOSH 5506 PNAH		Samples Received in Light Sensitive Material: Yes or No	Matrix A = air B = bulk S = soil SW = wipe T = tape W = water
HOTX0226PNAH001	AS07	961	L	02/26/16		JA	X			A
HOTX0226PNAH002	AS12	963	L	02/26/16		JA	X			A
HOTX0226PNAH003	AS16	976	L	02/26/16		JA	X			A
HOTX0226PNAH004	BL	0	L	02/26/16		JA	X			A

Not Used

Rec'd intact & all accounted for? Yes or No ZK
Rec'd w/custody seals intact? Yes or No N/A
Rec'd in light sensitive packaging? Yes or No ZK
Rec'd with ice pack? Yes or No ZK
Rec'd temperature compliant? Yes or No N/A

RELINQUISHED BY	DATE/TIME	RECEIVED BY	DATE/TIME	COMMENTS
	2/27/16/0600	Zach King	2/29/16 9:25	Each sample has a filter & an Orbo 43 tube. ZK 2/29

Mr. Charles Connolly
Center for Toxicology & Env. Health LLC
5120 North Shore Drive
North Little Rock, AR 72118

March 04, 2016

DOH ELAP #11626 Account# 13913 Login# L368530
AIHA-LAP #100324

Dear Mr. Connolly:

Enclosed are the analytical results for the samples received by our laboratory on March 02, 2016. All test results meet the quality control requirements of AIHA-LAP and NELAC unless otherwise stated in this report. All samples on the chain of custody were received in good condition unless otherwise noted.

Results in this report are based on the sampling data provided by the client and refer only to the samples as they were received at the laboratory. Unless otherwise requested, all samples will be discarded 14 days from the date of this report, with the exception of IOMs, which will be cleaned and disposed of after seven calendar days.

Current Scopes of Accreditation can be viewed at www.galsonlabs.com in the accreditations section under the "about Galson" tab.

Please contact Pamela Weaver at (888) 432-5227, if you would like any additional information regarding this report. Thank you for using SGS Galson Laboratories.

Sincerely,

SGS Galson Laboratories

Lisa Swab
Laboratory Director

Enclosure(s)

Galson Laboratories, Inc. is now a part of SGS, the world's leading inspection, verification, testing, and certification company. As part of our transition to SGS, you will begin to see some formatting changes with reports that will improve the presentation of data and allow for the transition to the new logo.

SGS GALSON LABORATORIES

6601 Kirkville Road
East Syracuse, NY 13057
(315) 432-5227
FAX: (315) 437-0571
www.galsonlabs.com

LABORATORY ANALYSIS REPORT

Client : Center for Toxicology & Env. H
Site : NS
Project No. : 107907
Date Sampled : 29-FEB-16
Date Received : 02-MAR-16

Account No.: 13913
Login No. : L368530
Date Analyzed : 03-MAR-16
Report ID : 925296

Client ID : HOTX0229PNAH001 **Lab ID : L368530-1** **Air Volume : 957 Liter**
Date Sampled : 02/29/16 **Date Analyzed : 03/03/16**

Parameter	LOQ ug	Filter ug	Front ug	Back ug	Total ug	Conc mg/m3	ppm
1-Nitropyrene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Acenaphthene	0.3	<0.3	<0.3	<0.3	<0.3	<0.0003	<0.00006
Acenaphthylene	0.3	<0.3	<0.3	<0.3	<0.3	<0.0003	<0.00005
Anthracene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00005
Benzo(a)anthracene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Benzo(a)pyrene	0.3	<0.3	<0.3	<0.3	<0.5	<0.0005	<0.00005
Benzo(b)fluoranthene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Benzo(e)pyrene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0005	<0.00004
Benzo(g,h,i)perylene	0.3	<0.3	<0.3	<0.3	<0.5	<0.0005	<0.00005
Benzo(k)fluoranthene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Chrysene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Dibenz(a,h)anthracene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Fluoranthene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00005
Fluorene	0.3	<0.3	<0.3	<0.3	<0.3	<0.0003	<0.00005
Indeno(1,2,3-cd)pyrene	0.3	<0.3	<0.3	<0.3	<0.5	<0.0005	<0.00004

COMMENTS: Please see attached lab footnote report for any applicable footnotes.

Collection Media: FilterTube
Date : 04-MAR-16

Submitted by: MWJ
NYS DOH # : 11626

Approved by: dnf
Supervisor: MWJ QC by: TJB

< -Less Than mg -Milligrams m3 -Cubic Meters kg -Kilograms NA -Not Applicable ND -Not Detected
> -Greater Than ug -Micrograms l -Liters NS -Not Specified ppm -Parts per Million LOQ-Limit of Quantitation

SGS GALSON LABORATORIES

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East Syracuse, NY 13057
(315) 432-5227
FAX: (315) 437-0571
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LABORATORY ANALYSIS REPORT

Client : Center for Toxicology & Env. H
Site : NS
Project No. : 107907
Date Sampled : 29-FEB-16
Date Received : 02-MAR-16

Account No.: 13913
Login No. : L368530
Date Analyzed : 03-MAR-16
Report ID : 925296

Client ID : HOTX0229PNAH001 **Lab ID : L368530-1** **Air Volume : 957 Liter**
Date Sampled : 02/29/16 **Date Analyzed : 03/03/16**

Parameter	LOQ ug	Filter ug	Front ug	Back ug	Total ug	Conc mg/m3	ppm
Naphthalene	0.3	<0.3	<0.3	<0.3	<0.3	<0.0003	<0.00007
Phenanthrene	0.3	<0.3	<0.3	<0.3	<0.3	<0.0004	<0.00005
Pyrene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00005

COMMENTS: Please see attached lab footnote report for any applicable footnotes.

Collection Media: FilterTube
Date : 04-MAR-16

Submitted by: MWJ
NYS DOH # : 11626

Approved by: dnf
Supervisor: MWJ QC by: TJB

< -Less Than mg -Milligrams m3 -Cubic Meters kg -Kilograms NA -Not Applicable ND -Not Detected
> -Greater Than ug -Micrograms l -Liters NS -Not Specified ppm -Parts per Million LOQ-Limit of Quantitation

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LABORATORY ANALYSIS REPORT

Client : Center for Toxicology & Env. H
Site : NS
Project No. : 107907
Date Sampled : 29-FEB-16
Date Received : 02-MAR-16

Account No.: 13913
Login No. : L368530
Date Analyzed : 03-MAR-16
Report ID : 925296

Client ID : HOTX0229PNAH002 **Lab ID : L368530-2** **Air Volume : 958 Liter**
Date Sampled : 02/29/16 **Date Analyzed : 03/03/16**

Parameter	LOQ ug	Filter ug	Front ug	Back ug	Total ug	Conc mg/m3	ppm
1-Nitropyrene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Acenaphthene	0.3	<0.3	<0.3	<0.3	<0.3	<0.0003	<0.00006
Acenaphthylene	0.3	<0.3	<0.3	<0.3	<0.3	<0.0003	<0.00005
Anthracene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00005
Benzo(a)anthracene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Benzo(a)pyrene	0.3	<0.3	<0.3	<0.3	<0.5	<0.0005	<0.00005
Benzo(b)fluoranthene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Benzo(e)pyrene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0005	<0.00004
Benzo(g,h,i)perylene	0.3	<0.3	<0.3	<0.3	<0.5	<0.0005	<0.00005
Benzo(k)fluoranthene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Chrysene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Dibenz(a,h)anthracene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Fluoranthene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00005
Fluorene	0.3	<0.3	<0.3	<0.3	<0.3	<0.0003	<0.00005
Indeno(1,2,3-cd)pyrene	0.3	<0.3	<0.3	<0.3	<0.5	<0.0005	<0.00004

COMMENTS: Please see attached lab footnote report for any applicable footnotes.

Collection Media: FilterTube
Date : 04-MAR-16

Submitted by: MWJ
NYS DOH # : 11626

Approved by: dnf
Supervisor: MWJ QC by: TJB

< -Less Than mg -Milligrams m3 -Cubic Meters kg -Kilograms NA -Not Applicable ND -Not Detected
> -Greater Than ug -Micrograms l -Liters NS -Not Specified ppm -Parts per Million LOQ-Limit of Quantitation

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LABORATORY ANALYSIS REPORT

Client : Center for Toxicology & Env. H
Site : NS
Project No. : 107907
Date Sampled : 29-FEB-16
Date Received : 02-MAR-16

Account No.: 13913
Login No. : L368530

Date Analyzed : 03-MAR-16
Report ID : 925296

Client ID : HOTX0229PNAH002 **Lab ID : L368530-2** **Air Volume : 958 Liter**
Date Sampled : 02/29/16 **Date Analyzed : 03/03/16**

Parameter	LOQ ug	Filter ug	Front ug	Back ug	Total ug	Conc mg/m3	ppm
Naphthalene	0.3	<0.3	<0.3	<0.3	<0.3	<0.0003	<0.00006
Phenanthrene	0.3	<0.3	<0.3	<0.3	<0.3	<0.0004	<0.00005
Pyrene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00005

COMMENTS: Please see attached lab footnote report for any applicable footnotes.

Collection Media: FilterTube
Date : 04-MAR-16

Submitted by: MWJ
NYS DOH # : 11626

Approved by: dnf
Supervisor: MWJ QC by: TJB

< -Less Than mg -Milligrams m3 -Cubic Meters kg -Kilograms NA -Not Applicable ND -Not Detected
> -Greater Than ug -Micrograms l -Liters NS -Not Specified ppm -Parts per Million LOQ-Limit of Quantitation

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LABORATORY ANALYSIS REPORT

Client : Center for Toxicology & Env. H
Site : NS
Project No. : 107907
Date Sampled : 29-FEB-16
Date Received : 02-MAR-16

Account No.: 13913
Login No. : L368530
Date Analyzed : 03-MAR-16
Report ID : 925296

Client ID : HOTX0229PNAH003 **Lab ID : L368530-3** **Air Volume : 964 Liter**
Date Sampled : 02/29/16 **Date Analyzed : 03/03/16**

Parameter	LOQ ug	Filter ug	Front ug	Back ug	Total ug	Conc mg/m3	ppm
1-Nitropyrene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Acenaphthene	0.3	<0.3	<0.3	<0.3	<0.3	<0.0003	<0.00005
Acenaphthylene	0.3	<0.3	<0.3	<0.3	<0.3	<0.0003	<0.00005
Anthracene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00005
Benzo(a)anthracene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Benzo(a)pyrene	0.3	<0.3	<0.3	<0.3	<0.5	<0.0005	<0.00005
Benzo(b)fluoranthene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Benzo(e)pyrene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0005	<0.00004
Benzo(g,h,i)perylene	0.3	<0.3	<0.3	<0.3	<0.5	<0.0005	<0.00005
Benzo(k)fluoranthene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Chrysene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Dibenz(a,h)anthracene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Fluoranthene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00005
Fluorene	0.3	<0.3	<0.3	<0.3	<0.3	<0.0003	<0.00005
Indeno(1,2,3-cd)pyrene	0.3	<0.3	<0.3	<0.3	<0.5	<0.0005	<0.00004

COMMENTS: Please see attached lab footnote report for any applicable footnotes.

Collection Media: FilterTube
Date : 04-MAR-16

Submitted by: MWJ
NYS DOH # : 11626

Approved by: dnf
Supervisor: MWJ QC by: TJB

< -Less Than mg -Milligrams m3 -Cubic Meters kg -Kilograms NA -Not Applicable ND -Not Detected
> -Greater Than ug -Micrograms l -Liters NS -Not Specified ppm -Parts per Million LOQ-Limit of Quantitation

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LABORATORY ANALYSIS REPORT

Client : Center for Toxicology & Env. H
Site : NS
Project No. : 107907
Date Sampled : 29-FEB-16
Date Received : 02-MAR-16

Account No.: 13913
Login No. : L368530
Date Analyzed : 03-MAR-16
Report ID : 925296

Client ID : HOTX0229PNAH003 **Lab ID : L368530-3** **Air Volume : 964 Liter**
Date Sampled : 02/29/16 **Date Analyzed : 03/03/16**

Parameter	LOQ ug	Filter ug	Front ug	Back ug	Total ug	Conc mg/m3	ppm
Naphthalene	0.3	<0.3	<0.3	<0.3	<0.3	<0.0003	<0.00006
Phenanthrene	0.3	<0.3	<0.3	<0.3	<0.3	<0.0004	<0.00005
Pyrene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00005

COMMENTS: Please see attached lab footnote report for any applicable footnotes.

Collection Media: FilterTube
Date : 04-MAR-16

Submitted by: MWJ
NYS DOH # : 11626

Approved by: dnf
Supervisor: MWJ QC by: TJB

< -Less Than mg -Milligrams m3 -Cubic Meters kg -Kilograms NA -Not Applicable ND -Not Detected
> -Greater Than ug -Micrograms l -Liters NS -Not Specified ppm -Parts per Million LOQ-Limit of Quantitation

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LABORATORY ANALYSIS REPORT

Client : Center for Toxicology & Env. H
Site : NS
Project No. : 107907
Date Sampled : 29-FEB-16
Date Received : 02-MAR-16

Account No.: 13913
Login No. : L368530
Date Analyzed : 03-MAR-16
Report ID : 925296

Client ID : HOTX0229PNAH004 **Lab ID : L368530-4** **Air Volume : NA**
Date Sampled : 02/29/16 **Date Analyzed : 03/03/16**

Parameter	LOQ ug	Filter ug	Front ug	Back ug	Total ug	Conc mg/m3	ppm
1-Nitropyrene	0.3	<0.3	<0.3	<0.3	<0.4	NA	NA
Acenaphthene	0.3	<0.3	<0.3	<0.3	<0.3	NA	NA
Acenaphthylene	0.3	<0.3	<0.3	<0.3	<0.3	NA	NA
Anthracene	0.3	<0.3	<0.3	<0.3	<0.4	NA	NA
Benzo(a)anthracene	0.3	<0.3	<0.3	<0.3	<0.4	NA	NA
Benzo(a)pyrene	0.3	<0.3	<0.3	<0.3	<0.5	NA	NA
Benzo(b)fluoranthene	0.3	<0.3	<0.3	<0.3	<0.4	NA	NA
Benzo(e)pyrene	0.3	<0.3	<0.3	<0.3	<0.4	NA	NA
Benzo(g,h,i)perylene	0.3	<0.3	<0.3	<0.3	<0.5	NA	NA
Benzo(k)fluoranthene	0.3	<0.3	<0.3	<0.3	<0.4	NA	NA
Chrysene	0.3	<0.3	<0.3	<0.3	<0.4	NA	NA
Dibenz(a,h)anthracene	0.3	<0.3	<0.3	<0.3	<0.4	NA	NA
Fluoranthene	0.3	<0.3	<0.3	<0.3	<0.4	NA	NA
Fluorene	0.3	<0.3	<0.3	<0.3	<0.3	NA	NA
Indeno(1,2,3-cd)pyrene	0.3	<0.3	<0.3	<0.3	<0.5	NA	NA

COMMENTS: Please see attached lab footnote report for any applicable footnotes.

Collection Media: FilterTube
Date : 04-MAR-16

Submitted by: MWJ
NYS DOH # : 11626

Approved by: dnf
Supervisor: MWJ QC by: TJB

< -Less Than mg -Milligrams m3 -Cubic Meters kg -Kilograms NA -Not Applicable ND -Not Detected
> -Greater Than ug -Micrograms l -Liters NS -Not Specified ppm -Parts per Million LOQ-Limit of Quantitation

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LABORATORY ANALYSIS REPORT

Client : Center for Toxicology & Env. H
Site : NS
Project No. : 107907
Date Sampled : 29-FEB-16
Date Received : 02-MAR-16

Account No.: 13913
Login No. : L368530
Date Analyzed : 03-MAR-16
Report ID : 925296

Client ID : HOTX0229PNAH004 **Lab ID : L368530-4** **Air Volume : NA**
Date Sampled : 02/29/16 **Date Analyzed : 03/03/16**

Parameter	LOQ ug	Filter ug	Front ug	Back ug	Total ug	Conc mg/m3	ppm
Naphthalene	0.3	<0.3	<0.3	<0.3	<0.3	NA	NA
Phenanthrene	0.3	<0.3	<0.3	<0.3	<0.3	NA	NA
Pyrene	0.3	<0.3	<0.3	<0.3	<0.4	NA	NA

COMMENTS: Please see attached lab footnote report for any applicable footnotes.

Collection Media: FilterTube
Date : 04-MAR-16

Submitted by: MWJ
NYS DOH # : 11626

Approved by: dnf
Supervisor: MWJ QC by: TJB

< -Less Than mg -Milligrams m3 -Cubic Meters kg -Kilograms NA -Not Applicable ND -Not Detected
> -Greater Than ug -Micrograms l -Liters NS -Not Specified ppm -Parts per Million LOQ-Limit of Quantitation

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LABORATORY FOOTNOTE REPORT

Client Name : Center for Toxicology & Env. Health LLC
Site :
Project No. : 107907

Date Sampled : 29-FEB-16 Account No.: 13913
Date Received: 02-MAR-16 Login No. : L368530
Date Analyzed: 03-MAR-16

Unless otherwise noted below, all quality control results associated with the samples were within established control limits or did not impact reported results.

WARNING: The sample(s) to which the findings recorded herein (the "Findings") relate was(were) drawn and / or provided by the Client or by a third party acting at the Client's direction. The Findings constitute no warranty of the sample's representativeness of any goods and strictly relate to the sample(s). The Company accepts no liability with regard to the origin or source from which the sample(s) is/are said to be extracted.

Unrounded results are carried through the calculations that yield the final result and the final result is rounded to the number of significant figures appropriate to the accuracy of the analytical method. Please note that results appearing in the columns preceeding the final result column may have been rounded and therefore, if carried through the calculations, may not yield an identical final result to the one reported.

The stated LOQs for each analyte represent the demonstrated LOQ concentrations prior to correction for desorption efficiency (if applicable).

Unless otherwise noted below, reported results have not been blank corrected for any field blank or method blank.

L368530 (Report ID: 925296):
1-Nitropyrene - Total ug corrected for a desorption efficiency of 99%.
Acenaphthene - Total ug corrected for a desorption efficiency of 102%.
Acenaphthylene - Total ug corrected for a desorption efficiency of 102%.
Anthracene - Total ug corrected for a desorption efficiency of 98%.
Benzo(a)anthracene - Total ug corrected for a desorption efficiency of 98%.
Benzo(a)pyrene - Total ug corrected for a desorption efficiency of 98%.
Benzo(b)fluoranthene - Total ug corrected for a desorption efficiency of 97%.
Benzo(e)pyrene - Total ug corrected for a desorption efficiency of 98%.
Benzo(g,h,i)perylene - Total ug corrected for a desorption efficiency of 96%.
Benzo(k)fluoranthene - Total ug corrected for a desorption efficiency of 97%.
Chrysene - Total ug corrected for a desorption efficiency of 98%.
Dibenz(a,h)anthracene - Total ug corrected for a desorption efficiency of 99%.
Fluoranthene - Total ug corrected for a desorption efficiency of 98%.
Fluorene - Total ug corrected for a desorption efficiency of 97%.
Indeno(1,2,3-cd)pyrene - Total ug corrected for a desorption efficiency of 99%.
Naphthalene - Total ug corrected for a desorption efficiency of 99%.

< -Less Than	mg -Milligrams	m3 -Cubic Meters	kg -Kilograms	ppm -Parts per Million		
> -Greater Than	ug -Micrograms	l -Liters	NS -Not Specified	ND -Not Detected	NA -Not Applicable	

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LABORATORY FOOTNOTE REPORT

Client Name : Center for Toxicology & Env. Health LLC
Site :
Project No. : 107907

Date Sampled : 29-FEB-16 Account No.: 13913
Date Received: 02-MAR-16 Login No. : L368530
Date Analyzed: 03-MAR-16

L368530 (Report ID: 925296):
Phenanthrene - Total ug corrected for a desorption efficiency of 98%.
Pyrene - Total ug corrected for a desorption efficiency of 99%.
SOPs: il-n5506(12)

L368530 (Report ID: 925296):
Accuracy and mean recovery data presented below is based on a 95% confidence interval (k=2).
The estimated uncertainty applies to the media, technology, and SOP referenced in this report
and does not account for the uncertainty associated with the sampling process.

Parameter	Accuracy	Mean Recovery
1-Nitropyrene	+/-16%	107%
Acenaphthene	+/-14.4%	104%
Acenaphthylene	+/-11.7%	100%
Anthracene	+/-15.7%	114%
Benzo(a)anthracene	+/-16.1%	110%
Benzo(a)pyrene	+/-26%	115%
Benzo(b)fluoranthene	+/-19%	113%
Benzo(e)pyrene	+/-19.2%	111%
Benzo(g,h,i)perylene	+/-20.2%	112%
Benzo(k)fluoranthene	+/-15.5%	109%
Chrysene	+/-14%	108%
Dibenz(a,h)anthracene	+/-15.6%	103%
Fluoranthene	+/-16.2%	110%
Fluorene	+/-12.4%	109%
Indeno(1,2,3-cd)pyrene	+/-19.5%	113%
Naphthalene	+/-13.3%	105%
Phenanthrene	+/-13.4%	108%
Pyrene	+/-14.6%	112%

< -Less Than mg -Milligrams m3 -Cubic Meters kg -Kilograms ppm -Parts per Million
> -Greater Than ug -Micrograms l -Liters NS -Not Specified ND -Not Detected NA -Not Applicable

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LABORATORY FOOTNOTE REPORT

Client Name : Center for Toxicology & Env. Health LLC
Site :
Project No. : 107907

Date Sampled : 29-FEB-16 Account No.: 13913
Date Received: 02-MAR-16 Login No. : L368530
Date Analyzed: 03-MAR-16

Parameter	Method	PEL
1-Nitropyrene	mod. NIOSH 5506; HPLC/UV	NA
Acenaphthene	mod. NIOSH 5506; HPLC/UV	NA
Acenaphthylene	mod. NIOSH 5506; HPLC/UV	NA
Anthracene	mod. NIOSH 5506; HPLC/UV	NA
Benzo(a)anthracene	mod. NIOSH 5506; HPLC/UV	NA
Benzo(a)pyrene	mod. NIOSH 5506; HPLC/UV	0.2 mg/m3 (TWA)
Benzo(b)fluoranthene	mod. NIOSH 5506; HPLC/UV	NA
Benzo(e)pyrene	mod. NIOSH 5506; HPLC/UV	NA
Benzo(g,h,i)perylene	mod. NIOSH 5506; HPLC/UV	NA
Benzo(k)fluoranthene	mod. NIOSH 5506; HPLC/UV	NA
Chrysene	mod. NIOSH 5506; HPLC/UV	0.2 mg/m3 (TWA)
Dibenz(a,h)anthracene	mod. NIOSH 5506; HPLC/UV	NA
Fluoranthene	mod. NIOSH 5506; HPLC/UV	NA
Fluorene	mod. NIOSH 5506; HPLC/UV	NA
Indeno(1,2,3-cd)pyrene	mod. NIOSH 5506; HPLC/UV	NA
Naphthalene	mod. NIOSH 5506; HPLC/UV	10 ppm (TWA)
Phenanthrene	mod. NIOSH 5506; HPLC/UV	NA
Pyrene	mod. NIOSH 5506; HPLC/UV	NA

< -Less Than mg -Milligrams m3 -Cubic Meters kg -Kilograms ppm -Parts per Million
> -Greater Than ug -Micrograms l -Liters NS -Not Specified ND -Not Detected NA -Not Applicable

Sample: WG340626-1 **Spikelot:** IH609142-2
QC Type: DLS **Raw File:**
Analysis date 03/03/16 14:26:00 **Approval Status:** YES
Instrument: LC5

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
NAPHTHALENE	.100202	.099	101	70.0 to 130.				
BENZO(A)ANTHRACENE	.088789	.099	89.7	70.0 to 130.				
CHRYSENE	.101706	.099	103	70.0 to 130.				
BENZO(E)PYRENE	.101228	.1	101	70.0 to 130.				
BENZO(B)FLUORANTHENE	.104632	.099	106	70.0 to 130.				
BENZO(K)FLUORANTHENE	.079513	.099	80.3	70.0 to 130.				
BENZO(A)PYRENE	.108835	.099	110	70.0 to 130.				
DIBENZ(A,H)ANTHRACENE	.091249	.099	92.2	70.0 to 130.				
BENZO(G,H,I)PERYLENE	.079525	.099	80.3	70.0 to 130.				
INDENO-1,2,3-CD-PYRENE	.072217	.099	72.9	70.0 to 130.				
ACENAPHTHYLENE	.092196	.099	93.1	70.0 to 130.				
ACENAPHTHENE	.098549	.1	98.6	70.0 to 130.				
FLUORENE	.100956	.098	103	70.0 to 130.				
PHENANTHRENE	.099108	.098	101	70.0 to 130.				
ANTHRACENE	.117211	.099	118	70.0 to 130.				
FLUORANTHENE	.092409	.098	94.3	70.0 to 130.				
1-NITROPYRENE	.083716	.099	84.6	70.0 to 130.				
PYRENE	.079427	.099	80.2	70.0 to 130.				

Sample: WG340626-2 **Spikelot:** IH609142-1
QC Type: CCV **Raw File:**
Analysis date 03/03/16 14:46:01 **Approval Status:** YES
Instrument: LC5

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
1-NITROPYRENE	4.80034	4.95	97	86.8 to 123.				
PYRENE	4.80138	4.95	97	92.5 to 125.				
BENZO(A)ANTHRACENE	5.30603	4.95	107	93.7 to 119.				
CHRYSENE	4.73272	4.95	95.6	88.9 to 118.				
BENZO(E)PYRENE	4.81449	4.9995	96.3	90.6 to 127.				
BENZO(B)FLUORANTHENE	4.92289	4.95	99.5	93.8 to 125.				
BENZO(K)FLUORANTHENE	4.59145	4.95	92.8	88.2 to 117.				
BENZO(A)PYRENE	4.55944	4.95	92.1	83.3 to 137.				
DIBENZ(A,H)ANTHRACENE	4.72084	4.95	95.4	85.0 to 120.				
BENZO(G,H,I)PERYLENE	4.66505	4.95	94.2	88.6 to 123.				
NAPHTHALENE	4.63091	4.95	93.6	88.5 to 120.				

Sample: WG340626-2 **Spikelot:** IH609142-1
QC Type: CCV **Raw File:**
Analysis date 03/03/16 14:46:01 **Approval Status:** YES
Instrument: LC5

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
INDENO-1,2,3-CD-PYRENE	4.89050	4.95	98.8	94.8 to 127.				
ACENAPHTHYLENE	4.70862	4.95	95.1	89.8 to 117.				
ACENAPHTHENE	4.81420	4.9995	96.3	87.1 to 119.				
FLUORENE	4.88410	4.9	99.7	92.7 to 123.				
PHENANTHRENE	4.78319	4.9	97.6	91.1 to 120.				
ANTHRACENE	5.53022	4.95	112	91.4 to 130.				
FLUORANTHENE	4.60539	4.9	94	92.0 to 120.				

Sample: WG340624-2 **Spikelot:** NA
QC Type: MBLANK **Raw File:**
Analysis date 03/03/16 15:45:53 **Approval Status:** YES
Instrument: LC5

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
ACENAPHTHENE(FRONT)	0	<.3						
ACENAPHTHENE(BACK)	0	<.3						
ACENAPHTHYLENE(FRONT)	0	<.3						
ACENAPHTHYLENE(BACK)	0	<.3						
ANTHRACENE(FRONT)	0	<.3						
ANTHRACENE(BACK)	0	<.3						
BENZO(A)ANTHRACENE(FRONT)	0	<.3						
BENZO(A)ANTHRACENE(BACK)	0	<.3						
BENZO(A)PYRENE(FRONT)	0	<.3						
BENZO(A)PYRENE(BACK)	.301834	<.3						
BENZO(B)FLUORANTHENE(FRONT)	0	<.3						
BENZO(B)FLUORANTHENE(BACK)	0	<.3						
BENZO(E)PYRENE(FRONT)	0	<.3						
BENZO(E)PYRENE(BACK)	0	<.3						
BENZO(G,H,I)PERYLENE(FRONT)	0	<.3						
BENZO(G,H,I)PERYLENE(BACK)	0	<.3						
BENZO(K)FLUORANTHENE(FRONT)	0	<.3						
BENZO(K)FLUORANTHENE(BACK)	0	<.3						
CHRYSENE(FRONT)	0	<.3						
CHRYSENE(BACK)	0	<.3						
DIBENZ(A,H)ANTHRACENE(FRONT)	0	<.3						
DIBENZ(A,H)ANTHRACENE(BACK)	0	<.3						

Sample: WG340624-2 **Spikelot:** NA
QC Type: MBLANK **Raw File:**
Analysis date 03/03/16 15:45:53 **Approval Status:** YES
Instrument: LC5

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
FLUORANTHENE(FRONT)	0	<.3						
FLUORANTHENE(BACK)	0	<.3						
FLUORENE(FRONT)	0	<.3						
FLUORENE(BACK)	0	<.3						
INDENO-1,2,3-CD-PYRENE(FRONT)	0	<.3						
INDENO-1,2,3-CD-PYRENE(BACK)	0	<.3						
NAPHTHALENE(FRONT)	0	<.3						
NAPHTHALENE(BACK)	0	<.3						
1-NITROPYRENE(FRONT)	0	<.3						
1-NITROPYRENE(BACK)	0	<.3						
PHENANTHRENE(FRONT)	0	<.3						
PHENANTHRENE(BACK)	0	<.3						
PYRENE(FRONT)	0	<.3						
PYRENE(BACK)	0	<.3						

Sample: WG340624-3 **Spikelot:** IH610903
QC Type: BS **Raw File:**
Analysis date 03/03/16 16:25:52 **Approval Status:** YES
Instrument: LC5

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
NAPHTHALENE	4.65750	4.95	94.1		95	85.2 to 125		
BENZO(A)ANTHRACENE	4.93525	4.95	99.7		102	85.3 to 134		
CHRYSENE	4.76126	4.95	96.2		98.2	86.7 to 129		
BENZO(E)PYRENE	4.81494	4.9995	96.3		98.3	82.4 to 140		
BENZO(B)FLUORANTHENE	4.96309	4.95	100		103	85.0 to 142		
BENZO(K)FLUORANTHENE	4.77291	4.95	96.4		99.4	85.3 to 132		
BENZO(A)PYRENE	4.88045	4.95	98.6		101	76.5 to 154		
DIBENZ(A,H)ANTHRACENE	4.72012	4.95	95.4		96.3	79.8 to 127		
BENZO(G,H,I)PERYLENE	4.73169	4.95	95.6		99.6	81.7 to 142		
INDENO-1,2,3-CD-PYRENE	4.85556	4.95	98.1		99.1	83.3 to 142		
ACENAPHTHYLENE	4.76291	4.95	96.2		94.3	82.8 to 118		
ACENAPHTHENE	4.85171	4.9995	97		95.1	82.3 to 125		
FLUORENE	4.87695	4.9	99.5		103	90.7 to 128		
PHENANTHRENE	4.79606	4.9	97.9		99.9	87.8 to 128		
ANTHRACENE	5.60462	4.95	113		116	90.2 to 137		

Sample: WG340624-3 **Spikelot:** IH610903
QC Type: BS **Raw File:**
Analysis date 03/03/16 16:25:52 **Approval Status:** YES
Instrument: LC5

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
FLUORANTHENE	4.67751	4.9	95.5		97.4	85.5 to 134		
1-NITROPYRENE	4.82665	4.95	97.5		98.5	82.7 to 131		
PYRENE	4.78684	4.95	96.7		97.7	89.7 to 134		

Sample: WG340624-4 **Spikelot:** IH610903
QC Type: BSD **Raw File:**
Analysis date 03/03/16 16:45:49 **Approval Status:** YES
Instrument: LC5

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
NAPHTHALENE	4.69479	4.95	94.8		95.8	85.2 to 125	-.839	-10 to 10.0
BENZO(A)ANTHRACENE	5.03078	4.95	102		104	85.3 to 134	-1.94	-10 to 10.0
CHRYSENE	4.87162	4.95	98.4		100	86.7 to 129	-1.82	-10 to 10.0
BENZO(E)PYRENE	4.94272	4.9995	98.9		101	82.4 to 140	-2.71	-10 to 10.0
BENZO(B)FLUORANTHENE	5.07213	4.95	102		106	85.0 to 142	-2.87	-10 to 10.0
BENZO(K)FLUORANTHENE	4.78369	4.95	96.6		99.6	85.3 to 132	-.201	-10 to 10.0
BENZO(A)PYRENE	4.94556	4.95	99.9		102	76.5 to 154	-.985	-10 to 10.0
DIBENZ(A,H)ANTHRACENE	4.76312	4.95	96.2		97.2	79.8 to 127	-.93	-11.5 to 9.87
BENZO(G,H,I)PERYLENE	4.56794	4.95	92.3		96.1	81.7 to 142	3.58	-10 to 10.0
INDENO-1,2,3-CD-PYRENE	4.74603	4.95	95.9		96.8	83.3 to 142	2.35	-10 to 10.0
ACENAPHTHYLENE	4.79252	4.95	96.8		94.9	82.8 to 118	-.634	-10 to 10.0
ACENAPHTHENE	4.87162	4.9995	97.4		95.5	82.3 to 125	-.42	-10 to 10.0
FLUORENE	4.91216	4.9	100		103	90.7 to 128	0	-10 to 10.0
PHENANTHRENE	4.87127	4.9	99.4		101	87.8 to 128	-1.1	-10 to 10.0
ANTHRACENE	5.66571	4.95	114		117	90.2 to 137	-.858	-10 to 10.0
FLUORANTHENE	4.72672	4.9	96.5		98.4	85.5 to 134	-1.02	-10 to 10.0
1-NITROPYRENE	4.91230	4.95	99.2		100	82.7 to 131	-1.51	-10 to 10.0
PYRENE	4.87956	4.95	98.6		99.6	89.7 to 134	-1.93	-10.4 to 8.96

Sample: WG340624-5 **Spikelot:** IH610903
QC Type: BS **Raw File:**
Analysis date 03/03/16 17:05:48 **Approval Status:** YES
Instrument: LC5

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
NAPHTHALENE	4.61670	4.95	93.3		101	85.2 to 125		
BENZO(A)ANTHRACENE	4.58925	4.95	92.7		119	85.3 to 134		

Sample: WG340624-5 **Spikelot:** IH610903
QC Type: BS **Raw File:**
Analysis date 03/03/16 17:05:48 **Approval Status:** YES
Instrument: LC5

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
CHRYSENE	4.41472	4.95	89.2		116	86.7 to 129		
BENZO(E)PYRENE	4.18200	4.9995	83.6		123	82.4 to 140		
BENZO(B)FLUORANTHENE	4.38366	4.95	88.6		123	85.0 to 142		
BENZO(K)FLUORANTHENE	4.23796	4.95	85.6		119	85.3 to 132		
BENZO(A)PYRENE	4.20026	4.95	84.9		129	76.5 to 154		
DIBENZ(A,H)ANTHRACENE	3.77034	4.95	76.2		106	79.8 to 127		
BENZO(G,H,I)PERYLENE	3.81469	4.95	77.1		131	81.7 to 142		
INDENO-1,2,3-CD-PYRENE	3.92213	4.95	79.2		124	83.3 to 142		
ACENAPHTHYLENE	4.54776	4.95	91.9		95.7	82.8 to 118		
ACENAPHTHENE	4.70583	4.9995	94.1		105	82.3 to 125		
FLUORENE	4.70666	4.9	96.1		107	90.7 to 128		
PHENANTHRENE	4.68537	4.9	95.6		111	87.8 to 128		
ANTHRACENE	5.31426	4.95	107		126	90.2 to 137		
FLUORANTHENE	4.55210	4.9	92.9		112	85.5 to 134		
1-NITROPYRENE	4.67468	4.95	94.4		112	82.7 to 131		
PYRENE	4.51358	4.95	91.2		111	89.7 to 134		

Sample: WG340624-6 **Spikelot:** IH610903
QC Type: BSD **Raw File:**
Analysis date 03/03/16 17:25:48 **Approval Status:** YES
Instrument: LC5

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
NAPHTHALENE	4.45887	4.95	90.1		97.9	85.2 to 125	3.12	-10 to 10.0
BENZO(A)ANTHRACENE	4.12252	4.95	83.3		107	85.3 to 134	10.6	-10 to 10.0
CHRYSENE	3.98404	4.95	80.5		105	86.7 to 129	9.95	-10 to 10.0
BENZO(E)PYRENE	3.59390	4.9995	71.9		106	82.4 to 140	14.8	-10 to 10.0
BENZO(B)FLUORANTHENE	3.88103	4.95	78.4		109	85.0 to 142	12.1	-10 to 10.0
BENZO(K)FLUORANTHENE	3.79667	4.95	76.7		107	85.3 to 132	10.6	-10 to 10.0
BENZO(A)PYRENE	3.59296	4.95	72.6		110	76.5 to 154	15.9	-10 to 10.0
DIBENZ(A,H)ANTHRACENE	3.44875	4.95	69.7		96.8	79.8 to 127	9.07	-11.5 to 9.87
BENZO(G,H,I)PERYLENE	3.05376	4.95	61.7		105	81.7 to 142	22	-10 to 10.0
INDENO-1,2,3-CD-PYRENE	3.13653	4.95	63.4		99	83.3 to 142	22.4	-10 to 10.0
ACENAPHTHYLENE	4.34252	4.95	87.7		91.4	82.8 to 118	4.6	-10 to 10.0
ACENAPHTHENE	4.49642	4.9995	89.9		99.9	82.3 to 125	4.98	-10 to 10.0
FLUORENE	4.53827	4.9	92.6		103	90.7 to 128	3.81	-10 to 10.0

Sample: WG340624-6 **Spikelot:** IH610903
QC Type: BSD **Raw File:**
Analysis date 03/03/16 17:25:48 **Approval Status:** YES
Instrument: LC5

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
PHENANTHRENE	4.40986	4.9	90		105	87.8 to 128	5.56	-10 to 10.0
ANTHRACENE	4.99741	4.95	101		119	90.2 to 137	5.71	-10 to 10.0
FLUORANTHENE	4.11925	4.9	84.1		101	85.5 to 134	10.3	-10 to 10.0
1-NITROPYRENE	4.26299	4.95	86.1		103	82.7 to 131	8.37	-10 to 10.0
PYRENE	4.06327	4.95	82.1		100	89.7 to 134	10.4	-10.4 to 8.90

Sample: WG340626-3 **Spikelot:** IH609142-1
QC Type: CCV **Raw File:**
Analysis date 03/03/16 21:25:34 **Approval Status:** YES
Instrument: LC5

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
FLUORANTHENE	4.64344	4.9	94.8	92.0 to 120.				
1-NITROPYRENE	4.87320	4.95	98.4	86.8 to 123.				
PYRENE	4.83133	4.95	97.6	92.5 to 125.				
BENZO(A)ANTHRACENE	5.32157	4.95	108	93.7 to 119.				
CHRYSENE	4.74332	4.95	95.8	88.9 to 118.				
BENZO(E)PYRENE	4.82134	4.9995	96.4	90.6 to 127.				
BENZO(B)FLUORANTHENE	4.92806	4.95	99.6	93.8 to 125.				
BENZO(K)FLUORANTHENE	4.73565	4.95	95.7	88.2 to 117.				
BENZO(A)PYRENE	4.91156	4.95	99.2	83.3 to 137.				
DIBENZ(A,H)ANTHRACENE	4.71197	4.95	95.2	85.0 to 120.				
NAPHTHALENE	4.65340	4.95	94	88.5 to 120.				
BENZO(G,H,I)PERYLENE	4.66165	4.95	94.2	88.6 to 123.				
INDENO-1,2,3-CD-PYRENE	5.45592	4.95	110	94.8 to 127.				
ACENAPHTHYLENE	4.72358	4.95	95.4	89.8 to 117.				
ACENAPHTHENE	4.78762	4.9995	95.8	87.1 to 119.				
FLUORENE	4.86169	4.9	99.2	92.7 to 123.				
PHENANTHRENE	4.78367	4.9	97.6	91.1 to 120.				
ANTHRACENE	5.59784	4.95	113	91.4 to 130.				

Sample: WG340626-6 **Spikelot:** IH609142-2
QC Type: DLS **Raw File:**
Analysis date 03/04/16 10:37:45 **Approval Status:** YES
Instrument: LC5

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits

Sample: WG340626-6 **Spikelot:** IH609142-2
QC Type: DLS **Raw File:**
Analysis date 03/04/16 10:37:45 **Approval Status:** YES
Instrument: LC5

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
NAPHTHALENE	.097903	.099	98.9	70.0 to 130.				
BENZO(A)ANTHRACENE	.091245	.099	92.2	70.0 to 130.				
CHRYSENE	.101683	.099	103	70.0 to 130.				
BENZO(E)PYRENE	.109513	.1	110	70.0 to 130.				
BENZO(B)FLUORANTHENE	.113787	.099	115	70.0 to 130.				
BENZO(K)FLUORANTHENE	.098293	.099	99.3	70.0 to 130.				
BENZO(A)PYRENE	.129184	.099	130	70.0 to 130.				
DIBENZ(A,H)ANTHRACENE	.102037	.099	103	70.0 to 130.				
BENZO(G,H,I)PERYLENE	.101877	.099	103	70.0 to 130.				
INDENO-1,2,3-CD-PYRENE	.092350	.099	93.3	70.0 to 130.				
ACENAPHTHYLENE	.103529	.099	105	70.0 to 130.				
ACENAPHTHENE	.099797	.1	99.8	70.0 to 130.				
FLUORENE	.096695	.098	98.7	70.0 to 130.				
PHENANTHRENE	.095988	.098	97.9	70.0 to 130.				
ANTHRACENE	.117278	.099	118	70.0 to 130.				
FLUORANTHENE	.086001	.098	87.8	70.0 to 130.				
1-NITROPYRENE	.087191	.099	88.1	70.0 to 130.				
PYRENE	.071824	.099	72.5	70.0 to 130.				

Sample: WG340626-7 **Spikelot:** IH609142-1
QC Type: CCV **Raw File:**
Analysis date 03/04/16 10:57:44 **Approval Status:** YES
Instrument: LC5

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
FLUORANTHENE	4.64657	4.9	94.8	92.0 to 120.				
1-NITROPYRENE	4.80437	4.95	97.1	86.8 to 123.				
PYRENE	4.81175	4.95	97.2	92.5 to 125.				
BENZO(A)ANTHRACENE	5.38360	4.95	109	93.7 to 119.				
CHRYSENE	4.77533	4.95	96.5	88.9 to 118.				
BENZO(E)PYRENE	4.83088	4.9995	96.6	90.6 to 127.				
BENZO(B)FLUORANTHENE	4.90077	4.95	99	93.8 to 125.				
BENZO(K)FLUORANTHENE	4.78055	4.95	96.6	88.2 to 117.				
BENZO(A)PYRENE	5.05672	4.95	102	83.3 to 137.				
DIBENZ(A,H)ANTHRACENE	4.73283	4.95	95.6	85.0 to 120.				
NAPHTHALENE	4.67297	4.95	94.4	88.5 to 120.				

Sample: WG340626-7 **Spikelot:** IH609142-1
QC Type: CCV **Raw File:**
Analysis date 03/04/16 10:57:44 **Approval Status:** YES
Instrument: LC5

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
BENZO(G,H,I)PERYLENE	4.77114	4.95	96.4	88.6 to 123.				
INDENO-1,2,3-CD-PYRENE	4.98002	4.95	101	94.8 to 127.				
ACENAPHTHYLENE	4.73198	4.95	95.6	89.8 to 117.				
ACENAPHTHENE	4.80064	4.9995	96	87.1 to 119.				
FLUORENE	4.86363	4.9	99.3	92.7 to 123.				
PHENANTHRENE	4.81251	4.9	98.2	91.1 to 120.				
ANTHRACENE	5.62141	4.95	114	91.4 to 130.				

Sample: WG340626-8 **Spikelot:** IH609142-1
QC Type: CCV **Raw File:**
Analysis date 03/04/16 12:17:37 **Approval Status:** YES
Instrument: LC5

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
FLUORANTHENE	4.66928	4.9	95.3	92.0 to 120.				
1-NITROPYRENE	4.87654	4.95	98.5	86.8 to 123.				
PYRENE	4.84781	4.95	97.9	92.5 to 125.				
BENZO(A)ANTHRACENE	5.41611	4.95	109	93.7 to 119.				
CHRYSENE	4.77444	4.95	96.5	88.9 to 118.				
BENZO(E)PYRENE	4.82980	4.9995	96.6	90.6 to 127.				
BENZO(B)FLUORANTHENE	4.91677	4.95	99.3	93.8 to 125.				
BENZO(K)FLUORANTHENE	4.75239	4.95	96	88.2 to 117.				
BENZO(A)PYRENE	5.08516	4.95	103	83.3 to 137.				
DIBENZ(A,H)ANTHRACENE	4.73422	4.95	95.6	85.0 to 120.				
NAPHTHALENE	4.66838	4.95	94.3	88.5 to 120.				
BENZO(G,H,I)PERYLENE	4.77548	4.95	96.5	88.6 to 123.				
INDENO-1,2,3-CD-PYRENE	4.93205	4.95	99.6	94.8 to 127.				
ACENAPHTHYLENE	4.73714	4.95	95.7	89.8 to 117.				
ACENAPHTHENE	4.78457	4.9995	95.7	87.1 to 119.				
FLUORENE	4.87582	4.9	99.5	92.7 to 123.				
PHENANTHRENE	4.82890	4.9	98.5	91.1 to 120.				
ANTHRACENE	5.65929	4.95	114	91.4 to 130.				

L3685 30

(81)

5120 North Shore Drive
North Little Rock, AR 72118
Phone: (501) 801-8500
Fax: (501) 801-8501
Website: www.cteh.com

Center for Toxicology and Environmental Health L.L.C.

SAMPLE CHAIN OF CUSTODY AND ANALYSIS REQUEST FORM

Page 1 of 1

	Send Report To:	Send Invoice To:
Name	cconnolly@cteh.com;mberg@cteh.co	
Company	CTEH	CTEH
Address	5120 North Shore Drive North Little Rock, AR 72118	5120 North Shore Drive North Little Rock, AR 72118
Phone	(501)801-8500	(501)801-8500
Fax	(501)801-8501	(501)801-8501
e-mail	labresults@cteh.com	

CTEH Project #: 107907

Turnaround Requested:
Same Day __Next Day (24 hour) ___ Normal
_X_ Other (Specify) 2 Day

Complete Data Packet Requested X Yes ☐No

775765423911
Date:03/02/16
Shipper:FEDEX
Initials:SK
Prep:UNKNOWN

Client Sample Identification	Other Sample Identification	Sample Size	Units (Check one) ✓ L / cm²	Sample Date	Sample Time (for non-air samples)	Initials	NIOSH 5506 PNAH	Matrix (A = air, B = bulk, S = soil, SW = wipe, T = tape, W = water)
HOTX0229PNAH001	AS12	957	L	02/29/16		JA	X	A
HOTX0229PNAH002	AS16	958	L	02/29/16		JA	X	A
HOTX0229PNAH003	AS07	964	L	02/29/16		JA	X	A
HOTX0229PNAH004	BL	0	L	02/29/16		JA	X	A

Rec'd intact & all accounted for? Yes or No ZK
Rec'd w/custody seals intact? Yes or No N/A
Rec'd in light sensitive packaging? Yes or No ZK
Rec'd with ice pack? Yes or No ZK
Rec'd temperature compliant? Yes or No N/A

RELINQUISHED BY	DATE/TIME	RECEIVED BY	DATE/TIME	COMMENTS
	3/1/16 16:00	Fed Ex		
		Zach King	3/2/16 10:02	1 filter & Orbo 43 tube per sample ZK 3/2

Mr. Charles Connolly
Center for Toxicology & Env. Health LLC
5120 North Shore Drive
North Little Rock, AR 72118

March 07, 2016

DOH ELAP #11626 Account# 13913 Login# L368327
AIHA-LAP #100324

Dear Mr. Connolly:

Enclosed are the analytical results for the samples received by our laboratory on February 27, 2016. All test results meet the quality control requirements of AIHA-LAP and NELAC unless otherwise stated in this report. All samples on the chain of custody were received in good condition unless otherwise noted.

Results in this report are based on the sampling data provided by the client and refer only to the samples as they were received at the laboratory. Unless otherwise requested, all samples will be discarded 14 days from the date of this report, with the exception of IOMs, which will be cleaned and disposed of after seven calendar days.

Current Scopes of Accreditation can be viewed at www.galsonlabs.com in the accreditations section under the "about Galson" tab.

Please contact Pamela Weaver at (888) 432-5227, if you would like any additional information regarding this report. Thank you for using SGS Galson Laboratories.

Sincerely,

SGS Galson Laboratories

Lisa Swab
Laboratory Director

Enclosure(s)

Galson Laboratories, Inc. is now a part of SGS, the world's leading inspection, verification, testing, and certification company. As part of our transition to SGS, you will begin to see some formatting changes with reports that will improve the presentation of data and allow for the transition to the new logo.

SGS GALSON LABORATORIES

6601 Kirkville Road
East Syracuse, NY 13057
(315) 432-5227
FAX: (315) 437-0571
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LABORATORY ANALYSIS REPORT

Client : Center for Toxicology & Env. H
Site : NS
Project No. : 107907
Date Sampled : 25-FEB-16
Date Received : 27-FEB-16

Account No.: 13913
Login No. : L368327
Date Analyzed : 01-MAR-16 - 02-MAR-16
Report ID : 924918

Client ID : HOTX0225PNAH001 **Lab ID : L368327-1** **Air Volume : 950.2 Liter**
Date Sampled : 02/25/16 **Date Analyzed : 03/02/16**

Parameter	LOQ ug	Filter ug	Front ug	Back ug	Total ug	Conc mg/m3	ppm
1-Nitropyrene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Acenaphthene	0.3	<0.3	0.3	<0.3	0.4	0.0004	0.00006
Acenaphthylene	0.3	<0.3	<0.3	<0.3	<0.3	<0.0003	<0.00005
Anthracene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00005
Benzo(a)anthracene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Benzo(a)pyrene	0.3	<0.3	<0.3	<0.3	<0.5	<0.0005	<0.00005
Benzo(b)fluoranthene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Benzo(e)pyrene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0005	<0.00004
Benzo(g,h,i)perylene	0.3	<0.3	<0.3	<0.3	<0.5	<0.0005	<0.00005
Benzo(k)fluoranthene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Chrysene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Dibenz(a,h)anthracene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Fluoranthene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00005
Fluorene	0.3	<0.3	<0.3	<0.3	<0.3	<0.0004	<0.00005
Indeno(1,2,3-cd)pyrene	0.3	<0.3	<0.3	<0.3	<0.5	<0.0005	<0.00004

COMMENTS: Please see attached lab footnote report for any applicable footnotes.

Collection Media: FilterTube
Date : 04-MAR-16

Submitted by: EAW
NYS DOH # : 11626

Approved by: MWJ
Supervisor: MWJ QC by: AMD

< -Less Than mg -Milligrams m3 -Cubic Meters kg -Kilograms NA -Not Applicable ND -Not Detected
> -Greater Than ug -Micrograms l -Liters NS -Not Specified ppm -Parts per Million LOQ-Limit of Quantitation

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LABORATORY ANALYSIS REPORT

Client : Center for Toxicology & Env. H
Site : NS
Project No. : 107907
Date Sampled : 25-FEB-16
Date Received : 27-FEB-16

Account No.: 13913
Login No. : L368327

Date Analyzed : 01-MAR-16 - 02-MAR-16
Report ID : 924918

Client ID : HOTX0225PNAH001 **Lab ID : L368327-1** **Air Volume : 950.2 Liter**
Date Sampled : 02/25/16 **Date Analyzed : 03/02/16**

Parameter	LOQ ug	Filter ug	Front ug	Back ug	Total ug	Conc mg/m3	ppm
Naphthalene	0.3	<0.3	1.3	0.36	*1.8	*0.0019	*0.00036
Phenanthrene	0.3	<0.3	<0.3	<0.3	<0.3	<0.0004	<0.00005
Pyrene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00005

COMMENTS: Please see attached lab footnote report for any applicable footnotes.

Collection Media: FilterTube
Date : 04-MAR-16

Submitted by: EAW
NYS DOH # : 11626

Approved by: MWJ
Supervisor: MWJ QC by: AMD

< -Less Than mg -Milligrams m3 -Cubic Meters kg -Kilograms NA -Not Applicable ND -Not Detected
> -Greater Than ug -Micrograms l -Liters NS -Not Specified ppm -Parts per Million LOQ-Limit of Quantitation

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LABORATORY ANALYSIS REPORT

Client : Center for Toxicology & Env. H
Site : NS
Project No. : 107907
Date Sampled : 25-FEB-16
Date Received : 27-FEB-16

Account No.: 13913
Login No. : L368327
Date Analyzed : 01-MAR-16 - 02-MAR-16
Report ID : 924918

Client ID : HOTX0225PNAH002 **Lab ID : L368327-2** **Air Volume : 950.8 Liter**
Date Sampled : 02/25/16 **Date Analyzed : 03/01/16**

Parameter	LOQ ug	Filter ug	Front ug	Back ug	Total ug	Conc mg/m3	ppm
1-Nitropyrene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Acenaphthene	0.3	<0.3	<0.3	<0.3	<0.3	<0.0004	<0.00006
Acenaphthylene	0.3	<0.3	<0.3	<0.3	<0.3	<0.0003	<0.00005
Anthracene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00005
Benzo(a)anthracene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Benzo(a)pyrene	0.3	<0.3	<0.3	<0.3	<0.5	<0.0005	<0.00005
Benzo(b)fluoranthene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Benzo(e)pyrene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0005	<0.00004
Benzo(g,h,i)perylene	0.3	<0.3	<0.3	<0.3	<0.5	<0.0005	<0.00005
Benzo(k)fluoranthene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Chrysene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Dibenz(a,h)anthracene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Fluoranthene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00005
Fluorene	0.3	<0.3	<0.3	<0.3	<0.3	<0.0004	<0.00005
Indeno(1,2,3-cd)pyrene	0.3	<0.3	<0.3	<0.3	<0.5	<0.0005	<0.00004

COMMENTS: Please see attached lab footnote report for any applicable footnotes.

Collection Media: FilterTube
Date : 04-MAR-16

Submitted by: EAW
NYS DOH # : 11626

Approved by: MWJ
Supervisor: MWJ QC by: AMD

< -Less Than mg -Milligrams m3 -Cubic Meters kg -Kilograms NA -Not Applicable ND -Not Detected
> -Greater Than ug -Micrograms l -Liters NS -Not Specified ppm -Parts per Million LOQ-Limit of Quantitation

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LABORATORY ANALYSIS REPORT

Client : Center for Toxicology & Env. H
Site : NS
Project No. : 107907
Date Sampled : 25-FEB-16
Date Received : 27-FEB-16

Account No.: 13913
Login No. : L368327

Date Analyzed : 01-MAR-16 - 02-MAR-16
Report ID : 924918

Client ID : HOTX0225PNAH002 **Lab ID : L368327-2** **Air Volume : 950.8 Liter**
Date Sampled : 02/25/16 **Date Analyzed : 03/01/16**

Parameter	LOQ ug	Filter ug	Front ug	Back ug	Total ug	Conc mg/m3	ppm
Naphthalene	0.3	<0.3	<0.3	<0.3	<0.3	<0.0003	<0.00007
Phenanthrene	0.3	<0.3	<0.3	<0.3	<0.3	<0.0004	<0.00005
Pyrene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00005

COMMENTS: Please see attached lab footnote report for any applicable footnotes.

Collection Media: FilterTube
Date : 04-MAR-16

Submitted by: EAW
NYS DOH # : 11626

Approved by: MWJ
Supervisor: MWJ QC by: AMD

< -Less Than mg -Milligrams m3 -Cubic Meters kg -Kilograms NA -Not Applicable ND -Not Detected
> -Greater Than ug -Micrograms l -Liters NS -Not Specified ppm -Parts per Million LOQ-Limit of Quantitation

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LABORATORY ANALYSIS REPORT

Client : Center for Toxicology & Env. H
Site : NS
Project No. : 107907
Date Sampled : 25-FEB-16
Date Received : 27-FEB-16

Account No.: 13913
Login No. : L368327

Date Analyzed : 01-MAR-16 - 02-MAR-16
Report ID : 924918

Client ID : HOTX0225PNAH003 **Lab ID : L368327-3** **Air Volume : 981.7 Liter**
Date Sampled : 02/25/16 **Date Analyzed : 03/01/16**

Parameter	LOQ ug	Filter ug	Front ug	Back ug	Total ug	Conc mg/m3	ppm
1-Nitropyrene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Acenaphthene	0.3	<0.3	<0.3	<0.3	<0.3	<0.0003	<0.00005
Acenaphthylene	0.3	<0.3	<0.3	<0.3	<0.3	<0.0003	<0.00005
Anthracene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00005
Benzo(a)anthracene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Benzo(a)pyrene	0.3	<0.3	<0.3	<0.3	<0.5	<0.0005	<0.00004
Benzo(b)fluoranthene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Benzo(e)pyrene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Benzo(g,h,i)perylene	0.3	<0.3	<0.3	<0.3	<0.5	<0.0005	<0.00005
Benzo(k)fluoranthene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Chrysene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Dibenz(a,h)anthracene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Fluoranthene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Fluorene	0.3	<0.3	<0.3	<0.3	<0.3	<0.0003	<0.00005
Indeno(1,2,3-cd)pyrene	0.3	<0.3	<0.3	<0.3	<0.5	<0.0005	<0.00004

COMMENTS: Please see attached lab footnote report for any applicable footnotes.

Collection Media: FilterTube
Date : 04-MAR-16

Submitted by: EAW
NYS DOH # : 11626

Approved by: MWJ
Supervisor: MWJ QC by: AMD

< -Less Than mg -Milligrams m3 -Cubic Meters kg -Kilograms NA -Not Applicable ND -Not Detected
> -Greater Than ug -Micrograms l -Liters NS -Not Specified ppm -Parts per Million LOQ-Limit of Quantitation

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LABORATORY ANALYSIS REPORT

Client : Center for Toxicology & Env. H
Site : NS
Project No. : 107907
Date Sampled : 25-FEB-16
Date Received : 27-FEB-16

Account No.: 13913
Login No. : L368327

Date Analyzed : 01-MAR-16 - 02-MAR-16
Report ID : 924918

Client ID : HOTX0225PNAH003 **Lab ID : L368327-3** **Air Volume : 981.7 Liter**
Date Sampled : 02/25/16 **Date Analyzed : 03/01/16**

Parameter	LOQ ug	Filter ug	Front ug	Back ug	Total ug	Conc mg/m3	ppm
Naphthalene	0.3	<0.3	<0.3	<0.3	<0.3	<0.0003	<0.00006
Phenanthrene	0.3	<0.3	<0.3	<0.3	<0.3	<0.0004	<0.00005
Pyrene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00005

COMMENTS: Please see attached lab footnote report for any applicable footnotes.

Collection Media: FilterTube
Date : 04-MAR-16

Submitted by: EAW
NYS DOH # : 11626

Approved by: MWJ
Supervisor: MWJ QC by: AMD

< -Less Than mg -Milligrams m3 -Cubic Meters kg -Kilograms NA -Not Applicable ND -Not Detected
> -Greater Than ug -Micrograms l -Liters NS -Not Specified ppm -Parts per Million LOQ-Limit of Quantitation

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LABORATORY ANALYSIS REPORT

Client : Center for Toxicology & Env. H
Site : NS
Project No. : 107907
Date Sampled : 25-FEB-16
Date Received : 27-FEB-16

Account No.: 13913
Login No. : L368327

Date Analyzed : 01-MAR-16 - 02-MAR-16
Report ID : 924918

Client ID : HOTX0225PNAH004 **Lab ID : L368327-4** **Air Volume : NA**
Date Sampled : 02/25/16 **Date Analyzed : 03/02/16**

Parameter	LOQ ug	Filter ug	Front ug	Back ug	Total ug	Conc mg/m3	ppm
1-Nitropyrene	0.3	<0.3	<0.3	<0.3	<0.4	NA	NA
Acenaphthene	0.3	<0.3	<0.3	<0.3	<0.3	NA	NA
Acenaphthylene	0.3	<0.3	<0.3	<0.3	<0.3	NA	NA
Anthracene	0.3	<0.3	<0.3	<0.3	<0.4	NA	NA
Benzo(a)anthracene	0.3	<0.3	<0.3	<0.3	<0.4	NA	NA
Benzo(a)pyrene	0.3	<0.3	<0.3	<0.3	<0.5	NA	NA
Benzo(b)fluoranthene	0.3	<0.3	<0.3	<0.3	<0.4	NA	NA
Benzo(e)pyrene	0.3	<0.3	<0.3	<0.3	<0.4	NA	NA
Benzo(g,h,i)perylene	0.3	<0.3	<0.3	<0.3	<0.5	NA	NA
Benzo(k)fluoranthene	0.3	<0.3	<0.3	<0.3	<0.4	NA	NA
Chrysene	0.3	<0.3	<0.3	<0.3	<0.4	NA	NA
Dibenz(a,h)anthracene	0.3	<0.3	<0.3	<0.3	<0.4	NA	NA
Fluoranthene	0.3	<0.3	<0.3	<0.3	<0.4	NA	NA
Fluorene	0.3	<0.3	<0.3	<0.3	<0.3	NA	NA
Indeno(1,2,3-cd)pyrene	0.3	<0.3	<0.3	<0.3	<0.5	NA	NA

COMMENTS: Please see attached lab footnote report for any applicable footnotes.

Collection Media: FilterTube
Date : 04-MAR-16

Submitted by: EAW
NYS DOH # : 11626

Approved by: MWJ
Supervisor: MWJ QC by: AMD

< -Less Than mg -Milligrams m3 -Cubic Meters kg -Kilograms NA -Not Applicable ND -Not Detected
> -Greater Than ug -Micrograms l -Liters NS -Not Specified ppm -Parts per Million LOQ-Limit of Quantitation

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LABORATORY ANALYSIS REPORT

Client : Center for Toxicology & Env. H
Site : NS
Project No. : 107907
Date Sampled : 25-FEB-16
Date Received : 27-FEB-16

Account No.: 13913
Login No. : L368327

Date Analyzed : 01-MAR-16 - 02-MAR-16
Report ID : 924918

Client ID : HOTX0225PNAH004 **Lab ID : L368327-4** **Air Volume : NA**
Date Sampled : 02/25/16 **Date Analyzed : 03/02/16**

Parameter	LOQ ug	Filter ug	Front ug	Back ug	Total ug	Conc mg/m3	ppm
Naphthalene	0.3	<0.3	<0.3	<0.3	<0.3	NA	NA
Phenanthrene	0.3	<0.3	<0.3	<0.3	<0.3	NA	NA
Pyrene	0.3	<0.3	<0.3	<0.3	<0.4	NA	NA

COMMENTS: Please see attached lab footnote report for any applicable footnotes.

Collection Media: FilterTube
Date : 04-MAR-16

Submitted by: EAW
NYS DOH # : 11626

Approved by: MWJ
Supervisor: MWJ QC by: AMD

< -Less Than mg -Milligrams m3 -Cubic Meters kg -Kilograms NA -Not Applicable ND -Not Detected
> -Greater Than ug -Micrograms l -Liters NS -Not Specified ppm -Parts per Million LOQ-Limit of Quantitation

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LABORATORY ANALYSIS REPORT

Client : Center for Toxicology & Env. H
Site : NS
Project No. : 107907
Date Sampled : 25-FEB-16
Date Received : 27-FEB-16

Account No.: 13913
Login No. : L368327
Date Analyzed : 02-MAR-16
Report ID : 924520

Particulate Matter - PM10

Sample ID	Lab ID	Air Vol liter	Total mg	Conc mg/m3
HOTX0225PM001	L368327-5	1108.5	0.27	0.24
HOTX0225PM002	L368327-6	1073.9	0.19	0.18
HOTX0225PM003	L368327-7	1389.4	0.31	0.22
HOTX0225PM004	L368327-8	NA	<0.050	NA

COMMENTS: Please see attached lab footnote report for any applicable footnotes.

Level of quantitation: 0.050 mg
Analytical Method : mod. EPA Method IP-10A; Gravimetric
OSHA PEL : NA
Collection Media : PVC PW 37mm

Submitted by: PAH
Approved by : CRI
Date : 07-MAR-16
Supervisor: CRI

NYS DOH # : 11626
QC by: AMD

< -Less Than mg -Milligrams m3 -Cubic Meters kg -Kilograms NA -Not Applicable ND -Not Detected
> -Greater Than ug -Micrograms l -Liters NS -Not Specified ppm -Parts per Million

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LABORATORY FOOTNOTE REPORT

Client Name : Center for Toxicology & Env. Health LLC
Site :
Project No. : 107907

Date Sampled : 25-FEB-16 Account No.: 13913
Date Received: 27-FEB-16 Login No. : L368327
Date Analyzed: 01-MAR-16 - 02-MAR-16

Unless otherwise noted below, all quality control results associated with the samples were within established control limits or did not impact reported results.

WARNING: The sample(s) to which the findings recorded herein (the "Findings") relate was(were) drawn and / or provided by the Client or by a third party acting at the Client's direction. The Findings constitute no warranty of the sample's representativeness of any goods and strictly relate to the sample(s). The Company accepts no liability with regard to the origin or source from which the sample(s) is/are said to be extracted.

Unrounded results are carried through the calculations that yield the final result and the final result is rounded to the number of significant figures appropriate to the accuracy of the analytical method. Please note that results appearing in the columns preceeding the final result column may have been rounded and therefore, if carried through the calculations, may not yield an identical final result to the one reported.

The stated LOQs for each analyte represent the demonstrated LOQ concentrations prior to correction for desorption efficiency (if applicable).

Unless otherwise noted below, reported results have not been blank corrected for any field blank or method blank.

L368327 (Report ID: 924918):
SOPs: il-n5506(12)
Results corrected for matrix- and compound-specific desorption efficiencies.

L368327-1 (Report ID: 924918):
Results reported as (*) designate possible breakthrough or migration.
Reported result may be biased low.

L368327 (Report ID: 924918):
Accuracy and mean recovery data presented below is based on a 95% confidence interval (k=2).
The estimated uncertainty applies to the media, technology, and SOP referenced in this report and does not account for the uncertainty associated with the sampling process.

Parameter	Accuracy	Mean Recovery
1-Nitropyrene	+/-16%	107%
Acenaphthene	+/-14.4%	104%

< -Less Than mg -Milligrams m3 -Cubic Meters kg -Kilograms ppm -Parts per Million
> -Greater Than ug -Micrograms l -Liters NS -Not Specified ND -Not Detected NA -Not Applicable

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Client Name : Center for Toxicology & Env. Health LLC
Site :
Project No. : 107907

Date Sampled : 25-FEB-16 Account No.: 13913
Date Received: 27-FEB-16 Login No. : L368327
Date Analyzed: 01-MAR-16 - 02-MAR-16

Acenaphthylene	+/-11.7%	100%
Anthracene	+/-15.7%	114%
Benzo(a)anthracene	+/-16.1%	110%
Benzo(a)pyrene	+/-26%	115%
Benzo(b)fluoranthene	+/-19%	113%
Benzo(e)pyrene	+/-19.2%	111%
Benzo(g,h,i)perylene	+/-20.2%	112%
Benzo(k)fluoranthene	+/-15.5%	109%
Chrysene	+/-14%	108%
Dibenz(a,h)anthracene	+/-15.6%	103%
Fluoranthene	+/-16.2%	110%
Fluorene	+/-12.4%	109%
Indeno(1,2,3-cd)pyrene	+/-19.5%	113%
Naphthalene	+/-13.3%	105%
Phenanthrene	+/-13.4%	108%
Pyrene	+/-14.6%	112%

Parameter	Method	PEL
1-Nitropyrene	mod. NIOSH 5506; HPLC/UV	NA
Acenaphthene	mod. NIOSH 5506; HPLC/UV	NA
Acenaphthylene	mod. NIOSH 5506; HPLC/UV	NA
Anthracene	mod. NIOSH 5506; HPLC/UV	NA
Benzo(a)anthracene	mod. NIOSH 5506; HPLC/UV	NA
Benzo(a)pyrene	mod. NIOSH 5506; HPLC/UV	0.2 mg/m3 (TWA)
Benzo(b)fluoranthene	mod. NIOSH 5506; HPLC/UV	NA
Benzo(e)pyrene	mod. NIOSH 5506; HPLC/UV	NA
Benzo(g,h,i)perylene	mod. NIOSH 5506; HPLC/UV	NA
Benzo(k)fluoranthene	mod. NIOSH 5506; HPLC/UV	NA
Chrysene	mod. NIOSH 5506; HPLC/UV	0.2 mg/m3 (TWA)
Dibenz(a,h)anthracene	mod. NIOSH 5506; HPLC/UV	NA
Fluoranthene	mod. NIOSH 5506; HPLC/UV	NA
Fluorene	mod. NIOSH 5506; HPLC/UV	NA
Indeno(1,2,3-cd)pyrene	mod. NIOSH 5506; HPLC/UV	NA

< -Less Than mg -Milligrams m3 -Cubic Meters kg -Kilograms ppm -Parts per Million
> -Greater Than ug -Micrograms l -Liters NS -Not Specified ND -Not Detected NA -Not Applicable

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LABORATORY FOOTNOTE REPORT

Client Name : Center for Toxicology & Env. Health LLC
Site :
Project No. : 107907

Date Sampled : 25-FEB-16 Account No.: 13913
Date Received: 27-FEB-16 Login No. : L368327
Date Analyzed: 01-MAR-16 - 02-MAR-16

L368327 (Report ID: 924918):

Parameter	Method	PEL
Naphthalene	mod. NIOSH 5506; HPLC/UV	10 ppm (TWA)
Phenanthrene	mod. NIOSH 5506; HPLC/UV	NA
Pyrene	mod. NIOSH 5506; HPLC/UV	NA

L368327 (Report ID: 924520):
SOPs: GRAV-SOP-5(15), GRAV-SOP-6(15)
Gravimetric analytical accuracy of the sampling media is -0.001 +/- 0.006 mg (average blank weight change +/- 95% confidence interval or k=2). The estimated uncertainly applies to the media, technology, and SOP(s) referenced in this report and does not account for any uncertainty associated with the sampling process.

< -Less Than mg -Milligrams m3 -Cubic Meters kg -Kilograms ppm -Parts per Million
> -Greater Than ug -Micrograms l -Liters NS -Not Specified ND -Not Detected NA -Not Applicable

Sample: WG340374-1 **Spikelot:** IH609142-2
QC Type: DLS **Raw File:**
Analysis date 03/01/16 15:16:37 **Approval Status:** YES
Instrument: LC5

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
NAPHTHALENE	.090453	.099	91.4	70.0 to 130.				
PYRENE	.070496	.099	71.2	70.0 to 130.				
BENZO(A)ANTHRACENE	.084708	.099	85.6	70.0 to 130.				
CHRYSENE	.098139	.099	99.1	70.0 to 130.				
BENZO(E)PYRENE	.095759	.1	95.8	70.0 to 130.				
BENZO(B)FLUORANTHENE	.094213	.099	95.2	70.0 to 130.				
BENZO(K)FLUORANTHENE	.078083	.099	78.9	70.0 to 130.				
BENZO(A)PYRENE	.087529	.099	88.4	70.0 to 130.				
DIBENZ(A,H)ANTHRACENE	.094515	.099	95.5	70.0 to 130.				
BENZO(G,H,I)PERYLENE	.085652	.099	86.5	70.0 to 130.				
ACENAPHTHYLENE	.111893	.099	113	70.0 to 130.				
INDENO-1,2,3-CD-PYRENE	.084498	.099	85.4	70.0 to 130.				
ACENAPHTHENE	.104267	.1	104	70.0 to 130.				
FLUORENE	.101126	.098	103	70.0 to 130.				
PHENANTHRENE	.101620	.098	104	70.0 to 130.				
ANTHRACENE	.119182	.099	120	70.0 to 130.				
FLUORANTHENE	.082938	.098	84.6	70.0 to 130.				
1-NITROPYRENE	.070205	.099	70.9	70.0 to 130.				

Sample: WG340374-2 **Spikelot:** IH609142-1
QC Type: CCV **Raw File:**
Analysis date 03/01/16 15:36:34 **Approval Status:** YES
Instrument: LC5

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
NAPHTHALENE	4.64698	4.95	93.9	88.5 to 120.				
PYRENE	4.80720	4.95	97.1	92.5 to 125.				
BENZO(A)ANTHRACENE	5.12689	4.95	104	93.7 to 119.				
CHRYSENE	4.73052	4.95	95.6	88.9 to 118.				
BENZO(E)PYRENE	4.71119	4.9995	94.2	90.6 to 127.				
BENZO(B)FLUORANTHENE	4.84501	4.95	97.9	93.8 to 125.				
BENZO(K)FLUORANTHENE	4.67702	4.95	94.5	88.2 to 117.				
BENZO(A)PYRENE	4.54946	4.95	91.9	83.3 to 137.				
DIBENZ(A,H)ANTHRACENE	4.72429	4.95	95.4	85.0 to 120.				
BENZO(G,H,I)PERYLENE	4.69343	4.95	94.8	88.6 to 123.				
INDENO-1,2,3-CD-PYRENE	4.92708	4.95	99.5	94.8 to 127.				

Sample: WG340374-2 **Spikelot:** IH609142-1
QC Type: CCV **Raw File:**
Analysis date 03/01/16 15:36:34 **Approval Status:** YES
Instrument: LC5

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
ACENAPHTHYLENE	4.73420	4.95	95.6	89.8 to 117.				
ACENAPHTHENE	4.85136	4.9995	97	87.1 to 119.				
FLUORENE	4.85786	4.9	99.1	92.7 to 123.				
PHENANTHRENE	4.77413	4.9	97.4	91.1 to 120.				
ANTHRACENE	5.55694	4.95	112	91.4 to 130.				
FLUORANTHENE	4.63223	4.9	94.5	92.0 to 120.				
1-NITROPYRENE	4.80328	4.95	97	86.8 to 123.				

Sample: WG340370-2 **Spikelot:** NA
QC Type: MBLANK **Raw File:**
Analysis date 03/01/16 16:36:26 **Approval Status:** YES
Instrument: LC5

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
BENZO(A)ANTHRACENE(FRONT)	.190906	<.3						
BENZO(A)ANTHRACENE(BACK)	.080199	<.3						
ACENAPHTHENE(FRONT)	0	<.3						
ACENAPHTHENE(BACK)	0	<.3						
ACENAPHTHYLENE(FRONT)	0	<.3						
ACENAPHTHYLENE(BACK)	0	<.3						
ANTHRACENE(FRONT)	0	<.3						
ANTHRACENE(BACK)	0	<.3						
BENZO(A)PYRENE(FRONT)	0	<.3						
BENZO(A)PYRENE(BACK)	0	<.3						
BENZO(B)FLUORANTHENE(FRONT)	0	<.3						
BENZO(B)FLUORANTHENE(BACK)	0	<.3						
BENZO(E)PYRENE(FRONT)	0	<.3						
BENZO(E)PYRENE(BACK)	0	<.3						
BENZO(G,H,I)PERYLENE(FRONT)	0	<.3						
BENZO(G,H,I)PERYLENE(BACK)	0	<.3						
BENZO(K)FLUORANTHENE(FRONT)	0	<.3						
BENZO(K)FLUORANTHENE(BACK)	0	<.3						
CHRYSENE(FRONT)	0	<.3						
CHRYSENE(BACK)	0	<.3						
DIBENZ(A,H)ANTHRACENE(FRONT)	0	<.3						
DIBENZ(A,H)ANTHRACENE(BACK)	0	<.3						

Sample: WG340370-2 **Spikelot:** NA
QC Type: MBLANK **Raw File:**
Analysis date 03/01/16 16:36:26 **Approval Status:** YES
Instrument: LC5

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
FLUORANTHENE(FRONT)	0	<.3						
FLUORANTHENE(BACK)	0	<.3						
FLUORENE(FRONT)	0	<.3						
FLUORENE(BACK)	0	<.3						
INDENO-1,2,3-CD-PYRENE(FRONT)	0	<.3						
INDENO-1,2,3-CD-PYRENE(BACK)	0	<.3						
NAPHTHALENE(FRONT)	0	<.3						
NAPHTHALENE(BACK)	0	<.3						
1-NITROPYRENE(FRONT)	0	<.3						
1-NITROPYRENE(BACK)	0	<.3						
PHENANTHRENE(FRONT)	0	<.3						
PHENANTHRENE(BACK)	0	<.3						
PYRENE(FRONT)	0	<.3						
PYRENE(BACK)	.122083	<.3						

Sample: WG340370-3 **Spikelot:** IH610903
QC Type: BS **Raw File:**
Analysis date 03/01/16 17:16:24 **Approval Status:** YES
Instrument: LC5

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
NAPHTHALENE	4.74967	4.95	96		96.9	85.2 to 125		
BENZO(A)ANTHRACENE	5.05140	4.95	102		104	85.3 to 134		
CHRYSENE	4.86544	4.95	98.3		100	86.7 to 129		
BENZO(E)PYRENE	4.83883	4.9995	96.8		98.8	82.4 to 140		
BENZO(B)FLUORANTHENE	4.95055	4.95	100		103	85.0 to 142		
BENZO(K)FLUORANTHENE	5.11614	4.95	103		107	85.3 to 132		
BENZO(A)PYRENE	5.07565	4.95	103		105	76.5 to 154		
DIBENZ(A,H)ANTHRACENE	4.81419	4.95	97.3		98.2	79.8 to 127		
BENZO(G,H,I)PERYLENE	4.91806	4.95	99.4		103	81.7 to 142		
INDENO-1,2,3-CD-PYRENE	4.82972	4.95	97.6		98.6	83.3 to 142		
ACENAPHTHYLENE	4.74096	4.95	95.8		93.9	82.8 to 118		
ACENAPHTHENE	4.93955	4.9995	98.8		96.9	82.3 to 125		
FLUORENE	4.91711	4.9	100		103	90.7 to 128		
PHENANTHRENE	5.02911	4.9	103		105	87.8 to 128		
ANTHRACENE	5.77780	4.95	117		119	90.2 to 137		

Sample: WG340370-3 **Spikelot:** IH610903
QC Type: BS **Raw File:**
Analysis date 03/01/16 17:16:24 **Approval Status:** YES
Instrument: LC5

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
FLUORANTHENE	4.82127	4.9	98.4		100	85.5 to 134		
1-NITROPYRENE	4.88579	4.95	98.7		99.7	82.7 to 131		
PYRENE	4.82700	4.95	97.5		98.5	89.7 to 134		

Sample: WG340370-4 **Spikelot:** IH610903
QC Type: BSD **Raw File:**
Analysis date 03/01/16 17:36:23 **Approval Status:** YES
Instrument: LC5

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
NAPHTHALENE	4.68959	4.95	94.7		95.7	85.2 to 125	1.25	-10 to 10.0
BENZO(A)ANTHRACENE	4.99467	4.95	101		103	85.3 to 134	.966	-10 to 10.0
CHRYSENE	4.77447	4.95	96.5		98.4	86.7 to 129	1.61	-10 to 10.0
BENZO(E)PYRENE	4.76631	4.9995	95.3		97.3	82.4 to 140	1.53	-10 to 10.0
BENZO(B)FLUORANTHENE	4.91666	4.95	99.3		102	85.0 to 142	.976	-10 to 10.0
BENZO(K)FLUORANTHENE	4.87202	4.95	98.4		101	85.3 to 132	5.77	-10 to 10.0
BENZO(A)PYRENE	4.86129	4.95	98.2		100	76.5 to 154	4.88	-10 to 10.0
DIBENZ(A,H)ANTHRACENE	4.82043	4.95	97.4		98.4	79.8 to 127	-.203	-11.5 to 9.87
BENZO(G,H,I)PERYLENE	5.01124	4.95	101		105	81.7 to 142	-1.92	-10 to 10.0
INDENO-1,2,3-CD-PYRENE	4.95320	4.95	100		101	83.3 to 142	-2.4	-10 to 10.0
ACENAPHTHYLENE	4.74175	4.95	95.8		93.9	82.8 to 118	0	-10 to 10.0
ACENAPHTHENE	4.93851	4.9995	98.8		96.8	82.3 to 125	.103	-10 to 10.0
FLUORENE	4.90712	4.9	100		103	90.7 to 128	0	-10 to 10.0
PHENANTHRENE	4.80605	4.9	98.1		100	87.8 to 128	4.88	-10 to 10.0
ANTHRACENE	5.67323	4.95	115		117	90.2 to 137	1.69	-10 to 10.0
FLUORANTHENE	4.76037	4.9	97.2		99.1	85.5 to 134	.904	-10 to 10.0
1-NITROPYRENE	4.98184	4.95	101		102	82.7 to 131	-2.28	-10 to 10.0
PYRENE	4.95296	4.95	100		101	89.7 to 134	-2.51	-10.4 to 8.90

Sample: WG340370-5 **Spikelot:** IH610903
QC Type: BS **Raw File:**
Analysis date 03/01/16 17:56:23 **Approval Status:** YES
Instrument: LC5

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
NAPHTHALENE	4.48011	4.95	90.5		98.4	85.2 to 125		
BENZO(A)ANTHRACENE	4.20564	4.95	85		109	85.3 to 134		

Sample: WG340370-5 **Spikelot:** IH610903
QC Type: BS **Raw File:**
Analysis date 03/01/16 17:56:23 **Approval Status:** YES
Instrument: LC5

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
CHRYSENE	3.88788	4.95	78.5		102	86.7 to 129		
BENZO(E)PYRENE	3.47771	4.9995	69.6		102	82.4 to 140		
BENZO(B)FLUORANTHENE	3.78351	4.95	76.4		106	85.0 to 142		
BENZO(K)FLUORANTHENE	3.79193	4.95	76.6		106	85.3 to 132		
BENZO(A)PYRENE	3.38720	4.95	68.4		104	76.5 to 154		
DIBENZ(A,H)ANTHRACENE	3.33445	4.95	67.4		93.6	79.8 to 127		
BENZO(G,H,I)PERYLENE	2.83004	4.95	57.2		96.9	81.7 to 142		
INDENO-1,2,3-CD-PYRENE	3.12219	4.95	63.1		98.6	83.3 to 142		
ACENAPHTHYLENE	4.45863	4.95	90.1		93.8	82.8 to 118		
ACENAPHTHENE	4.49856	4.9995	90		100	82.3 to 125		
FLUORENE	4.56242	4.9	93.1		103	90.7 to 128		
PHENANTHRENE	4.38596	4.9	89.5		104	87.8 to 128		
ANTHRACENE	4.85834	4.95	98.1		115	90.2 to 137		
FLUORANTHENE	4.29134	4.9	87.6		106	85.5 to 134		
1-NITROPYRENE	4.19869	4.95	84.8		101	82.7 to 131		
PYRENE	4.02585	4.95	81.3		99.2	89.7 to 134		

Sample: WG340374-3 **Spikelot:** IH609142-1
QC Type: CCV **Raw File:**
Analysis date 03/01/16 22:16:05 **Approval Status:** YES
Instrument: LC5

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
NAPHTHALENE	4.67932	4.95	94.5	88.5 to 120.				
PYRENE	4.82732	4.95	97.5	92.5 to 125.				
BENZO(A)ANTHRACENE	5.04958	4.95	102	93.7 to 119.				
CHRYSENE	4.75947	4.95	96.2	88.9 to 118.				
BENZO(E)PYRENE	4.83693	4.9995	96.7	90.6 to 127.				
BENZO(B)FLUORANTHENE	4.90822	4.95	99.2	93.8 to 125.				
BENZO(K)FLUORANTHENE	4.79778	4.95	96.9	88.2 to 117.				
BENZO(A)PYRENE	4.84736	4.95	97.9	83.3 to 137.				
DIBENZ(A,H)ANTHRACENE	4.73860	4.95	95.7	85.0 to 120.				
BENZO(G,H,I)PERYLENE	4.73947	4.95	95.7	88.6 to 123.				
INDENO-1,2,3-CD-PYRENE	4.92021	4.95	99.4	94.8 to 127.				
ACENAPHTHYLENE	4.75127	4.95	96	89.8 to 117.				
ACENAPHTHENE	4.85441	4.9995	97.1	87.1 to 119.				

Sample: WG340374-3 **Spikelot:** IH609142-1
QC Type: CCV **Raw File:**
Analysis date 03/01/16 22:16:05 **Approval Status:** YES
Instrument: LC5

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
FLUORENE	4.90242	4.9	100	92.7 to 123.				
PHENANTHRENE	4.80312	4.9	98	91.1 to 120.				
ANTHRACENE	5.60475	4.95	113	91.4 to 130.				
FLUORANTHENE	4.67310	4.9	95.4	92.0 to 120.				
1-NITROPYRENE	4.78544	4.95	96.7	86.8 to 123.				

Sample: WG340372-2 **Spikelot:** NA
QC Type: MBLANK **Raw File:**
Analysis date 03/01/16 22:56:02 **Approval Status:** YES
Instrument: LC5

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
BENZO(A)PYRENE(RAW)	.158328	<0.3						
ANTHRACENE(RAW)	0	<0.3						
CHRYSENE(RAW)	0	<0.3						
PHENANTHRENE(RAW)	0	<0.3						
PYRENE(RAW)	0	<0.3						

Sample: WG340372-3 **Spikelot:** IH610903
QC Type: BS **Raw File:**
Analysis date 03/01/16 23:16:00 **Approval Status:** YES
Instrument: LC5

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
PYRENE	4.89110	4.95	98.8		102	86.3 to 130		
CHRYSENE	4.85607	4.95	98.1		99.1	86.3 to 122		
BENZO(A)PYRENE	5.09415	4.95	103		105	87.7 to 133		
PHENANTHRENE	4.89147	4.9	99.8		101	87.5 to 120		
ANTHRACENE	5.67792	4.95	115		117	95.7 to 128		

Sample: WG340372-4 **Spikelot:** IH610903
QC Type: BSD **Raw File:**
Analysis date 03/01/16 23:35:58 **Approval Status:** YES
Instrument: LC5

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
PYRENE	4.86028	4.95	98.2		101	86.3 to 130	.985	-20 to 20.0
CHRYSENE	4.80711	4.95	97.1		98.1	86.3 to 122	1.01	-20 to 20.0
BENZO(A)PYRENE	4.94440	4.95	99.9		102	87.7 to 133	2.9	-10 to 10.0

Sample: WG340372-4 **Spikelot:** IH610903
QC Type: BSD **Raw File:**
Analysis date 03/01/16 23:35:58 **Approval Status:** YES
Instrument: LC5

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
PHENANTHRENE	4.83121	4.9	98.6		99.6	87.5 to 120	1.4	-20 to 20.0
ANTHRACENE	5.65486	4.95	114		117	95.7 to 128	0	-20 to 20.0

Sample: WG340374-4 **Spikelot:** IH609142-1
QC Type: CCV **Raw File:**
Analysis date 03/02/16 00:35:57 **Approval Status:** YES
Instrument: LC5

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
NAPHTHALENE	4.66180	4.95	94.2	88.5 to 120.				
PYRENE	4.84490	4.95	97.9	92.5 to 125.				
BENZO(A)ANTHRACENE	4.94914	4.95	100	93.7 to 119.				
CHRYSENE	4.75848	4.95	96.1	88.9 to 118.				
BENZO(E)PYRENE	4.64611	4.9995	92.9	90.6 to 127.				
BENZO(B)FLUORANTHENE	4.71532	4.95	95.3	93.8 to 125.				
BENZO(K)FLUORANTHENE	4.78250	4.95	96.6	88.2 to 117.				
BENZO(A)PYRENE	4.95663	4.95	100	83.3 to 137.				
DIBENZ(A,H)ANTHRACENE	4.73046	4.95	95.6	85.0 to 120.				
BENZO(G,H,I)PERYLENE	4.75728	4.95	96.1	88.6 to 123.				
ACENAPHTHYLENE	4.69587	4.95	94.9	89.8 to 117.				
INDENO-1,2,3-CD-PYRENE	4.89393	4.95	98.9	94.8 to 127.				
ACENAPHTHENE	4.80483	4.9995	96.1	87.1 to 119.				
FLUORENE	4.84752	4.9	98.9	92.7 to 123.				
PHENANTHRENE	4.78777	4.9	97.7	91.1 to 120.				
ANTHRACENE	5.60874	4.95	113	91.4 to 130.				
FLUORANTHENE	4.66974	4.9	95.3	92.0 to 120.				
1-NITROPYRENE	4.77484	4.95	96.5	86.8 to 123.				

Sample: WG340374-5 **Spikelot:** IH609142-2
QC Type: DLS **Raw File:**
Analysis date 03/02/16 09:40:59 **Approval Status:** YES
Instrument: LC5

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
NAPHTHALENE	.097448	.099	98.4	70.0 to 130.				
BENZO(A)ANTHRACENE	.074916	.099	75.7	70.0 to 130.				
CHRYSENE	.097664	.099	98.7	70.0 to 130.				

Sample: WG340374-5 **Spikelot:** IH609142-2
QC Type: DLS **Raw File:**
Analysis date 03/02/16 09:40:59 **Approval Status:** YES
Instrument: LC5

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
BENZO(E)PYRENE	.101640	.1	102	70.0 to 130.				
BENZO(B)FLUORANTHENE	.112557	.099	114	70.0 to 130.				
BENZO(K)FLUORANTHENE	.072973	.099	73.7	70.0 to 130.				
BENZO(A)PYRENE	.089932	.099	90.8	70.0 to 130.				
DIBENZ(A,H)ANTHRACENE	.100716	.099	102	70.0 to 130.				
BENZO(G,H,I)PERYLENE	.085421	.099	86.3	70.0 to 130.				
INDENO-1,2,3-CD-PYRENE	.077534	.099	78.3	70.0 to 130.				
ACENAPHTHYLENE	.090580	.099	91.5	70.0 to 130.				
ACENAPHTHENE	.101768	.1	102	70.0 to 130.				
FLUORENE	.106044	.098	108	70.0 to 130.				
PHENANTHRENE	.099262	.098	101	70.0 to 130.				
ANTHRACENE	.116993	.099	118	70.0 to 130.				
FLUORANTHENE	.079987	.098	81.6	70.0 to 130.				
1-NITROPYRENE	.070975	.099	71.7	70.0 to 130.				
PYRENE	.070878	.099	71.6	70.0 to 130.				

Sample: WG340374-6 **Spikelot:** IH609142-1
QC Type: CCV **Raw File:**
Analysis date 03/02/16 10:00:59 **Approval Status:** YES
Instrument: LC5

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
NAPHTHALENE	4.66522	4.95	94.2	88.5 to 120.				
PYRENE	4.98445	4.95	101	92.5 to 125.				
BENZO(A)ANTHRACENE	4.80682	4.95	97.1	93.7 to 119.				
CHRYSENE	4.78393	4.95	96.6	88.9 to 118.				
BENZO(E)PYRENE	4.84684	4.9995	96.9	90.6 to 127.				
BENZO(B)FLUORANTHENE	4.91763	4.95	99.3	93.8 to 125.				
BENZO(K)FLUORANTHENE	4.80140	4.95	97	88.2 to 117.				
BENZO(A)PYRENE	4.83225	4.95	97.6	83.3 to 137.				
DIBENZ(A,H)ANTHRACENE	4.73608	4.95	95.7	85.0 to 120.				
BENZO(G,H,I)PERYLENE	4.72593	4.95	95.5	88.6 to 123.				
ACENAPHTHYLENE	4.73662	4.95	95.7	89.8 to 117.				
INDENO-1,2,3-CD-PYRENE	4.90747	4.95	99.1	94.8 to 127.				
ACENAPHTHENE	4.88869	4.9995	97.8	87.1 to 119.				
FLUORENE	4.95544	4.9	101	92.7 to 123.				

Sample: WG340374-6 **Spikelot:** IH609142-1
QC Type: CCV **Raw File:**
Analysis date 03/02/16 10:00:59 **Approval Status:** YES
Instrument: LC5

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
PHENANTHRENE	4.84743	4.9	98.9	91.1 to 120.				
ANTHRACENE	5.61530	4.95	113	91.4 to 130.				
FLUORANTHENE	4.72225	4.9	96.4	92.0 to 120.				
1-NITROPYRENE	4.79336	4.95	96.8	86.8 to 123.				

Sample: WG340370-6 **Spikelot:** IH610903
QC Type: BSD **Raw File:**
Analysis date 03/02/16 10:20:55 **Approval Status:** YES
Instrument: LC5

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
NAPHTHALENE	4.43082	4.95	89.5		97.3	85.2 to 125	1.12	-10 to 10.0
BENZO(A)ANTHRACENE	4.01081	4.95	81		104	85.3 to 134	4.69	-10 to 10.0
CHRYSENE	3.78367	4.95	76.4		99.3	86.7 to 129	2.68	-10 to 10.0
BENZO(E)PYRENE	3.40705	4.9995	68.1		100	82.4 to 140	1.98	-10 to 10.0
BENZO(B)FLUORANTHENE	3.68948	4.95	74.5		104	85.0 to 142	1.9	-10 to 10.0
BENZO(K)FLUORANTHENE	3.57711	4.95	72.3		100	85.3 to 132	5.83	-10 to 10.0
BENZO(A)PYRENE	3.37461	4.95	68.2		103	76.5 to 154	.966	-10 to 10.0
DIBENZ(A,H)ANTHRACENE	3.19039	4.95	64.5		89.5	79.8 to 127	4.48	-11.5 to 9.87
BENZO(G,H,I)PERYLENE	2.70797	4.95	54.7		92.7	81.7 to 142	4.43	-10 to 10.0
INDENO-1,2,3-CD-PYRENE	3.07219	4.95	62.1		97	83.3 to 142	1.64	-10 to 10.0
ACENAPHTHYLENE	4.31202	4.95	87.1		90.7	82.8 to 118	3.36	-10 to 10.0
ACENAPHTHENE	4.45084	4.9995	89		98.9	82.3 to 125	1.11	-10 to 10.0
FLUORENE	4.48753	4.9	91.6		102	90.7 to 128	.976	-10 to 10.0
PHENANTHRENE	4.26641	4.9	87.1		101	87.8 to 128	2.93	-10 to 10.0
ANTHRACENE	4.85447	4.95	98.1		115	90.2 to 137	0	-10 to 10.0
FLUORANTHENE	4.21053	4.9	85.9		104	85.5 to 134	1.9	-10 to 10.0
1-NITROPYRENE	4.06287	4.95	82.1		97.7	82.7 to 131	3.32	-10 to 10.0
PYRENE	3.97789	4.95	80.4		98	89.7 to 134	1.22	-10.4 to 8.90

Sample: WG340374-7 **Spikelot:** IH609142-1
QC Type: CCV **Raw File:**
Analysis date 03/02/16 12:00:47 **Approval Status:** YES
Instrument: LC5

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
1-NITROPYRENE	4.78990	4.95	96.8	86.8 to 123.				

Sample: WG340374-7 **Spikelot:** IH609142-1

QC Type: CCV **Raw File:**

Analysis date 03/02/16 12:00:47 **Approval Status:** YES

Instrument: LC5

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
PYRENE	4.86667	4.95	98.3	92.5 to 125.				
BENZO(A)ANTHRACENE	4.93708	4.95	99.7	93.7 to 119.				
CHRYSENE	4.74951	4.95	95.9	88.9 to 118.				
BENZO(E)PYRENE	4.78488	4.9995	95.7	90.6 to 127.				
BENZO(B)FLUORANTHENE	4.88582	4.95	98.7	93.8 to 125.				
BENZO(K)FLUORANTHENE	4.76669	4.95	96.3	88.2 to 117.				
BENZO(A)PYRENE	4.95751	4.95	100	83.3 to 137.				
DIBENZ(A,H)ANTHRACENE	4.72430	4.95	95.4	85.0 to 120.				
BENZO(G,H,I)PERYLENE	4.77717	4.95	96.5	88.6 to 123.				
NAPHTHALENE	4.65873	4.95	94.1	88.5 to 120.				
INDENO-1,2,3-CD-PYRENE	4.93442	4.95	99.7	94.8 to 127.				
ACENAPHTHYLENE	4.73283	4.95	95.6	89.8 to 117.				
ACENAPHTHENE	4.81531	4.9995	96.3	87.1 to 119.				
FLUORENE	4.87320	4.9	99.5	92.7 to 123.				
PHENANTHRENE	4.81575	4.9	98.3	91.1 to 120.				
ANTHRACENE	5.60863	4.95	113	91.4 to 130.				
FLUORANTHENE	4.66025	4.9	95.1	92.0 to 120.				

GRAVIMETRICS QC SUMMARY REPORT

Login: L368327
Matnum: 306
Matrix: PVC PW 37mm
Instrument Description: Mettler MX-5, M2
Method: mod. EPA Method IP-10A; Gravimetric
Reporting Level (mg): 0.050 mg
Analysis: Particulate Matter - PM10

Type	Sample #	Analysis Date	True Value (mg)	Found Value (mg)	Difference (mg)	Control Limit (mg)
CCV	WG340501-1	3/2/2016 11:54:00	19.943	19.940	-0.003	0.008
BLANK	WG340501-3	3/2/2016 11:56:00	13.219	13.216	-0.003	-0.010
CCV	WG340501-8	3/2/2016 12:06:00	19.943	19.947	0.004	0.008
CCV	WG340501-12	3/2/2016 12:18:00	19.943	19.949	0.006	0.008

Type	Sample #	Analysis Date	Sample Result (mg)	Duplicate Result (mg)	Abs. Val. of mg Difference	Control Limit (mg)
DUP	WG340501-10	2/3/2016 12:12:00	0.270	0.270	0.000	0.004

Dup Workgroup number **Sample number**
WG340501-10 L368327-5

775741473790
Date:02/27/16
Shipper:FEDEX
Initials:KMM
Prep:UNKNOWN

149

5120 North Shore Drive
North Little Rock, AR 72118
Phone: (501) 801-8500
Fax: (501) 801-8501
Website: www.cteh.com

for Toxicology and Environmental Health L.L.C.
CHAIN OF CUSTODY AND ANALYSIS REQUEST FORM

Page ___ of ___

	Send Report To:	Send Invoice To:
Name	cconnolly@cteh.com;mberg@cteh.co	
Company	CTEH	CTEH
Address	5120 North Shore Drive North Little Rock, AR 72118	5120 North Shore Drive North Little Rock, AR 72118
Phone	(501)801-8500	(501)801-8500
Fax	(501)801-8501	(501)801-8501
e-mail	labresults@cteh.com	

CTEH Project #: 107907

Turnaround Requested:
Same Day __Next Day (24 hour) _X_ Normal
__Other (Specify) _____

Complete Data Packet Requested X Yes ☐No

Lab Contact Information:
Galson Laboratories
6601 Kirkville Road
E. Syracuse, NY 13057

Client Sample Identification	Other Sample Identification	Sample Size	Units (Check one) ____L __cm² ____	Sample Date	Sample Time (for non-air samples)	Initials	NIOSH 5506 PNAH	Mod EPA IP-10A PM10								**Matrix** A = air B = bulk S = soil SW = wipe T = tape W = water
HOTX0225PNAH001	AS16	950.2	L	02/25/16		PWW	X									A
HOTX0225PNAH002	AS12	950.8	L	02/25/16		PWW	X									A
HOTX0225PNAH003	AS07	981.7	L	02/25/16		PWW	X									A
HOTX0225PNAH004	BL	0	L	02/25/16		PWW	X									A
HOTX0225PM001	AS16	1108.5	L	02/25/16		PWW		X								A
HOTX0225PM002	AS12	1073.9	L	02/25/16		PWW		X								A
HOTX0225PM003	AS07	1389.4	L	02/25/16		PWW		X								A
HOTX0225PM004	BL	0	L	02/25/16		PWW		X								A

Samples Received in Light Sensitve Material: (Yes) or No

RELINQUISHED BY	DATE/TIME	RECEIVED BY	DATE/TIME	COMMENTS
Justin Langley	2/26/16 16:00	Fed Ex		Rec'd intact & all accounted for? (Yes) or No KM Rec'd w/custody seals intact? Yes or No NA KM Rec'd in light sensitive packaging? (Yes) or No KM Rec'd with ice pack? (Yes) or No KM Rec'd temperature compliant? (Yes) or No KM
		KMuldoon Kmuldoon	2/29/16 1625	

Mr. Charles Connolly
Center for Toxicology & Env. Health LLC
5120 North Shore Drive
North Little Rock, AR 72118

March 07, 2016

DOH ELAP #11626 Account# 13913 Login# L368670
AIHA-LAP #100324

Dear Mr. Connolly:

Enclosed are the analytical results for the samples received by our laboratory on March 03, 2016. All test results meet the quality control requirements of AIHA-LAP and NELAC unless otherwise stated in this report. All samples on the chain of custody were received in good condition unless otherwise noted.

Results in this report are based on the sampling data provided by the client and refer only to the samples as they were received at the laboratory. Unless otherwise requested, all samples will be discarded 14 days from the date of this report, with the exception of IOMs, which will be cleaned and disposed of after seven calendar days.

Current Scopes of Accreditation can be viewed at www.galsonlabs.com in the accreditations section under the "about Galson" tab.

Please contact Pamela Weaver at (888) 432-5227, if you would like any additional information regarding this report. Thank you for using SGS Galson Laboratories.

Sincerely,

SGS Galson Laboratories

Lisa Swab
Laboratory Director

Enclosure(s)

Galson Laboratories, Inc. is now a part of SGS, the world's leading inspection, verification, testing, and certification company. As part of our transition to SGS, you will begin to see some formatting changes with reports that will improve the presentation of data and allow for the transition to the new logo.

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East Syracuse, NY 13057
(315) 432-5227
FAX: (315) 437-0571
www.galsonlabs.com

LABORATORY ANALYSIS REPORT

Client : Center for Toxicology & Env. H
Site : NS
Project No. : 107907
Date Sampled : 01-MAR-16
Date Received : 03-MAR-16

Account No.: 13913
Login No. : L368670
Date Analyzed : 04-MAR-16
Report ID : 925616

Client ID : HOTXO301PNAH001 **Lab ID : L368670-1** **Air Volume : 971.3 Liter**
Date Sampled : 03/01/16 **Date Analyzed : 03/04/16**

Parameter	LOQ ug	Filter ug	Front ug	Back ug	Total ug	Conc mg/m3	ppm
1-Nitropyrene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Acenaphthene	0.3	<0.3	<0.3	<0.3	<0.3	<0.0003	<0.00005
Acenaphthylene	0.3	<0.3	<0.3	<0.3	<0.3	<0.0003	<0.00005
Anthracene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00005
Benzo(a)anthracene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Benzo(a)pyrene	0.3	<0.3	<0.3	<0.3	<0.5	<0.0005	<0.00005
Benzo(b)fluoranthene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Benzo(e)pyrene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0005	<0.00004
Benzo(g,h,i)perylene	0.3	<0.3	<0.3	<0.3	<0.5	<0.0005	<0.00005
Benzo(k)fluoranthene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Chrysene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Dibenz(a,h)anthracene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Fluoranthene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Fluorene	0.3	<0.3	<0.3	<0.3	<0.3	<0.0003	<0.00005
Indeno(1,2,3-cd)pyrene	0.3	<0.3	<0.3	<0.3	<0.5	<0.0005	<0.00004

COMMENTS: Please see attached lab footnote report for any applicable footnotes.

Collection Media: FilterTube
Date : 07-MAR-16

Submitted by: PGM
NYS DOH # : 11626

Approved by: dnf
Supervisor: MWJ QC by: AMD

< -Less Than mg -Milligrams m3 -Cubic Meters kg -Kilograms NA -Not Applicable ND -Not Detected
> -Greater Than ug -Micrograms l -Liters NS -Not Specified ppm -Parts per Million LOQ-Limit of Quantitation

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East Syracuse, NY 13057
(315) 432-5227
FAX: (315) 437-0571
www.galsonlabs.com

LABORATORY ANALYSIS REPORT

Client : Center for Toxicology & Env. H
Site : NS
Project No. : 107907
Date Sampled : 01-MAR-16
Date Received : 03-MAR-16

Account No.: 13913
Login No. : L368670
Date Analyzed : 04-MAR-16
Report ID : 925616

Client ID : HOTXO301PNAH001 **Lab ID : L368670-1** **Air Volume : 971.3 Liter**
Date Sampled : 03/01/16 **Date Analyzed : 03/04/16**

Parameter	LOQ ug	Filter ug	Front ug	Back ug	Total ug	Conc mg/m3	ppm
Naphthalene	0.3	<0.3	<0.3	<0.3	<0.3	<0.0003	<0.00006
Phenanthrene	0.3	<0.3	<0.3	<0.3	<0.3	<0.0004	<0.00005
Pyrene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00005

COMMENTS: Please see attached lab footnote report for any applicable footnotes.

Collection Media: FilterTube
Date : 07-MAR-16

Submitted by: PGM
NYS DOH # : 11626

Approved by: dnf
Supervisor: MWJ QC by: AMD

< -Less Than mg -Milligrams m3 -Cubic Meters kg -Kilograms NA -Not Applicable ND -Not Detected
> -Greater Than ug -Micrograms l -Liters NS -Not Specified ppm -Parts per Million LOQ-Limit of Quantitation

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LABORATORY ANALYSIS REPORT

Client : Center for Toxicology & Env. H
Site : NS
Project No. : 107907
Date Sampled : 01-MAR-16
Date Received : 03-MAR-16

Account No.: 13913
Login No. : L368670
Date Analyzed : 04-MAR-16
Report ID : 925616

Client ID : HOTXO301PNAH002 **Lab ID : L368670-2** **Air Volume : 957 Liter**
Date Sampled : 03/01/16 **Date Analyzed : 03/04/16**

Parameter	LOQ ug	Filter ug	Front ug	Back ug	Total ug	Conc mg/m3	ppm
1-Nitropyrene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Acenaphthene	0.3	<0.3	<0.3	<0.3	<0.3	<0.0003	<0.00006
Acenaphthylene	0.3	<0.3	<0.3	<0.3	<0.3	<0.0003	<0.00005
Anthracene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00005
Benzo(a)anthracene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Benzo(a)pyrene	0.3	<0.3	<0.3	<0.3	<0.5	<0.0005	<0.00005
Benzo(b)fluoranthene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Benzo(e)pyrene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0005	<0.00004
Benzo(g,h,i)perylene	0.3	<0.3	<0.3	<0.3	<0.5	<0.0005	<0.00005
Benzo(k)fluoranthene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Chrysene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Dibenz(a,h)anthracene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Fluoranthene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00005
Fluorene	0.3	<0.3	<0.3	<0.3	<0.3	<0.0003	<0.00005
Indeno(1,2,3-cd)pyrene	0.3	<0.3	<0.3	<0.3	<0.5	<0.0005	<0.00004

COMMENTS: Please see attached lab footnote report for any applicable footnotes.

Collection Media: FilterTube
Date : 07-MAR-16

Submitted by: PGM
NYS DOH # : 11626

Approved by: dnf
Supervisor: MWJ QC by: AMD

< -Less Than mg -Milligrams m3 -Cubic Meters kg -Kilograms NA -Not Applicable ND -Not Detected
> -Greater Than ug -Micrograms l -Liters NS -Not Specified ppm -Parts per Million LOQ-Limit of Quantitation

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LABORATORY ANALYSIS REPORT

Client : Center for Toxicology & Env. H
Site : NS
Project No. : 107907
Date Sampled : 01-MAR-16
Date Received : 03-MAR-16

Account No.: 13913
Login No. : L368670
Date Analyzed : 04-MAR-16
Report ID : 925616

Client ID : HOTXO301PNAH002 **Lab ID : L368670-2** **Air Volume : 957 Liter**
Date Sampled : 03/01/16 **Date Analyzed : 03/04/16**

Parameter	LOQ ug	Filter ug	Front ug	Back ug	Total ug	Conc mg/m3	ppm
Naphthalene	0.3	<0.3	<0.3	<0.3	<0.3	<0.0003	<0.00007
Phenanthrene	0.3	<0.3	<0.3	<0.3	<0.3	<0.0004	<0.00005
Pyrene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00005

COMMENTS: Please see attached lab footnote report for any applicable footnotes.

Collection Media: FilterTube
Date : 07-MAR-16

Submitted by: PGM
NYS DOH # : 11626

Approved by: dnf
Supervisor: MWJ QC by: AMD

< -Less Than mg -Milligrams m3 -Cubic Meters kg -Kilograms NA -Not Applicable ND -Not Detected
> -Greater Than ug -Micrograms l -Liters NS -Not Specified ppm -Parts per Million LOQ-Limit of Quantitation

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LABORATORY ANALYSIS REPORT

Client : Center for Toxicology & Env. H
Site : NS
Project No. : 107907
Date Sampled : 01-MAR-16
Date Received : 03-MAR-16

Account No.: 13913
Login No. : L368670
Date Analyzed : 04-MAR-16
Report ID : 925616

Client ID : HOTXO301PNAH003 **Lab ID : L368670-3** **Air Volume : 959.2 Liter**
Date Sampled : 03/01/16 **Date Analyzed : 03/04/16**

Parameter	LOQ ug	Filter ug	Front ug	Back ug	Total ug	Conc mg/m3	ppm
1-Nitropyrene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Acenaphthene	0.3	<0.3	<0.3	<0.3	<0.3	<0.0003	<0.00006
Acenaphthylene	0.3	<0.3	<0.3	<0.3	<0.3	<0.0003	<0.00005
Anthracene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00005
Benzo(a)anthracene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Benzo(a)pyrene	0.3	<0.3	<0.3	<0.3	<0.5	<0.0005	<0.00005
Benzo(b)fluoranthene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Benzo(e)pyrene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0005	<0.00004
Benzo(g,h,i)perylene	0.3	<0.3	<0.3	<0.3	<0.5	<0.0005	<0.00005
Benzo(k)fluoranthene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Chrysene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Dibenz(a,h)anthracene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Fluoranthene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00005
Fluorene	0.3	<0.3	<0.3	<0.3	<0.3	<0.0003	<0.00005
Indeno(1,2,3-cd)pyrene	0.3	<0.3	<0.3	<0.3	<0.5	<0.0005	<0.00004

COMMENTS: Please see attached lab footnote report for any applicable footnotes.

Collection Media: FilterTube
Date : 07-MAR-16

Submitted by: PGM
NYS DOH # : 11626

Approved by: dnf
Supervisor: MWJ QC by: AMD

< -Less Than mg -Milligrams m3 -Cubic Meters kg -Kilograms NA -Not Applicable ND -Not Detected
> -Greater Than ug -Micrograms l -Liters NS -Not Specified ppm -Parts per Million LOQ-Limit of Quantitation

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LABORATORY ANALYSIS REPORT

Client : Center for Toxicology & Env. H
Site : NS
Project No. : 107907
Date Sampled : 01-MAR-16
Date Received : 03-MAR-16

Account No.: 13913
Login No. : L368670
Date Analyzed : 04-MAR-16
Report ID : 925616

Client ID : HOTXO301PNAH003 **Lab ID : L368670-3** **Air Volume : 959.2 Liter**
Date Sampled : 03/01/16 **Date Analyzed : 03/04/16**

Parameter	LOQ ug	Filter ug	Front ug	Back ug	Total ug	Conc mg/m3	ppm
Naphthalene	0.3	<0.3	<0.3	<0.3	<0.3	<0.0003	<0.00006
Phenanthrene	0.3	<0.3	<0.3	<0.3	<0.3	<0.0004	<0.00005
Pyrene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00005

COMMENTS: Please see attached lab footnote report for any applicable footnotes.

Collection Media: FilterTube
Date : 07-MAR-16

Submitted by: PGM
NYS DOH # : 11626

Approved by: dnf
Supervisor: MWJ QC by: AMD

< -Less Than mg -Milligrams m3 -Cubic Meters kg -Kilograms NA -Not Applicable ND -Not Detected
> -Greater Than ug -Micrograms l -Liters NS -Not Specified ppm -Parts per Million LOQ-Limit of Quantitation

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LABORATORY ANALYSIS REPORT

Client : Center for Toxicology & Env. H
Site : NS
Project No. : 107907
Date Sampled : 01-MAR-16
Date Received : 03-MAR-16

Account No.: 13913
Login No. : L368670
Date Analyzed : 04-MAR-16
Report ID : 925616

Client ID : HOTXO301PNAH004 **Lab ID : L368670-4** **Air Volume : NA**
Date Sampled : 03/01/16 **Date Analyzed : 03/04/16**

Parameter	LOQ ug	Filter ug	Front ug	Back ug	Total ug	Conc mg/m3	ppm
1-Nitropyrene	0.3	<0.3	<0.3	<0.3	<0.4	NA	NA
Acenaphthene	0.3	<0.3	<0.3	<0.3	<0.3	NA	NA
Acenaphthylene	0.3	<0.3	<0.3	<0.3	<0.3	NA	NA
Anthracene	0.3	<0.3	<0.3	<0.3	<0.4	NA	NA
Benzo(a)anthracene	0.3	<0.3	<0.3	<0.3	<0.4	NA	NA
Benzo(a)pyrene	0.3	<0.3	<0.3	<0.3	<0.5	NA	NA
Benzo(b)fluoranthene	0.3	<0.3	<0.3	<0.3	<0.4	NA	NA
Benzo(e)pyrene	0.3	<0.3	<0.3	<0.3	<0.4	NA	NA
Benzo(g,h,i)perylene	0.3	<0.3	<0.3	<0.3	<0.5	NA	NA
Benzo(k)fluoranthene	0.3	<0.3	<0.3	<0.3	<0.4	NA	NA
Chrysene	0.3	<0.3	<0.3	<0.3	<0.4	NA	NA
Dibenz(a,h)anthracene	0.3	<0.3	<0.3	<0.3	<0.4	NA	NA
Fluoranthene	0.3	<0.3	<0.3	<0.3	<0.4	NA	NA
Fluorene	0.3	<0.3	<0.3	<0.3	<0.3	NA	NA
Indeno(1,2,3-cd)pyrene	0.3	<0.3	<0.3	<0.3	<0.5	NA	NA

COMMENTS: Please see attached lab footnote report for any applicable footnotes.

Collection Media: FilterTube
Date : 07-MAR-16

Submitted by: PGM
NYS DOH # : 11626

Approved by: dnf
Supervisor: MWJ QC by: AMD

< -Less Than mg -Milligrams m3 -Cubic Meters kg -Kilograms NA -Not Applicable ND -Not Detected
> -Greater Than ug -Micrograms l -Liters NS -Not Specified ppm -Parts per Million LOQ-Limit of Quantitation

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LABORATORY ANALYSIS REPORT

Client : Center for Toxicology & Env. H
Site : NS
Project No. : 107907
Date Sampled : 01-MAR-16
Date Received : 03-MAR-16

Account No.: 13913
Login No. : L368670
Date Analyzed : 04-MAR-16
Report ID : 925616

Client ID : HOTXO301PNAH004 **Lab ID : L368670-4** **Air Volume : NA**
Date Sampled : 03/01/16 **Date Analyzed : 03/04/16**

Parameter	LOQ ug	Filter ug	Front ug	Back ug	Total ug	Conc mg/m3	ppm
Naphthalene	0.3	<0.3	<0.3	<0.3	<0.3	NA	NA
Phenanthrene	0.3	<0.3	<0.3	<0.3	<0.3	NA	NA
Pyrene	0.3	<0.3	<0.3	<0.3	<0.4	NA	NA

COMMENTS: Please see attached lab footnote report for any applicable footnotes.

Collection Media: FilterTube
Date : 07-MAR-16

Submitted by: PGM
NYS DOH # : 11626

Approved by: dnf
Supervisor: MWJ QC by: AMD

< -Less Than mg -Milligrams m3 -Cubic Meters kg -Kilograms NA -Not Applicable ND -Not Detected
> -Greater Than ug -Micrograms l -Liters NS -Not Specified ppm -Parts per Million LOQ-Limit of Quantitation

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LABORATORY FOOTNOTE REPORT

Client Name : Center for Toxicology & Env. Health LLC
Site :
Project No. : 107907

Date Sampled : 01-MAR-16 Account No.: 13913
Date Received: 03-MAR-16 Login No. : L368670
Date Analyzed: 04-MAR-16

Unless otherwise noted below, all quality control results associated with the samples were within established control limits or did not impact reported results.

WARNING: The sample(s) to which the findings recorded herein (the "Findings") relate was(were) drawn and / or provided by the Client or by a third party acting at the Client's direction. The Findings constitute no warranty of the sample's representativeness of any goods and strictly relate to the sample(s). The Company accepts no liability with regard to the origin or source from which the sample(s) is/are said to be extracted.

Unrounded results are carried through the calculations that yield the final result and the final result is rounded to the number of significant figures appropriate to the accuracy of the analytical method. Please note that results appearing in the columns preceeding the final result column may have been rounded and therefore, if carried through the calculations, may not yield an identical final result to the one reported.

The stated LOQs for each analyte represent the demonstrated LOQ concentrations prior to correction for desorption efficiency (if applicable).

Unless otherwise noted below, reported results have not been blank corrected for any field blank or method blank.

L368670 (Report ID: 925616):
1-Nitropyrene - Total ug corrected for a desorption efficiency of 99%.
Acenaphthene - Total ug corrected for a desorption efficiency of 102%.
Acenaphthylene - Total ug corrected for a desorption efficiency of 102%.
Anthracene - Total ug corrected for a desorption efficiency of 98%.
Benzo(a)anthracene - Total ug corrected for a desorption efficiency of 98%.
Benzo(a)pyrene - Total ug corrected for a desorption efficiency of 98%.
Benzo(b)fluoranthene - Total ug corrected for a desorption efficiency of 97%.
Benzo(e)pyrene - Total ug corrected for a desorption efficiency of 98%.
Benzo(g,h,i)perylene - Total ug corrected for a desorption efficiency of 96%.
Benzo(k)fluoranthene - Total ug corrected for a desorption efficiency of 97%.
Chrysene - Total ug corrected for a desorption efficiency of 98%.
Dibenz(a,h)anthracene - Total ug corrected for a desorption efficiency of 99%.
Fluoranthene - Total ug corrected for a desorption efficiency of 98%.
Fluorene - Total ug corrected for a desorption efficiency of 97%.
Indeno(1,2,3-cd)pyrene - Total ug corrected for a desorption efficiency of 99%.
Naphthalene - Total ug corrected for a desorption efficiency of 99%.

<	-Less Than	mg	-Milligrams	m3	-Cubic Meters	kg	-Kilograms	ppm	-Parts per Million
>	-Greater Than	ug	-Micrograms	l	-Liters	NS	-Not Specified	ND	-Not Detected	NA	-Not Applicable

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LABORATORY FOOTNOTE REPORT

Client Name : Center for Toxicology & Env. Health LLC
Site :
Project No. : 107907

Date Sampled : 01-MAR-16 Account No.: 13913
Date Received: 03-MAR-16 Login No. : L368670
Date Analyzed: 04-MAR-16

L368670 (Report ID: 925616):
Phenanthrene - Total ug corrected for a desorption efficiency of 98%.
Pyrene - Total ug corrected for a desorption efficiency of 99%.
SOPs: il-n5506(12)

L368670 (Report ID: 925616):
Accuracy and mean recovery data presented below is based on a 95% confidence interval (k=2).
The estimated uncertainty applies to the media, technology, and SOP referenced in this report
and does not account for the uncertainty associated with the sampling process.

Parameter	Accuracy	Mean Recovery
1-Nitropyrene	+/-16%	107%
Acenaphthene	+/-14.4%	104%
Acenaphthylene	+/-11.7%	100%
Anthracene	+/-15.7%	114%
Benzo(a)anthracene	+/-16.1%	110%
Benzo(a)pyrene	+/-26%	115%
Benzo(b)fluoranthene	+/-19%	113%
Benzo(e)pyrene	+/-19.2%	111%
Benzo(g,h,i)perylene	+/-20.2%	112%
Benzo(k)fluoranthene	+/-15.5%	109%
Chrysene	+/-14%	108%
Dibenz(a,h)anthracene	+/-15.6%	103%
Fluoranthene	+/-16.2%	110%
Fluorene	+/-12.4%	109%
Indeno(1,2,3-cd)pyrene	+/-19.5%	113%
Naphthalene	+/-13.3%	105%
Phenanthrene	+/-13.4%	108%
Pyrene	+/-14.6%	112%

< -Less Than mg -Milligrams m3 -Cubic Meters kg -Kilograms ppm -Parts per Million
> -Greater Than ug -Micrograms l -Liters NS -Not Specified ND -Not Detected NA -Not Applicable

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LABORATORY FOOTNOTE REPORT

Client Name : Center for Toxicology & Env. Health LLC
Site :
Project No. : 107907

Date Sampled : 01-MAR-16 Account No.: 13913
Date Received: 03-MAR-16 Login No. : L368670
Date Analyzed: 04-MAR-16

Parameter	Method	PEL
1-Nitropyrene	mod. NIOSH 5506; HPLC/UV	NA
Acenaphthene	mod. NIOSH 5506; HPLC/UV	NA
Acenaphthylene	mod. NIOSH 5506; HPLC/UV	NA
Anthracene	mod. NIOSH 5506; HPLC/UV	NA
Benzo(a)anthracene	mod. NIOSH 5506; HPLC/UV	NA
Benzo(a)pyrene	mod. NIOSH 5506; HPLC/UV	0.2 mg/m3 (TWA)
Benzo(b)fluoranthene	mod. NIOSH 5506; HPLC/UV	NA
Benzo(e)pyrene	mod. NIOSH 5506; HPLC/UV	NA
Benzo(g,h,i)perylene	mod. NIOSH 5506; HPLC/UV	NA
Benzo(k)fluoranthene	mod. NIOSH 5506; HPLC/UV	NA
Chrysene	mod. NIOSH 5506; HPLC/UV	0.2 mg/m3 (TWA)
Dibenz(a,h)anthracene	mod. NIOSH 5506; HPLC/UV	NA
Fluoranthene	mod. NIOSH 5506; HPLC/UV	NA
Fluorene	mod. NIOSH 5506; HPLC/UV	NA
Indeno(1,2,3-cd)pyrene	mod. NIOSH 5506; HPLC/UV	NA
Naphthalene	mod. NIOSH 5506; HPLC/UV	10 ppm (TWA)
Phenanthrene	mod. NIOSH 5506; HPLC/UV	NA
Pyrene	mod. NIOSH 5506; HPLC/UV	NA

< -Less Than mg -Milligrams m3 -Cubic Meters kg -Kilograms ppm -Parts per Million
> -Greater Than ug -Micrograms l -Liters NS -Not Specified ND -Not Detected NA -Not Applicable

Sample: WG340767-1 **Spikelot:** IH610903-2
QC Type: DLS **Raw File:**
Analysis date 03/04/16 16:39:25 **Approval Status:** YES
Instrument: LC5

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
NAPHTHALENE	.093295	.099	94.2	70.0 to 130.				
PYRENE	.071434	.099	72.2	70.0 to 130.				
BENZO(A)ANTHRACENE	.094699	.099	95.7	70.0 to 130.				
CHRYSENE	.104494	.099	106	70.0 to 130.				
BENZO(E)PYRENE	.097413	.1	97.4	70.0 to 130.				
BENZO(B)FLUORANTHENE	.093573	.099	94.5	70.0 to 130.				
BENZO(K)FLUORANTHENE	.094577	.099	95.5	70.0 to 130.				
BENZO(A)PYRENE	.114158	.099	115	70.0 to 130.				
DIBENZ(A,H)ANTHRACENE	.097761	.099	98.7	70.0 to 130.				
ACENAPHTHYLENE	.089452	.099	90.4	70.0 to 130.				
BENZO(G,H,I)PERYLENE	.101908	.099	103	70.0 to 130.				
INDENO-1,2,3-CD-PYRENE	.096907	.099	97.9	70.0 to 130.				
ACENAPHTHENE	.099588	.1	99.6	70.0 to 130.				
FLUORENE	.089444	.098	91.3	70.0 to 130.				
PHENANTHRENE	.103490	.098	106	70.0 to 130.				
ANTHRACENE	.114684	.099	116	70.0 to 130.				
FLUORANTHENE	.076342	.098	77.9	70.0 to 130.				
1-NITROPYRENE	.074187	.099	74.9	70.0 to 130.				

Sample: WG340767-2 **Spikelot:** IH610903-1
QC Type: CCV **Raw File:**
Analysis date 03/04/16 16:59:23 **Approval Status:** YES
Instrument: LC5

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
NAPHTHALENE	4.61081	4.95	93.1	88.5 to 120.				
PYRENE	4.85396	4.95	98.1	92.5 to 125.				
BENZO(A)ANTHRACENE	4.96335	4.95	100	93.7 to 119.				
CHRYSENE	4.75148	4.95	96	88.9 to 118.				
BENZO(E)PYRENE	4.83695	4.9995	96.7	90.6 to 127.				
BENZO(B)FLUORANTHENE	4.83838	4.95	97.7	93.8 to 125.				
BENZO(K)FLUORANTHENE	4.75555	4.95	96.1	88.2 to 117.				
BENZO(A)PYRENE	5.00328	4.95	101	83.3 to 137.				
DIBENZ(A,H)ANTHRACENE	4.66491	4.95	94.2	85.0 to 120.				
BENZO(G,H,I)PERYLENE	4.78482	4.95	96.7	88.6 to 123.				
INDENO-1,2,3-CD-PYRENE	4.87701	4.95	98.5	94.8 to 127.				

Sample: WG340767-2 **Spikelot:** IH610903-1
QC Type: CCV **Raw File:**
Analysis date 03/04/16 16:59:23 **Approval Status:** YES
Instrument: LC5

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
ACENAPHTHYLENE	4.74744	4.95	95.9	89.8 to 117.				
ACENAPHTHENE	4.80126	4.9995	96	87.1 to 119.				
FLUORENE	4.78405	4.9	97.6	92.7 to 123.				
PHENANTHRENE	4.78054	4.9	97.6	91.1 to 120.				
ANTHRACENE	5.61289	4.95	113	91.4 to 130.				
FLUORANTHENE	4.72484	4.9	96.4	92.0 to 120.				
1-NITROPYRENE	4.51339	4.95	91.2	86.8 to 123.				

Sample: WG340765-2 **Spikelot:** NA
QC Type: MBLANK **Raw File:**
Analysis date 03/04/16 17:59:16 **Approval Status:** YES
Instrument: LC5

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
ACENAPHTHENE(FRONT)	0	<.3						
ACENAPHTHENE(BACK)	0	<.3						
ACENAPHTHYLENE(FRONT)	0	<.3						
ACENAPHTHYLENE(BACK)	0	<.3						
ANTHRACENE(FRONT)	0	<.3						
ANTHRACENE(BACK)	0	<.3						
BENZO(A)ANTHRACENE(FRONT)	0	<.3						
BENZO(A)ANTHRACENE(BACK)	0	<.3						
BENZO(A)PYRENE(FRONT)	0	<.3						
BENZO(A)PYRENE(BACK)	0	<.3						
BENZO(B)FLUORANTHENE(FRONT)	0	<.3						
BENZO(B)FLUORANTHENE(BACK)	0	<.3						
BENZO(E)PYRENE(FRONT)	0	<.3						
BENZO(E)PYRENE(BACK)	0	<.3						
BENZO(G,H,I)PERYLENE(FRONT)	0	<.3						
BENZO(G,H,I)PERYLENE(BACK)	0	<.3						
BENZO(K)FLUORANTHENE(FRONT)	0	<.3						
BENZO(K)FLUORANTHENE(BACK)	0	<.3						
CHRYSENE(FRONT)	0	<.3						
CHRYSENE(BACK)	0	<.3						
DIBENZ(A,H)ANTHRACENE(FRONT)	0	<.3						
DIBENZ(A,H)ANTHRACENE(BACK)	0	<.3						

Sample: WG340765-2 **Spikelot:** NA
QC Type: MBLANK **Raw File:**
Analysis date 03/04/16 17:59:16 **Approval Status:** YES
Instrument: LC5

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
FLUORANTHENE(FRONT)	0	<.3						
FLUORANTHENE(BACK)	0	<.3						
FLUORENE(FRONT)	0	<.3						
FLUORENE(BACK)	0	<.3						
INDENO-1,2,3-CD-PYRENE(FRONT)	0	<.3						
INDENO-1,2,3-CD-PYRENE(BACK)	0	<.3						
NAPHTHALENE(FRONT)	0	<.3						
NAPHTHALENE(BACK)	0	<.3						
1-NITROPYRENE(FRONT)	0	<.3						
1-NITROPYRENE(BACK)	0	<.3						
PHENANTHRENE(FRONT)	0	<.3						
PHENANTHRENE(BACK)	0	<.3						
PYRENE(FRONT)	0	<.3						
PYRENE(BACK)	0	<.3						

Sample: WG340765-3 **Spikelot:** IH610903
QC Type: BS **Raw File:**
Analysis date 03/04/16 18:39:11 **Approval Status:** YES
Instrument: LC5

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
NAPHTHALENE	4.70479	4.95	95		96	85.2 to 125		
PYRENE	4.92283	4.95	99.5		100	89.7 to 134		
BENZO(A)ANTHRACENE	5.00846	4.95	101		103	85.3 to 134		
CHRYSENE	4.84843	4.95	97.9		99.9	86.7 to 129		
BENZO(E)PYRENE	4.93586	4.9995	98.7		101	82.4 to 140		
BENZO(B)FLUORANTHENE	4.93167	4.95	99.6		103	85.0 to 142		
BENZO(K)FLUORANTHENE	4.88320	4.95	98.7		102	85.3 to 132		
BENZO(A)PYRENE	5.08453	4.95	103		105	76.5 to 154		
DIBENZ(A,H)ANTHRACENE	4.75044	4.95	96		96.9	79.8 to 127		
BENZO(G,H,I)PERYLENE	4.83070	4.95	97.6		102	81.7 to 142		
INDENO-1,2,3-CD-PYRENE	4.92397	4.95	99.5		100	83.3 to 142		
ACENAPHTHYLENE	4.70950	4.95	95.1		93.3	82.8 to 118		
ACENAPHTHENE	4.90451	4.9995	98.1		96.2	82.3 to 125		
FLUORENE	4.85877	4.9	99.2		102	90.7 to 128		
PHENANTHRENE	4.85215	4.9	99		101	87.8 to 128		

Sample: WG340765-3 **Spikelot:** IH610903
QC Type: BS **Raw File:**
Analysis date 03/04/16 18:39:11 **Approval Status:** YES
Instrument: LC5

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
ANTHRACENE	5.74921	4.95	116		119	90.2 to 137		
FLUORANTHENE	4.80527	4.9	98.1		100	85.5 to 134		
1-NITROPYRENE	4.56156	4.95	92.2		93.1	82.7 to 131		

Sample: WG340765-4 **Spikelot:** IH610903
QC Type: BSD **Raw File:**
Analysis date 03/04/16 18:59:09 **Approval Status:** YES
Instrument: LC5

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
NAPHTHALENE	4.68376	4.95	94.6		95.6	85.2 to 125	.418	-10 to 10.0
BENZO(A)ANTHRACENE	5.07392	4.95	103		105	85.3 to 134	-1.92	-10 to 10.0
CHRYSENE	4.87051	4.95	98.4		100	86.7 to 129	-.1	-10 to 10.0
BENZO(E)PYRENE	4.92225	4.9995	98.5		100	82.4 to 140	.995	-10 to 10.0
BENZO(B)FLUORANTHENE	4.93696	4.95	99.7		103	85.0 to 142	0	-10 to 10.0
BENZO(K)FLUORANTHENE	4.94962	4.95	100		103	85.3 to 132	-.976	-10 to 10.0
BENZO(A)PYRENE	5.18458	4.95	105		107	76.5 to 154	-1.89	-10 to 10.0
DIBENZ(A,H)ANTHRACENE	4.76217	4.95	96.2		97.2	79.8 to 127	-.309	-11.5 to 9.87
BENZO(G,H,I)PERYLENE	4.98893	4.95	101		105	81.7 to 142	-2.9	-10 to 10.0
INDENO-1,2,3-CD-PYRENE	5.04567	4.95	102		103	83.3 to 142	-2.96	-10 to 10.0
ACENAPHTHYLENE	4.69721	4.95	94.9		93	82.8 to 118	.322	-10 to 10.0
ACENAPHTHENE	4.89888	4.9995	98		96.1	82.3 to 125	.104	-10 to 10.0
FLUORENE	4.85734	4.9	99.1		102	90.7 to 128	0	-10 to 10.0
PHENANTHRENE	4.85271	4.9	99		101	87.8 to 128	0	-10 to 10.0
ANTHRACENE	5.72599	4.95	116		118	90.2 to 137	.844	-10 to 10.0
FLUORANTHENE	4.83515	4.9	98.7		101	85.5 to 134	-.995	-10 to 10.0
1-NITROPYRENE	4.54925	4.95	91.9		92.8	82.7 to 131	.323	-10 to 10.0
PYRENE	4.90359	4.95	99.1		100	89.7 to 134	0	-10.4 to 8.96

Sample: WG340765-5 **Spikelot:** IH610903
QC Type: BS **Raw File:**
Analysis date 03/04/16 19:19:08 **Approval Status:** YES
Instrument: LC5

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
NAPHTHALENE	4.44188	4.95	89.7		97.5	85.2 to 125		
PYRENE	4.00397	4.95	80.9		98.6	89.7 to 134		

Sample: WG340765-5 **Spikelot:** IH610903
QC Type: BS **Raw File:**
Analysis date 03/04/16 19:19:08 **Approval Status:** YES
Instrument: LC5

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
BENZO(A)ANTHRACENE	3.91757	4.95	79.1		101	85.3 to 134		
CHRYSENE	3.76374	4.95	76		98.7	86.7 to 129		
BENZO(E)PYRENE	3.43756	4.9995	68.8		101	82.4 to 140		
BENZO(B)FLUORANTHENE	3.61789	4.95	73.1		102	85.0 to 142		
BENZO(K)FLUORANTHENE	3.57032	4.95	72.1		100	85.3 to 132		
BENZO(A)PYRENE	3.44572	4.95	69.6		105	76.5 to 154		
DIBENZ(A,H)ANTHRACENE	3.26829	4.95	66		91.7	79.8 to 127		
BENZO(G,H,I)PERYLENE	3.02767	4.95	61.2		104	81.7 to 142		
INDENO-1,2,3-CD-PYRENE	3.20268	4.95	64.7		101	83.3 to 142		
ACENAPHTHYLENE	4.36479	4.95	88.2		91.9	82.8 to 118		
ACENAPHTHENE	4.43838	4.9995	88.8		98.6	82.3 to 125		
FLUORENE	4.41231	4.9	90		100	90.7 to 128		
PHENANTHRENE	4.32353	4.9	88.2		103	87.8 to 128		
ANTHRACENE	4.98783	4.95	101		119	90.2 to 137		
FLUORANTHENE	4.11603	4.9	84		101	85.5 to 134		
1-NITROPYRENE	3.91203	4.95	79		94.1	82.7 to 131		

Sample: WG340765-6 **Spikelot:** IH610903
QC Type: BSD **Raw File:**
Analysis date 03/04/16 19:39:07 **Approval Status:** YES
Instrument: LC5

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
NAPHTHALENE	4.46928	4.95	90.3		98.1	85.2 to 125	-.613	-10 to 10.0
BENZO(A)ANTHRACENE	3.91299	4.95	79.1		101	85.3 to 134	0	-10 to 10.0
CHRYSENE	3.78001	4.95	76.4		99.2	86.7 to 129	-.505	-10 to 10.0
BENZO(E)PYRENE	3.33045	4.9995	66.6		98	82.4 to 140	3.02	-10 to 10.0
BENZO(B)FLUORANTHENE	3.57379	4.95	72.2		100	85.0 to 142	1.98	-10 to 10.0
BENZO(K)FLUORANTHENE	3.53089	4.95	71.3		99.1	85.3 to 132	.904	-10 to 10.0
BENZO(A)PYRENE	3.41911	4.95	69.1		105	76.5 to 154	0	-10 to 10.0
DIBENZ(A,H)ANTHRACENE	3.18934	4.95	64.4		89.5	79.8 to 127	2.43	-11.5 to 9.87
BENZO(G,H,I)PERYLENE	2.92644	4.95	59.1		100	81.7 to 142	3.92	-10 to 10.0
INDENO-1,2,3-CD-PYRENE	3.09798	4.95	62.6		97.8	83.3 to 142	3.22	-10 to 10.0
ACENAPHTHYLENE	4.33321	4.95	87.5		91.2	82.8 to 118	.765	-10 to 10.0
ACENAPHTHENE	4.44193	4.9995	88.8		98.7	82.3 to 125	-.101	-10 to 10.0
FLUORENE	4.40064	4.9	89.8		99.8	90.7 to 128	.2	-10 to 10.0

Sample: WG340765-6 **Spikelot:** IH610903
QC Type: BSD **Raw File:**
Analysis date 03/04/16 19:39:07 **Approval Status:** YES
Instrument: LC5

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
PHENANTHRENE	4.25718	4.9	86.9		101	87.8 to 128	1.96	-10 to 10.0
ANTHRACENE	4.94199	4.95	99.8		117	90.2 to 137	1.69	-10 to 10.0
FLUORANTHENE	4.08334	4.9	83.3		100	85.5 to 134	.995	-10 to 10.0
1-NITROPYRENE	3.85924	4.95	78		92.8	82.7 to 131	1.39	-10 to 10.0
PYRENE	3.99046	4.95	80.6		98.3	89.7 to 134	.305	-10.4 to 8.90

Sample: WG340767-3 **Spikelot:** IH610903-1
QC Type: CCV **Raw File:**
Analysis date 03/04/16 23:58:53 **Approval Status:** YES
Instrument: LC5

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
NAPHTHALENE	4.64124	4.95	93.8	88.5 to 120.				
PYRENE	4.91838	4.95	99.4	92.5 to 125.				
BENZO(A)ANTHRACENE	4.98282	4.95	101	93.7 to 119.				
CHRYSENE	4.75818	4.95	96.1	88.9 to 118.				
BENZO(E)PYRENE	4.82395	4.9995	96.5	90.6 to 127.				
BENZO(B)FLUORANTHENE	4.78993	4.95	96.8	93.8 to 125.				
BENZO(K)FLUORANTHENE	4.77253	4.95	96.4	88.2 to 117.				
BENZO(A)PYRENE	5.00866	4.95	101	83.3 to 137.				
DIBENZ(A,H)ANTHRACENE	4.67459	4.95	94.4	85.0 to 120.				
BENZO(G,H,I)PERYLENE	4.83422	4.95	97.7	88.6 to 123.				
INDENO-1,2,3-CD-PYRENE	4.89676	4.95	98.9	94.8 to 127.				
ACENAPHTHYLENE	4.79215	4.95	96.8	89.8 to 117.				
ACENAPHTHENE	4.84738	4.9995	97	87.1 to 119.				
FLUORENE	4.79618	4.9	97.9	92.7 to 123.				
PHENANTHRENE	4.81239	4.9	98.2	91.1 to 120.				
ANTHRACENE	5.60824	4.95	113	91.4 to 130.				
FLUORANTHENE	4.75680	4.9	97.1	92.0 to 120.				
1-NITROPYRENE	4.52623	4.95	91.4	86.8 to 123.				

L3688670

R118

5120 North Shore Drive
North Little Rock, AR 72118
Phone: (501) 801-8500
Fax: (501) 801-8501
Website: www.cteh.com

Center for Toxicology and Environmental Health L.L.C.

SAMPLE CHAIN OF CUSTODY AND ANALYSIS REQUEST FORM

Page 1 of 1

	Send Report To:	Send Invoice To:
Name	cconnolly@cteh.com;mberg@cteh.co	
Company	CTEH	CTEH
Address	5120 North Shore Drive North Little Rock, AR 72118	5120 North Shore Drive North Little Rock, AR 72118
Phone	(501)801-8500	(501)801-8500
Fax	(501)801-8501	(501)801-8501
e-mail	labresults@cteh.com	

CTEH Project #: 107907 [redacted]

Turnaround Requested:
Same Day __Next Day (24 hour) ___ Normal
X Other (Specify) 2 Day

Complete Data Packet Requested X Yes ☐No

Lab Contact Information:
Galson Laboratories
6601 Kirkville Road
E. Syracuse, NY 13057

Client Sample Identification	Other Sample Identification	Sample Size	Units (Check one) ✓L / cm²	Sample Date	Sample Time (for non-air samples)	Initials	NIOSH 5506 PNAH	Matrix (A = air, B = bulk, S = soil, SW = wipe, T = tape, W = water)
HOTX0301PNAH001	AS12	971.3	L	03/01/16		JA	X	A
HOTX0301PNAH002	AS16	957	L	03/01/16		JA	X	A
HOTX0301PNAH003	AS07	959.2	L	03/01/16		JA	X	A
HOTX0301PNAH004	BL	0	L	03/01/16		JA	X	A

cancelled 3/3/16 per in vivo SK 3/3/16

Samples Received in Light Sensitive Material: Yes or No

RELINQUISHED BY	DATE/TIME	RECEIVED BY	DATE/TIME
Justin Langley	03/02/16 16:00	FedEx	
		M. Sowle	3/3/16 1055

COMMENTS
Rec'd intact & all accounted for? Yes or No SK
Rec'd w/custody seals intact? Yes or No DA
Rec'd in light sensitive packaging? Yes or No SK
Rec'd with ice pack? Yes or No SK
Rec'd temperature compliant? Yes or No SK

Mr. Charles Connolly
Center for Toxicology & Env. Health LLC
5120 North Shore Drive
North Little Rock, AR 72118

March 08, 2016

DOH ELAP #11626 Account# 13913 Login# L368739
AIHA-LAP #100324

Dear Mr. Connolly:

Enclosed are the analytical results for the samples received by our laboratory on March 04, 2016. All test results meet the quality control requirements of AIHA-LAP and NELAC unless otherwise stated in this report. All samples on the chain of custody were received in good condition unless otherwise noted.

Results in this report are based on the sampling data provided by the client and refer only to the samples as they were received at the laboratory. Unless otherwise requested, all samples will be discarded 14 days from the date of this report, with the exception of IOMs, which will be cleaned and disposed of after seven calendar days.

Current Scopes of Accreditation can be viewed at www.galsonlabs.com in the accreditations section under the "about Galson" tab.

Please contact Pamela Weaver at (888) 432-5227, if you would like any additional information regarding this report. Thank you for using SGS Galson Laboratories.

Sincerely,

SGS Galson Laboratories

Lisa Swab
Laboratory Director

Enclosure(s)

Galson Laboratories, Inc. is now a part of SGS, the world's leading inspection, verification, testing, and certification company. As part of our transition to SGS, you will begin to see some formatting changes with reports that will improve the presentation of data and allow for the transition to the new logo.

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East Syracuse, NY 13057
(315) 432-5227
FAX: (315) 437-0571
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LABORATORY ANALYSIS REPORT

Client : Center for Toxicology & Env. H
Site : NS
Project No. : 107907
Date Sampled : 02-MAR-16
Date Received : 04-MAR-16

Account No.: 13913
Login No. : L368739
Date Analyzed : 07-MAR-16 - 08-MAR-16
Report ID : 925825

Client ID : HOTX0302PNAH001 **Lab ID : L368739-1** **Air Volume : 972.3 Liter**
Date Sampled : 03/02/16 **Date Analyzed : 03/08/16**

Parameter	LOQ ug	Filter ug	Front ug	Back ug	Total ug	Conc mg/m3	ppm
1-Nitropyrene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Acenaphthene	0.3	<0.3	<0.3	<0.3	<0.3	<0.0003	<0.00005
Acenaphthylene	0.3	<0.3	<0.3	<0.3	<0.3	<0.0003	<0.00005
Anthracene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00005
Benzo(a)anthracene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Benzo(a)pyrene	0.3	<0.3	<0.3	<0.3	<0.5	<0.0005	<0.00005
Benzo(b)fluoranthene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Benzo(e)pyrene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0005	<0.00004
Benzo(g,h,i)perylene	0.3	<0.3	<0.3	<0.3	<0.5	<0.0005	<0.00005
Benzo(k)fluoranthene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Chrysene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Dibenz(a,h)anthracene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Fluoranthene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Fluorene	0.3	<0.3	<0.3	<0.3	<0.3	<0.0003	<0.00005
Indeno(1,2,3-cd)pyrene	0.3	<0.3	<0.3	<0.3	<0.5	<0.0005	<0.00004

COMMENTS: Please see attached lab footnote report for any applicable footnotes.

Collection Media: FilterTube
Date : 08-MAR-16

Submitted by: PGM
NYS DOH # : 11626

Approved by: dnf
Supervisor: MWJ QC by: KSB

< -Less Than mg -Milligrams m3 -Cubic Meters kg -Kilograms NA -Not Applicable ND -Not Detected
> -Greater Than ug -Micrograms l -Liters NS -Not Specified ppm -Parts per Million LOQ-Limit of Quantitation

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East Syracuse, NY 13057
(315) 432-5227
FAX: (315) 437-0571
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LABORATORY ANALYSIS REPORT

Client : Center for Toxicology & Env. H
Site : NS
Project No. : 107907
Date Sampled : 02-MAR-16
Date Received : 04-MAR-16

Account No.: 13913
Login No. : L368739

Date Analyzed : 07-MAR-16 - 08-MAR-16
Report ID : 925825

Client ID : HOTX0302PNAH001 **Lab ID : L368739-1** **Air Volume : 972.3 Liter**
Date Sampled : 03/02/16 **Date Analyzed : 03/08/16**

Parameter	LOQ ug	Filter ug	Front ug	Back ug	Total ug	Conc mg/m3	ppm
Naphthalene	0.3	<0.3	<0.3	<0.3	<0.3	<0.0003	<0.00006
Phenanthrene	0.3	<0.3	<0.3	<0.3	<0.3	<0.0004	<0.00005
Pyrene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00005

COMMENTS: Please see attached lab footnote report for any applicable footnotes.

Collection Media: FilterTube
Date : 08-MAR-16

Submitted by: PGM
NYS DOH # : 11626

Approved by: dnf
Supervisor: MWJ QC by: KSB

< -Less Than mg -Milligrams m3 -Cubic Meters kg -Kilograms NA -Not Applicable ND -Not Detected
> -Greater Than ug -Micrograms l -Liters NS -Not Specified ppm -Parts per Million LOQ-Limit of Quantitation

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LABORATORY ANALYSIS REPORT

Client : Center for Toxicology & Env. H
Site : NS
Project No. : 107907
Date Sampled : 02-MAR-16
Date Received : 04-MAR-16

Account No.: 13913
Login No. : L368739
Date Analyzed : 07-MAR-16 - 08-MAR-16
Report ID : 925825

Client ID : HOTX0302PNAH002 **Lab ID : L368739-2** **Air Volume : 961.8 Liter**
Date Sampled : 03/02/16 **Date Analyzed : 03/07/16**

Parameter	LOQ ug	Filter ug	Front ug	Back ug	Total ug	Conc mg/m3	ppm
1-Nitropyrene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Acenaphthene	0.3	<0.3	<0.3	<0.3	<0.3	<0.0003	<0.00005
Acenaphthylene	0.3	<0.3	<0.3	<0.3	<0.3	<0.0003	<0.00005
Anthracene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00005
Benzo(a)anthracene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Benzo(a)pyrene	0.3	<0.3	<0.3	<0.3	<0.5	<0.0005	<0.00005
Benzo(b)fluoranthene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Benzo(e)pyrene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0005	<0.00004
Benzo(g,h,i)perylene	0.3	<0.3	<0.3	<0.3	<0.5	<0.0005	<0.00005
Benzo(k)fluoranthene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Chrysene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Dibenz(a,h)anthracene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Fluoranthene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00005
Fluorene	0.3	<0.3	<0.3	<0.3	<0.3	<0.0003	<0.00005
Indeno(1,2,3-cd)pyrene	0.3	<0.3	<0.3	<0.3	<0.5	<0.0005	<0.00004

COMMENTS: Please see attached lab footnote report for any applicable footnotes.

Collection Media: FilterTube
Date : 08-MAR-16

Submitted by: PGM
NYS DOH # : 11626

Approved by: dnf
Supervisor: MWJ QC by: KSB

< -Less Than mg -Milligrams m3 -Cubic Meters kg -Kilograms NA -Not Applicable ND -Not Detected
> -Greater Than ug -Micrograms l -Liters NS -Not Specified ppm -Parts per Million LOQ-Limit of Quantitation

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LABORATORY ANALYSIS REPORT

Client : Center for Toxicology & Env. H
Site : NS
Project No. : 107907
Date Sampled : 02-MAR-16
Date Received : 04-MAR-16

Account No.: 13913
Login No. : L368739

Date Analyzed : 07-MAR-16 - 08-MAR-16
Report ID : 925825

Client ID : HOTX0302PNAH002 **Lab ID : L368739-2** **Air Volume : 961.8 Liter**
Date Sampled : 03/02/16 **Date Analyzed : 03/07/16**

Parameter	LOQ ug	Filter ug	Front ug	Back ug	Total ug	Conc mg/m3	ppm
Naphthalene	0.3	<0.3	<0.3	<0.3	<0.3	<0.0003	<0.00006
Phenanthrene	0.3	<0.3	<0.3	<0.3	<0.3	<0.0004	<0.00005
Pyrene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00005

COMMENTS: Please see attached lab footnote report for any applicable footnotes.

Collection Media: FilterTube
Date : 08-MAR-16

Submitted by: PGM
NYS DOH # : 11626

Approved by: dnf
Supervisor: MWJ QC by: KSB

< -Less Than mg -Milligrams m3 -Cubic Meters kg -Kilograms NA -Not Applicable ND -Not Detected
> -Greater Than ug -Micrograms l -Liters NS -Not Specified ppm -Parts per Million LOQ-Limit of Quantitation

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LABORATORY ANALYSIS REPORT

Client : Center for Toxicology & Env. H
Site : NS
Project No. : 107907
Date Sampled : 02-MAR-16
Date Received : 04-MAR-16

Account No.: 13913
Login No. : L368739
Date Analyzed : 07-MAR-16 - 08-MAR-16
Report ID : 925825

Client ID : HOTX0302PNAH003 **Lab ID : L368739-3** **Air Volume : 960.8 Liter**
Date Sampled : 03/02/16 **Date Analyzed : 03/07/16**

Parameter	LOQ ug	Filter ug	Front ug	Back ug	Total ug	Conc mg/m3	ppm
1-Nitropyrene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Acenaphthene	0.3	<0.3	<0.3	<0.3	<0.3	<0.0003	<0.00006
Acenaphthylene	0.3	<0.3	<0.3	<0.3	<0.3	<0.0003	<0.00005
Anthracene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00005
Benzo(a)anthracene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Benzo(a)pyrene	0.3	<0.3	<0.3	<0.3	<0.5	<0.0005	<0.00005
Benzo(b)fluoranthene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Benzo(e)pyrene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0005	<0.00004
Benzo(g,h,i)perylene	0.3	<0.3	<0.3	<0.3	<0.5	<0.0005	<0.00005
Benzo(k)fluoranthene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Chrysene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Dibenz(a,h)anthracene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Fluoranthene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00005
Fluorene	0.3	<0.3	<0.3	<0.3	<0.3	<0.0003	<0.00005
Indeno(1,2,3-cd)pyrene	0.3	<0.3	<0.3	<0.3	<0.5	<0.0005	<0.00004

COMMENTS: Please see attached lab footnote report for any applicable footnotes.

Collection Media: FilterTube
Date : 08-MAR-16

Submitted by: PGM
NYS DOH # : 11626

Approved by: dnf
Supervisor: MWJ QC by: KSB

< -Less Than mg -Milligrams m3 -Cubic Meters kg -Kilograms NA -Not Applicable ND -Not Detected
> -Greater Than ug -Micrograms l -Liters NS -Not Specified ppm -Parts per Million LOQ-Limit of Quantitation

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LABORATORY ANALYSIS REPORT

Client : Center for Toxicology & Env. H
Site : NS
Project No. : 107907
Date Sampled : 02-MAR-16
Date Received : 04-MAR-16

Account No.: 13913
Login No. : L368739

Date Analyzed : 07-MAR-16 - 08-MAR-16
Report ID : 925825

Client ID : HOTX0302PNAH003 **Lab ID : L368739-3** **Air Volume : 960.8 Liter**
Date Sampled : 03/02/16 **Date Analyzed : 03/07/16**

Parameter	LOQ ug	Filter ug	Front ug	Back ug	Total ug	Conc mg/m3	ppm
Naphthalene	0.3	<0.3	<0.3	<0.3	<0.3	<0.0003	<0.00006
Phenanthrene	0.3	<0.3	<0.3	<0.3	<0.3	<0.0004	<0.00005
Pyrene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00005

COMMENTS: Please see attached lab footnote report for any applicable footnotes.

Collection Media: FilterTube
Date : 08-MAR-16

Submitted by: PGM
NYS DOH # : 11626

Approved by: dnf
Supervisor: MWJ QC by: KSB

< -Less Than mg -Milligrams m3 -Cubic Meters kg -Kilograms NA -Not Applicable ND -Not Detected
> -Greater Than ug -Micrograms l -Liters NS -Not Specified ppm -Parts per Million LOQ-Limit of Quantitation

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LABORATORY ANALYSIS REPORT

Client : Center for Toxicology & Env. H
Site : NS
Project No. : 107907
Date Sampled : 02-MAR-16
Date Received : 04-MAR-16

Account No.: 13913
Login No. : L368739

Date Analyzed : 07-MAR-16 - 08-MAR-16
Report ID : 925825

Client ID : HOTX0302PNAH004 **Lab ID : L368739-4** **Air Volume : NA**
Date Sampled : 03/02/16 **Date Analyzed : 03/07/16**

Parameter	LOQ ug	Filter ug	Front ug	Back ug	Total ug	Conc mg/m3	ppm
1-Nitropyrene	0.3	<0.3	<0.3	<0.3	<0.4	NA	NA
Acenaphthene	0.3	<0.3	<0.3	<0.3	<0.3	NA	NA
Acenaphthylene	0.3	<0.3	<0.3	<0.3	<0.3	NA	NA
Anthracene	0.3	<0.3	<0.3	<0.3	<0.4	NA	NA
Benzo(a)anthracene	0.3	<0.3	<0.3	<0.3	<0.4	NA	NA
Benzo(a)pyrene	0.3	<0.3	<0.3	<0.3	<0.5	NA	NA
Benzo(b)fluoranthene	0.3	<0.3	<0.3	<0.3	<0.4	NA	NA
Benzo(e)pyrene	0.3	<0.3	<0.3	<0.3	<0.4	NA	NA
Benzo(g,h,i)perylene	0.3	<0.3	<0.3	<0.3	<0.5	NA	NA
Benzo(k)fluoranthene	0.3	<0.3	<0.3	<0.3	<0.4	NA	NA
Chrysene	0.3	<0.3	<0.3	<0.3	<0.4	NA	NA
Dibenz(a,h)anthracene	0.3	<0.3	<0.3	<0.3	<0.4	NA	NA
Fluoranthene	0.3	<0.3	<0.3	<0.3	<0.4	NA	NA
Fluorene	0.3	<0.3	<0.3	<0.3	<0.3	NA	NA
Indeno(1,2,3-cd)pyrene	0.3	<0.3	<0.3	<0.3	<0.5	NA	NA

COMMENTS: Please see attached lab footnote report for any applicable footnotes.

Collection Media: FilterTube
Date : 08-MAR-16

Submitted by: PGM
NYS DOH # : 11626

Approved by: dnf
Supervisor: MWJ QC by: KSB

< -Less Than mg -Milligrams m3 -Cubic Meters kg -Kilograms NA -Not Applicable ND -Not Detected
> -Greater Than ug -Micrograms l -Liters NS -Not Specified ppm -Parts per Million LOQ-Limit of Quantitation

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LABORATORY ANALYSIS REPORT

Client : Center for Toxicology & Env. H
Site : NS
Project No. : 107907
Date Sampled : 02-MAR-16
Date Received : 04-MAR-16

Account No.: 13913
Login No. : L368739

Date Analyzed : 07-MAR-16 - 08-MAR-16
Report ID : 925825

Client ID : HOTX0302PNAH004 **Lab ID : L368739-4** **Air Volume : NA**
Date Sampled : 03/02/16 **Date Analyzed : 03/07/16**

Parameter	LOQ ug	Filter ug	Front ug	Back ug	Total ug	Conc mg/m3	ppm
Naphthalene	0.3	<0.3	<0.3	<0.3	<0.3	NA	NA
Phenanthrene	0.3	<0.3	<0.3	<0.3	<0.3	NA	NA
Pyrene	0.3	<0.3	<0.3	<0.3	<0.4	NA	NA

COMMENTS: Please see attached lab footnote report for any applicable footnotes.

Collection Media: FilterTube
Date : 08-MAR-16

Submitted by: PGM
NYS DOH # : 11626

Approved by: dnf
Supervisor: MWJ QC by: KSB

< -Less Than mg -Milligrams m3 -Cubic Meters kg -Kilograms NA -Not Applicable ND -Not Detected
> -Greater Than ug -Micrograms l -Liters NS -Not Specified ppm -Parts per Million LOQ-Limit of Quantitation

GALSON LABORATORIES

6601 Kirkville Road
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LABORATORY FOOTNOTE REPORT

Client Name : Center for Toxicology & Env. Health LLC
Site :
Project No. : 107907

Date Sampled : 02-MAR-16 Account No.: 13913
Date Received: 04-MAR-16 Login No. : L368739
Date Analyzed: 07-MAR-16 - 08-MAR-16

Unless otherwise noted below, all quality control results associated with the samples were within established control limits or did not impact reported results.

WARNING: The sample(s) to which the findings recorded herein (the "Findings") relate was(were) drawn and / or provided by the Client or by a third party acting at the Client's direction. The Findings constitute no warranty of the sample's representativeness of any goods and strictly relate to the sample(s). The Company accepts no liability with regard to the origin or source from which the sample(s) is/are said to be extracted.

Unrounded results are carried through the calculations that yield the final result and the final result is rounded to the number of significant figures appropriate to the accuracy of the analytical method. Please note that results appearing in the columns preceeding the final result column may have been rounded and therefore, if carried through the calculations, may not yield an identical final result to the one reported.

The stated LOQs for each analyte represent the demonstrated LOQ concentrations prior to correction for desorption efficiency (if applicable).

Unless otherwise noted below, reported results have not been blank corrected for any field blank or method blank.

L368739 (Report ID: 925825):
1-Nitropyrene - Total ug corrected for a desorption efficiency of 99%.
Acenaphthene - Total ug corrected for a desorption efficiency of 102%.
Acenaphthylene - Total ug corrected for a desorption efficiency of 102%.
Anthracene - Total ug corrected for a desorption efficiency of 98%.
Benzo(a)anthracene - Total ug corrected for a desorption efficiency of 98%.
Benzo(a)pyrene - Total ug corrected for a desorption efficiency of 98%.
Benzo(b)fluoranthene - Total ug corrected for a desorption efficiency of 97%.
Benzo(e)pyrene - Total ug corrected for a desorption efficiency of 98%.
Benzo(g,h,i)perylene - Total ug corrected for a desorption efficiency of 96%.
Benzo(k)fluoranthene - Total ug corrected for a desorption efficiency of 97%.
Chrysene - Total ug corrected for a desorption efficiency of 98%.
Dibenz(a,h)anthracene - Total ug corrected for a desorption efficiency of 99%.
Fluoranthene - Total ug corrected for a desorption efficiency of 98%.
Fluorene - Total ug corrected for a desorption efficiency of 97%.
Indeno(1,2,3-cd)pyrene - Total ug corrected for a desorption efficiency of 99%.
Naphthalene - Total ug corrected for a desorption efficiency of 99%.

<	-Less Than	mg	-Milligrams	m3	-Cubic Meters	kg	-Kilograms	ppm	-Parts per Million
>	-Greater Than	ug	-Micrograms	l	-Liters	NS	-Not Specified	ND	-Not Detected	NA	-Not Applicable

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LABORATORY FOOTNOTE REPORT

Client Name : Center for Toxicology & Env. Health LLC
Site :
Project No. : 107907

Date Sampled : 02-MAR-16 Account No.: 13913
Date Received: 04-MAR-16 Login No. : L368739
Date Analyzed: 07-MAR-16 - 08-MAR-16

L368739 (Report ID: 925825):
Phenanthrene - Total ug corrected for a desorption efficiency of 98%.
Pyrene - Total ug corrected for a desorption efficiency of 99%.
SOPs: il-n5506(12)

L368739 (Report ID: 925825):
Accuracy and mean recovery data presented below is based on a 95% confidence interval (k=2).
The estimated uncertainty applies to the media, technology, and SOP referenced in this report
and does not account for the uncertainty associated with the sampling process.

Parameter	Accuracy	Mean Recovery
1-Nitropyrene	+/-16%	107%
Acenaphthene	+/-14.4%	104%
Acenaphthylene	+/-11.7%	100%
Anthracene	+/-15.7%	114%
Benzo(a)anthracene	+/-16.1%	110%
Benzo(a)pyrene	+/-26%	115%
Benzo(b)fluoranthene	+/-19%	113%
Benzo(e)pyrene	+/-19.2%	111%
Benzo(g,h,i)perylene	+/-20.2%	112%
Benzo(k)fluoranthene	+/-15.5%	109%
Chrysene	+/-14%	108%
Dibenz(a,h)anthracene	+/-15.6%	103%
Fluoranthene	+/-16.2%	110%
Fluorene	+/-12.4%	109%
Indeno(1,2,3-cd)pyrene	+/-19.5%	113%
Naphthalene	+/-13.3%	105%
Phenanthrene	+/-13.4%	108%
Pyrene	+/-14.6%	112%

< -Less Than mg -Milligrams m3 -Cubic Meters kg -Kilograms ppm -Parts per Million
> -Greater Than ug -Micrograms l -Liters NS -Not Specified ND -Not Detected NA -Not Applicable

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LABORATORY FOOTNOTE REPORT

Client Name : Center for Toxicology & Env. Health LLC
Site :
Project No. : 107907

Date Sampled : 02-MAR-16 Account No.: 13913
Date Received: 04-MAR-16 Login No. : L368739
Date Analyzed: 07-MAR-16 - 08-MAR-16

Parameter	Method	PEL
1-Nitropyrene	mod. NIOSH 5506; HPLC/UV	NA
Acenaphthene	mod. NIOSH 5506; HPLC/UV	NA
Acenaphthylene	mod. NIOSH 5506; HPLC/UV	NA
Anthracene	mod. NIOSH 5506; HPLC/UV	NA
Benzo(a)anthracene	mod. NIOSH 5506; HPLC/UV	NA
Benzo(a)pyrene	mod. NIOSH 5506; HPLC/UV	0.2 mg/m3 (TWA)
Benzo(b)fluoranthene	mod. NIOSH 5506; HPLC/UV	NA
Benzo(e)pyrene	mod. NIOSH 5506; HPLC/UV	NA
Benzo(g,h,i)perylene	mod. NIOSH 5506; HPLC/UV	NA
Benzo(k)fluoranthene	mod. NIOSH 5506; HPLC/UV	NA
Chrysene	mod. NIOSH 5506; HPLC/UV	0.2 mg/m3 (TWA)
Dibenz(a,h)anthracene	mod. NIOSH 5506; HPLC/UV	NA
Fluoranthene	mod. NIOSH 5506; HPLC/UV	NA
Fluorene	mod. NIOSH 5506; HPLC/UV	NA
Indeno(1,2,3-cd)pyrene	mod. NIOSH 5506; HPLC/UV	NA
Naphthalene	mod. NIOSH 5506; HPLC/UV	10 ppm (TWA)
Phenanthrene	mod. NIOSH 5506; HPLC/UV	NA
Pyrene	mod. NIOSH 5506; HPLC/UV	NA

< -Less Than mg -Milligrams m3 -Cubic Meters kg -Kilograms ppm -Parts per Million
> -Greater Than ug -Micrograms l -Liters NS -Not Specified ND -Not Detected NA -Not Applicable

Sample: WG340895-1 **Spikelot:** IH610903-2
QC Type: DLS **Raw File:**
Analysis date 03/07/16 16:28:52 **Approval Status:** YES
Instrument: LC5

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
NAPHTHALENE	.084425	.099	85.3	70.0 to 130.				
PYRENE	.083583	.099	84.4	70.0 to 130.				
BENZO(A)ANTHRACENE	.080538	.099	81.4	70.0 to 130.				
CHRYSENE	.097754	.099	98.7	70.0 to 130.				
BENZO(E)PYRENE	.084248	.1	84.3	70.0 to 130.				
BENZO(B)FLUORANTHENE	.082271	.099	83.1	70.0 to 130.				
BENZO(K)FLUORANTHENE	.120363	.099	122	70.0 to 130.				
BENZO(A)PYRENE	.100972	.099	102	70.0 to 130.				
DIBENZ(A,H)ANTHRACENE	.080941	.099	81.8	70.0 to 130.				
BENZO(G,H,I)PERYLENE	.082459	.099	83.3	70.0 to 130.				
ACENAPHTHYLENE	.098705	.099	99.7	70.0 to 130.				
INDENO-1,2,3-CD-PYRENE	.077173	.099	78	70.0 to 130.				
ACENAPHTHENE	.082126	.1	82.1	70.0 to 130.				
FLUORENE	.079658	.098	81.3	70.0 to 130.				
PHENANTHRENE	.082312	.098	84	70.0 to 130.				
ANTHRACENE	.099890	.099	101	70.0 to 130.				
FLUORANTHENE	.077883	.098	79.5	70.0 to 130.				
1-NITROPYRENE	.070224	.099	70.9	70.0 to 130.				

Sample: WG340895-2 **Spikelot:** IH610903-1
QC Type: CCV **Raw File:**
Analysis date 03/07/16 16:48:49 **Approval Status:** YES
Instrument: LC5

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
NAPHTHALENE	4.75422	4.95	96	88.5 to 120.				
PYRENE	4.99215	4.95	101	92.5 to 125.				
BENZO(A)ANTHRACENE	5.07803	4.95	103	93.7 to 119.				
CHRYSENE	4.85604	4.95	98.1	88.9 to 118.				
BENZO(E)PYRENE	4.90084	4.9995	98	90.6 to 127.				
BENZO(B)FLUORANTHENE	4.82344	4.95	97.4	93.8 to 125.				
BENZO(K)FLUORANTHENE	4.88800	4.95	98.7	88.2 to 117.				
BENZO(A)PYRENE	4.94738	4.95	99.9	83.3 to 137.				
DIBENZ(A,H)ANTHRACENE	4.78071	4.95	96.6	85.0 to 120.				
BENZO(G,H,I)PERYLENE	4.87233	4.95	98.4	88.6 to 123.				
ACENAPHTHYLENE	4.85971	4.95	98.2	89.8 to 117.				

Sample: WG340895-2 **Spikelot:** IH610903-1
QC Type: CCV **Raw File:**
Analysis date 03/07/16 16:48:49 **Approval Status:** YES
Instrument: LC5

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
INDENO-1,2,3-CD-PYRENE	4.97846	4.95	101	94.8 to 127.				
ACENAPHTHENE	4.96463	4.9995	99.3	87.1 to 119.				
FLUORENE	4.89261	4.9	99.8	92.7 to 123.				
PHENANTHRENE	4.93216	4.9	101	91.1 to 120.				
ANTHRACENE	5.64601	4.95	114	91.4 to 130.				
FLUORANTHENE	4.77760	4.9	97.5	92.0 to 120.				
1-NITROPYRENE	4.54327	4.95	91.8	86.8 to 123.				

Sample: WG340892-2 **Spikelot:** NA
QC Type: MBLANK **Raw File:**
Analysis date 03/07/16 17:48:43 **Approval Status:** YES
Instrument: LC5

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
FLUORANTHENE(FRONT)	.228294	<.3						
FLUORANTHENE(BACK)	.111757	<.3						
BENZO(B)FLUORANTHENE(FRONT)	.093302	<.3						
BENZO(B)FLUORANTHENE(BACK)	0	<.3						
ACENAPHTHENE(FRONT)	0	<.3						
ACENAPHTHENE(BACK)	0	<.3						
ACENAPHTHYLENE(FRONT)	0	<.3						
ACENAPHTHYLENE(BACK)	0	<.3						
ANTHRACENE(FRONT)	0	<.3						
ANTHRACENE(BACK)	0	<.3						
BENZO(A)ANTHRACENE(FRONT)	0	<.3						
BENZO(A)ANTHRACENE(BACK)	0	<.3						
BENZO(A)PYRENE(FRONT)	0	<.3						
BENZO(A)PYRENE(BACK)	0	<.3						
BENZO(E)PYRENE(FRONT)	0	<.3						
BENZO(E)PYRENE(BACK)	0	<.3						
BENZO(G,H,I)PERYLENE(FRONT)	0	<.3						
BENZO(G,H,I)PERYLENE(BACK)	0	<.3						
BENZO(K)FLUORANTHENE(FRONT)	0	<.3						
BENZO(K)FLUORANTHENE(BACK)	0	<.3						
CHRYSENE(FRONT)	0	<.3						
CHRYSENE(BACK)	0	<.3						

Sample: WG340892-2 **Spikelot:** NA
QC Type: MBLANK **Raw File:**
Analysis date 03/07/16 17:48:43 **Approval Status:** YES
Instrument: LC5

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
DIBENZ(A,H)ANTHRACENE(FRONT)	0	<.3						
DIBENZ(A,H)ANTHRACENE(BACK)	0	<.3						
FLUORENE(FRONT)	0	<.3						
FLUORENE(BACK)	0	<.3						
INDENO-1,2,3-CD-PYRENE(FRONT)	0	<.3						
INDENO-1,2,3-CD-PYRENE(BACK)	0	<.3						
NAPHTHALENE(FRONT)	0	<.3						
NAPHTHALENE(BACK)	0	<.3						
1-NITROPYRENE(FRONT)	0	<.3						
1-NITROPYRENE(BACK)	0	<.3						
PHENANTHRENE(FRONT)	0	<.3						
PHENANTHRENE(BACK)	0	<.3						
PYRENE(FRONT)	0	<.3						
PYRENE(BACK)	0	<.3						

Sample: WG340892-3 **Spikelot:** IH610903
QC Type: BS **Raw File:**
Analysis date 03/07/16 18:28:42 **Approval Status:** YES
Instrument: LC5

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
NAPHTHALENE	4.69288	4.95	94.8		95.8	85.2 to 125		
BENZO(A)ANTHRACENE	5.08107	4.95	103		105	85.3 to 134		
CHRYSENE	4.86812	4.95	98.3		100	86.7 to 129		
BENZO(E)PYRENE	4.87767	4.9995	97.6		99.6	82.4 to 140		
BENZO(B)FLUORANTHENE	4.81743	4.95	97.3		100	85.0 to 142		
BENZO(K)FLUORANTHENE	4.86308	4.95	98.2		101	85.3 to 132		
BENZO(A)PYRENE	4.84732	4.95	97.9		99.9	76.5 to 154		
DIBENZ(A,H)ANTHRACENE	4.76896	4.95	96.3		97.3	79.8 to 127		
BENZO(G,H,I)PERYLENE	4.94956	4.95	100		104	81.7 to 142		
INDENO-1,2,3-CD-PYRENE	4.87624	4.95	98.5		99.5	83.3 to 142		
ACENAPHTHYLENE	4.77353	4.95	96.4		94.5	82.8 to 118		
ACENAPHTHENE	4.94700	4.9995	98.9		97	82.3 to 125		
FLUORENE	4.88383	4.9	99.7		103	90.7 to 128		
PHENANTHRENE	4.91289	4.9	100		102	87.8 to 128		
ANTHRACENE	5.70295	4.95	115		118	90.2 to 137		

Sample: WG340892-3 **Spikelot:** IH610903
QC Type: BS **Raw File:**
Analysis date 03/07/16 18:28:42 **Approval Status:** YES
Instrument: LC5

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
FLUORANTHENE	4.86561	4.9	99.3		101	85.5 to 134		
1-NITROPYRENE	4.67692	4.95	94.5		95.4	82.7 to 131		
PYRENE	4.98901	4.95	101		102	89.7 to 134		

Sample: WG340892-4 **Spikelot:** IH610903
QC Type: BSD **Raw File:**
Analysis date 03/07/16 18:48:39 **Approval Status:** YES
Instrument: LC5

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
NAPHTHALENE	4.82262	4.95	97.4		98.4	85.2 to 125	-2.68	-10 to 10.0
BENZO(A)ANTHRACENE	5.14694	4.95	104		106	85.3 to 134	-.948	-10 to 10.0
CHRYSENE	4.92536	4.95	99.5		102	86.7 to 129	-1.98	-10 to 10.0
BENZO(E)PYRENE	5.03005	4.9995	101		103	82.4 to 140	-3.36	-10 to 10.0
BENZO(B)FLUORANTHENE	4.95009	4.95	100		103	85.0 to 142	-2.96	-10 to 10.0
BENZO(K)FLUORANTHENE	4.97938	4.95	101		104	85.3 to 132	-2.93	-10 to 10.0
BENZO(A)PYRENE	4.96078	4.95	100		102	76.5 to 154	-2.08	-10 to 10.0
DIBENZ(A,H)ANTHRACENE	4.85999	4.95	98.2		99.2	79.8 to 127	-1.93	-11.5 to 9.87
BENZO(G,H,I)PERYLENE	5.03069	4.95	102		106	81.7 to 142	-1.9	-10 to 10.0
INDENO-1,2,3-CD-PYRENE	5.08164	4.95	103		104	83.3 to 142	-4.42	-10 to 10.0
ACENAPHTHYLENE	4.88332	4.95	98.7		96.7	82.8 to 118	-2.3	-10 to 10.0
ACENAPHTHENE	5.03035	4.9995	101		98.6	82.3 to 125	-1.64	-10 to 10.0
FLUORENE	4.97123	4.9	101		105	90.7 to 128	-1.92	-10 to 10.0
PHENANTHRENE	4.99121	4.9	102		104	87.8 to 128	-1.94	-10 to 10.0
ANTHRACENE	5.82374	4.95	118		120	90.2 to 137	-1.68	-10 to 10.0
FLUORANTHENE	4.92016	4.9	100		102	85.5 to 134	-.985	-10 to 10.0
1-NITROPYRENE	4.69855	4.95	94.9		95.9	82.7 to 131	-.523	-10 to 10.0
PYRENE	4.98546	4.95	101		102	89.7 to 134	0	-10.4 to 8.96

Sample: WG340892-5 **Spikelot:** IH610903
QC Type: BS **Raw File:**
Analysis date 03/07/16 19:08:40 **Approval Status:** YES
Instrument: LC5

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
NAPHTHALENE	4.54813	4.95	91.9		99.9	85.2 to 125		
PYRENE	4.24977	4.95	85.9		105	89.7 to 134		

Sample: WG340892-5 **Spikelot:** IH610903
QC Type: BS **Raw File:**
Analysis date 03/07/16 19:08:40 **Approval Status:** YES
Instrument: LC5

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
BENZO(A)ANTHRACENE	4.16639	4.95	84.2		108	85.3 to 134		
CHRYSENE	4.02628	4.95	81.3		106	86.7 to 129		
BENZO(E)PYRENE	3.66117	4.9995	73.2		108	82.4 to 140		
BENZO(B)FLUORANTHENE	3.84413	4.95	77.7		108	85.0 to 142		
BENZO(K)FLUORANTHENE	3.92861	4.95	79.4		110	85.3 to 132		
BENZO(A)PYRENE	3.64092	4.95	73.6		111	76.5 to 154		
DIBENZ(A,H)ANTHRACENE	3.57532	4.95	72.2		100	79.8 to 127		
BENZO(G,H,I)PERYLENE	3.37577	4.95	68.2		116	81.7 to 142		
INDENO-1,2,3-CD-PYRENE	3.40386	4.95	68.8		107	83.3 to 142		
ACENAPHTHYLENE	4.51139	4.95	91.1		94.9	82.8 to 118		
ACENAPHTHENE	4.61546	4.9995	92.3		103	82.3 to 125		
FLUORENE	4.54236	4.9	92.7		103	90.7 to 128		
PHENANTHRENE	4.48695	4.9	91.6		106	87.8 to 128		
ANTHRACENE	5.18056	4.95	105		123	90.2 to 137		
FLUORANTHENE	4.37126	4.9	89.2		107	85.5 to 134		
1-NITROPYRENE	4.17378	4.95	84.3		100	82.7 to 131		

Sample: WG340892-6 **Spikelot:** IH610903
QC Type: BSD **Raw File:**
Analysis date 03/07/16 19:28:39 **Approval Status:** YES
Instrument: LC5

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
NAPHTHALENE	4.54802	4.95	91.9		99.9	85.2 to 125	0	-10 to 10.0
BENZO(A)ANTHRACENE	4.16337	4.95	84.1		108	85.3 to 134	0	-10 to 10.0
CHRYSENE	4.01297	4.95	81.1		105	86.7 to 129	.948	-10 to 10.0
BENZO(E)PYRENE	3.60009	4.9995	72		106	82.4 to 140	1.87	-10 to 10.0
BENZO(B)FLUORANTHENE	3.76876	4.95	76.1		106	85.0 to 142	1.87	-10 to 10.0
BENZO(K)FLUORANTHENE	4.49746	4.95	90.9		126	85.3 to 132	-13.6	-10 to 10.0
BENZO(A)PYRENE	4.14824	4.95	83.8		127	76.5 to 154	-13.4	-10 to 10.0
DIBENZ(A,H)ANTHRACENE	3.44525	4.95	69.6		96.7	79.8 to 127	3.36	-11.5 to 9.87
BENZO(G,H,I)PERYLENE	2.96854	4.95	60		102	81.7 to 142	12.8	-10 to 10.0
INDENO-1,2,3-CD-PYRENE	3.36797	4.95	68		106	83.3 to 142	.939	-10 to 10.0
ACENAPHTHYLENE	4.47629	4.95	90.4		94.2	82.8 to 118	.74	-10 to 10.0
ACENAPHTHENE	4.59986	4.9995	92		102	82.3 to 125	.976	-10 to 10.0
FLUORENE	4.54591	4.9	92.8		103	90.7 to 128	0	-10 to 10.0

Sample: WG340892-6 **Spikelot:** IH610903
QC Type: BSD **Raw File:**
Analysis date 03/07/16 19:28:39 **Approval Status:** YES
Instrument: LC5

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
PHENANTHRENE	4.44771	4.9	90.8		106	87.8 to 128	0	-10 to 10.0
ANTHRACENE	5.13206	4.95	104		122	90.2 to 137	.816	-10 to 10.0
FLUORANTHENE	4.35084	4.9	88.8		107	85.5 to 134	0	-10 to 10.0
1-NITROPYRENE	4.20087	4.95	84.9		101	82.7 to 131	-.995	-10 to 10.0
PYRENE	4.30204	4.95	86.9		106	89.7 to 134	-.948	-10.4 to 8.90

Sample: WG340895-3 **Spikelot:** IH610903-1
QC Type: CCV **Raw File:**
Analysis date 03/07/16 22:48:26 **Approval Status:** YES
Instrument: LC5

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
NAPHTHALENE	4.78765	4.95	96.7	88.5 to 120.				
PYRENE	4.96293	4.95	100	92.5 to 125.				
BENZO(A)ANTHRACENE	5.09865	4.95	103	93.7 to 119.				
CHRYSENE	4.89393	4.95	98.9	88.9 to 118.				
BENZO(E)PYRENE	4.94044	4.9995	98.8	90.6 to 127.				
BENZO(B)FLUORANTHENE	4.90160	4.95	99	93.8 to 125.				
BENZO(K)FLUORANTHENE	4.92007	4.95	99.4	88.2 to 117.				
BENZO(A)PYRENE	5.02548	4.95	102	83.3 to 137.				
DIBENZ(A,H)ANTHRACENE	4.79845	4.95	96.9	85.0 to 120.				
BENZO(G,H,I)PERYLENE	4.96798	4.95	100	88.6 to 123.				
ACENAPHTHYLENE	4.88069	4.95	98.6	89.8 to 117.				
INDENO-1,2,3-CD-PYRENE	5.01446	4.95	101	94.8 to 127.				
ACENAPHTHENE	4.98412	4.9995	99.7	87.1 to 119.				
FLUORENE	4.91195	4.9	100	92.7 to 123.				
PHENANTHRENE	4.94431	4.9	101	91.1 to 120.				
ANTHRACENE	5.64722	4.95	114	91.4 to 130.				
FLUORANTHENE	4.80472	4.9	98.1	92.0 to 120.				
1-NITROPYRENE	4.61973	4.95	93.3	86.8 to 123.				

Sample: WG340895-4 **Spikelot:** IH610903-1
QC Type: CCV **Raw File:**
Analysis date 03/08/16 05:48:08 **Approval Status:** YES
Instrument: LC5

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits

Sample: WG340895-4 **Spikelot:** IH610903-1
QC Type: CCV **Raw File:**
Analysis date 03/08/16 05:48:08 **Approval Status:** YES
Instrument: LC5

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
NAPHTHALENE	4.82929	4.95	97.6	88.5 to 120.				
PYRENE	4.95421	4.95	100	92.5 to 125.				
BENZO(A)ANTHRACENE	5.14071	4.95	104	93.7 to 119.				
CHRYSENE	4.91816	4.95	99.4	88.9 to 118.				
BENZO(E)PYRENE	4.93281	4.9995	98.7	90.6 to 127.				
BENZO(B)FLUORANTHENE	4.79763	4.95	96.9	93.8 to 125.				
BENZO(K)FLUORANTHENE	4.94857	4.95	100	88.2 to 117.				
BENZO(A)PYRENE	5.09407	4.95	103	83.3 to 137.				
DIBENZ(A,H)ANTHRACENE	4.82835	4.95	97.5	85.0 to 120.				
BENZO(G,H,I)PERYLENE	4.96174	4.95	100	88.6 to 123.				
ACENAPHTHYLENE	4.92246	4.95	99.4	89.8 to 117.				
INDENO-1,2,3-CD-PYRENE	4.98516	4.95	101	94.8 to 127.				
ACENAPHTHENE	5.04726	4.9995	101	87.1 to 119.				
FLUORENE	4.95001	4.9	101	92.7 to 123.				
PHENANTHRENE	4.99271	4.9	102	91.1 to 120.				
ANTHRACENE	5.70327	4.95	115	91.4 to 130.				
FLUORANTHENE	4.83762	4.9	98.7	92.0 to 120.				
1-NITROPYRENE	4.73468	4.95	95.7	86.8 to 123.				

Sample: WG340895-5 **Spikelot:** IH610903-2
QC Type: DLS **Raw File:**
Analysis date 03/08/16 08:23:22 **Approval Status:** YES
Instrument: LC5

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
NAPHTHALENE	.078893	.099	79.7	70.0 to 130.				
BENZO(A)ANTHRACENE	.087295	.099	88.2	70.0 to 130.				
CHRYSENE	.092496	.099	93.4	70.0 to 130.				
BENZO(E)PYRENE	.097077	.1	97.1	70.0 to 130.				
BENZO(B)FLUORANTHENE	.098961	.099	100	70.0 to 130.				
BENZO(K)FLUORANTHENE	.118206	.099	119	70.0 to 130.				
BENZO(A)PYRENE	.111028	.099	112	70.0 to 130.				
DIBENZ(A,H)ANTHRACENE	.080991	.099	81.8	70.0 to 130.				
BENZO(G,H,I)PERYLENE	.084750	.099	85.6	70.0 to 130.				
INDENO-1,2,3-CD-PYRENE	.073731	.099	74.5	70.0 to 130.				
ACENAPHTHYLENE	.087474	.099	88.4	70.0 to 130.				

Sample: WG340895-5 **Spikelot:** IH610903-2
QC Type: DLS **Raw File:**
Analysis date 03/08/16 08:23:22 **Approval Status:** YES
Instrument: LC5

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
ACENAPHTHENE	.095314	.1	95.3	70.0 to 130.				
FLUORENE	.080851	.098	82.5	70.0 to 130.				
PHENANTHRENE	.086946	.098	88.7	70.0 to 130.				
ANTHRACENE	.095545	.099	96.5	70.0 to 130.				
FLUORANTHENE	.071997	.098	73.5	70.0 to 130.				
1-NITROPYRENE	.070753	.099	71.5	70.0 to 130.				
PYRENE	.084909	.099	85.8	70.0 to 130.				

Sample: WG340895-6 **Spikelot:** IH610903-1
QC Type: CCV **Raw File:**
Analysis date 03/08/16 08:43:22 **Approval Status:** YES
Instrument: LC5

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
NAPHTHALENE	4.82321	4.95	97.4	88.5 to 120.				
1-NITROPYRENE	4.62932	4.95	93.5	86.8 to 123.				
PYRENE	5.15036	4.95	104	92.5 to 125.				
BENZO(A)ANTHRACENE	5.13556	4.95	104	93.7 to 119.				
CHRYSENE	4.93400	4.95	99.7	88.9 to 118.				
BENZO(E)PYRENE	5.01275	4.9995	100	90.6 to 127.				
BENZO(B)FLUORANTHENE	4.99161	4.95	101	93.8 to 125.				
BENZO(K)FLUORANTHENE	4.91830	4.95	99.4	88.2 to 117.				
BENZO(A)PYRENE	5.12559	4.95	104	83.3 to 137.				
DIBENZ(A,H)ANTHRACENE	4.84469	4.95	97.9	85.0 to 120.				
ACENAPHTHYLENE	4.91673	4.95	99.3	89.8 to 117.				
BENZO(G,H,I)PERYLENE	4.95252	4.95	100	88.6 to 123.				
INDENO-1,2,3-CD-PYRENE	5.08632	4.95	103	94.8 to 127.				
ACENAPHTHENE	5.01974	4.9995	100	87.1 to 119.				
FLUORENE	4.95355	4.9	101	92.7 to 123.				
PHENANTHRENE	4.99722	4.9	102	91.1 to 120.				
ANTHRACENE	5.71741	4.95	116	91.4 to 130.				
FLUORANTHENE	4.96360	4.9	101	92.0 to 120.				

Sample: WG340895-8 **Spikelot:** IH610903-1
QC Type: CCV **Raw File:**
Analysis date 03/08/16 10:43:13 **Approval Status:** YES
Instrument: LC5

Sample: WG340895-8 **Spikelot:** IH610903-1

QC Type: CCV **Raw File:**

Analysis date 03/08/16 10:43:13 **Approval Status:** YES

Instrument: LC5

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
NAPHTHALENE	4.82764	4.95	97.5	88.5 to 120.				
1-NITROPYRENE	4.67281	4.95	94.4	86.8 to 123.				
PYRENE	5.11348	4.95	103	92.5 to 125.				
BENZO(A)ANTHRACENE	5.14209	4.95	104	93.7 to 119.				
CHRYSENE	4.94248	4.95	99.8	88.9 to 118.				
BENZO(E)PYRENE	5.02328	4.9995	100	90.6 to 127.				
BENZO(B)FLUORANTHENE	5.01921	4.95	101	93.8 to 125.				
BENZO(K)FLUORANTHENE	4.96351	4.95	100	88.2 to 117.				
BENZO(A)PYRENE	5.18548	4.95	105	83.3 to 137.				
DIBENZ(A,H)ANTHRACENE	4.84397	4.95	97.9	85.0 to 120.				
ACENAPHTHYLENE	4.92274	4.95	99.4	89.8 to 117.				
BENZO(G,H,I)PERYLENE	5.00011	4.95	101	88.6 to 123.				
INDENO-1,2,3-CD-PYRENE	5.10154	4.95	103	94.8 to 127.				
ACENAPHTHENE	5.03427	4.9995	101	87.1 to 119.				
FLUORENE	4.96065	4.9	101	92.7 to 123.				
PHENANTHRENE	4.98738	4.9	102	91.1 to 120.				
ANTHRACENE	5.70908	4.95	115	91.4 to 130.				
FLUORANTHENE	4.96398	4.9	101	92.0 to 120.				

R118

5120 North Shore Drive
North Little Rock, AR 72118
Phone: (501) 801-8500
Fax: (501) 801-8501
Website: www.cteh.com

Center for Toxicology and Environmental Health L.L.C.

SAMPLE CHAIN OF CUSTODY AND ANALYSIS REQUEST FORM

	Send Report To:	Send Invoice To:
Name	cconnolly@cteh.com;mberg@cteh.co	
Company	CTEH	CTEH
Address	5120 North Shore Drive North Little Rock, AR 72118	5120 North Shore Drive North Little Rock, AR 72118
Phone	(501)801-8500	(501)801-8500
Fax	(501)801-8501	(501)801-8501
e-mail	labresults@cteh.com	

CTEH Project #: 107907

Turnaround Requested:
Same Day __Next Day (24 hour) ___ Normal
X Other (Specify) 2 Day

Complete Data Packet Requested X Yes ☐No

Lab Contact Information:
Galson Laboratories
6601 Kirkville Road
E. Syracuse, NY 13057

Client Sample Identification	Other Sample Identification	Sample Size	Units (Check one) ✓ L / cm²	Sample Date	Sample Time (for non-air samples)	Initials	NIOSH 5506 PNAH	Matrix (A = air, B = bulk, S = soil, SW = wipe, T = tape, W = water)
HOTX0302PNAH001	AS12	972.3	L	03/02/16		JA	X	A
HOTX0302PNAH002	AS16	961.8	L	03/02/16		JA	X	A
HOTX0302PNAH003	AS07	960.8	L	03/02/16		JA	X	A
HOTX0302PNAH004	BL	0	L	03/02/16		JA	X	A

Extension requested 03/04/16 SK 3/4/16

Samples Received in Light Sensitve Material: (Yes) or No

Not used Peter

775787729420
Date:03/04/16
Shipper:FEDEX
Initials:SK
Prep:UNKNOWN

RELINQUISHED BY	DATE/TIME	RECEIVED BY	DATE/TIME	COMMENTS
Justin Langley	3/3/16 16:00	Fed Ex		Rec'd intact & all accounted for? (Yes) or No SK
		M. Krause	3/4/16 0739	Rec'd w/custody seals intact? Yes or No NA
				Rec'd in light sensitive packaging? (Yes) or No SK
				Rec'd with ice pack? (Yes) or No SK
				Rec'd temperature compliant? (Yes) or No SK

Mr. Charles Connolly
Center for Toxicology & Env. Health LLC
5120 North Shore Drive
North Little Rock, AR 72118

March 09, 2016

DOH ELAP #11626 Account# 13913 Login# L368884
AIHA-LAP #100324

Dear Mr. Connolly:

Enclosed are the analytical results for the samples received by our laboratory on March 05, 2016. All test results meet the quality control requirements of AIHA-LAP and NELAC unless otherwise stated in this report. All samples on the chain of custody were received in good condition unless otherwise noted.

Results in this report are based on the sampling data provided by the client and refer only to the samples as they were received at the laboratory. Unless otherwise requested, all samples will be discarded 14 days from the date of this report, with the exception of IOMs, which will be cleaned and disposed of after seven calendar days.

Current Scopes of Accreditation can be viewed at www.galsonlabs.com in the accreditations section under the "about Galson" tab.

Please contact Pamela Weaver at (888) 432-5227, if you would like any additional information regarding this report. Thank you for using SGS Galson Laboratories.

Sincerely,

SGS Galson Laboratories

Lisa Swab
Laboratory Director

Enclosure(s)

Galson Laboratories, Inc. is now a part of SGS, the world's leading inspection, verification, testing, and certification company. As part of our transition to SGS, you will begin to see some formatting changes with reports that will improve the presentation of data and allow for the transition to the new logo.

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East Syracuse, NY 13057
(315) 432-5227
FAX: (315) 437-0571
www.galsonlabs.com

LABORATORY ANALYSIS REPORT

Client : Center for Toxicology & Env. H
Site : NS
Project No. : 107907
Date Sampled : 03-MAR-16
Date Received : 05-MAR-16

Account No.: 13913
Login No. : L368884
Date Analyzed : 08-MAR-16
Report ID : 925948

Client ID : HOTX0303PNAH001 **Lab ID : L368884-1** **Air Volume : 961.1 Liter**
Date Sampled : 03/03/16 **Date Analyzed : 03/08/16**

Parameter	LOQ ug	Filter ug	Front ug	Back ug	Total ug	Conc mg/m3	ppm
1-Nitropyrene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Acenaphthene	0.3	<0.3	0.8	<0.3	0.9	0.0009	0.0001
Acenaphthylene	0.3	<0.3	<0.3	<0.3	<0.3	<0.0003	<0.00005
Anthracene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00005
Benzo(a)anthracene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Benzo(a)pyrene	0.3	<0.3	<0.3	<0.3	<0.5	<0.0005	<0.00005
Benzo(b)fluoranthene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Benzo(e)pyrene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0005	<0.00004
Benzo(g,h,i)perylene	0.3	<0.3	<0.3	<0.3	<0.5	<0.0005	<0.00005
Benzo(k)fluoranthene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Chrysene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Dibenz(a,h)anthracene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Fluoranthene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00005
Fluorene	0.3	<0.3	<0.3	<0.3	<0.3	<0.0003	<0.00005
Indeno(1,2,3-cd)pyrene	0.3	<0.3	<0.3	<0.3	<0.5	<0.0005	<0.00004

COMMENTS: Please see attached lab footnote report for any applicable footnotes.

Collection Media: FilterTube
Date : 09-MAR-16

Submitted by: MWJ
NYS DOH # : 11626

Approved by: nkp
Supervisor: MWJ QC by: KSB

< -Less Than mg -Milligrams m3 -Cubic Meters kg -Kilograms NA -Not Applicable ND -Not Detected
> -Greater Than ug -Micrograms l -Liters NS -Not Specified ppm -Parts per Million LOQ-Limit of Quantitation

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East Syracuse, NY 13057
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FAX: (315) 437-0571
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LABORATORY ANALYSIS REPORT

Client : Center for Toxicology & Env. H
Site : NS
Project No. : 107907
Date Sampled : 03-MAR-16
Date Received : 05-MAR-16

Account No.: 13913
Login No. : L368884
Date Analyzed : 08-MAR-16
Report ID : 925948

Client ID : HOTX0303PNAH001 **Lab ID : L368884-1** **Air Volume : 961.1 Liter**
Date Sampled : 03/03/16 **Date Analyzed : 03/08/16**

Parameter	LOQ ug	Filter ug	Front ug	Back ug	Total ug	Conc mg/m3	ppm
Naphthalene	0.3	<0.3	8.3	2.1	*11	*0.012	*0.0022
Phenanthrene	0.3	<0.3	<0.3	<0.3	<0.3	<0.0004	<0.00005
Pyrene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00005

COMMENTS: Please see attached lab footnote report for any applicable footnotes.

Collection Media: FilterTube
Date : 09-MAR-16

Submitted by: MWJ
NYS DOH # : 11626

Approved by: nkp
Supervisor: MWJ QC by: KSB

< -Less Than mg -Milligrams m3 -Cubic Meters kg -Kilograms NA -Not Applicable ND -Not Detected
> -Greater Than ug -Micrograms l -Liters NS -Not Specified ppm -Parts per Million LOQ-Limit of Quantitation

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LABORATORY ANALYSIS REPORT

Client : Center for Toxicology & Env. H
Site : NS
Project No. : 107907
Date Sampled : 03-MAR-16
Date Received : 05-MAR-16

Account No.: 13913
Login No. : L368884
Date Analyzed : 08-MAR-16
Report ID : 925948

Client ID : HOTX0303PNAH002 **Lab ID : L368884-2** **Air Volume : 966.9 Liter**
Date Sampled : 03/03/16 **Date Analyzed : 03/08/16**

Parameter	LOQ ug	Filter ug	Front ug	Back ug	Total ug	Conc mg/m3	ppm
1-Nitropyrene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Acenaphthene	0.3	<0.3	<0.3	<0.3	<0.3	<0.0003	<0.00005
Acenaphthylene	0.3	<0.3	<0.3	<0.3	<0.3	<0.0003	<0.00005
Anthracene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00005
Benzo(a)anthracene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Benzo(a)pyrene	0.3	<0.3	<0.3	<0.3	<0.5	<0.0005	<0.00005
Benzo(b)fluoranthene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Benzo(e)pyrene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0005	<0.00004
Benzo(g,h,i)perylene	0.3	<0.3	<0.3	<0.3	<0.5	<0.0005	<0.00005
Benzo(k)fluoranthene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Chrysene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Dibenz(a,h)anthracene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Fluoranthene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00005
Fluorene	0.3	<0.3	<0.3	<0.3	<0.3	<0.0003	<0.00005
Indeno(1,2,3-cd)pyrene	0.3	<0.3	<0.3	<0.3	<0.5	<0.0005	<0.00004

COMMENTS: Please see attached lab footnote report for any applicable footnotes.

Collection Media: FilterTube
Date : 09-MAR-16

Submitted by: MWJ
NYS DOH # : 11626

Approved by: nkp
Supervisor: MWJ QC by: KSB

< -Less Than mg -Milligrams m3 -Cubic Meters kg -Kilograms NA -Not Applicable ND -Not Detected
> -Greater Than ug -Micrograms l -Liters NS -Not Specified ppm -Parts per Million LOQ-Limit of Quantitation

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LABORATORY ANALYSIS REPORT

Client : Center for Toxicology & Env. H
Site : NS
Project No. : 107907
Date Sampled : 03-MAR-16
Date Received : 05-MAR-16

Account No.: 13913
Login No. : L368884

Date Analyzed : 08-MAR-16
Report ID : 925948

Client ID : HOTX0303PNAH002 **Lab ID : L368884-2** **Air Volume : 966.9 Liter**
Date Sampled : 03/03/16 **Date Analyzed : 03/08/16**

Parameter	LOQ ug	Filter ug	Front ug	Back ug	Total ug	Conc mg/m3	ppm
Naphthalene	0.3	<0.3	<0.3	<0.3	<0.3	<0.0003	<0.00006
Phenanthrene	0.3	<0.3	<0.3	<0.3	<0.3	<0.0004	<0.00005
Pyrene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00005

COMMENTS: Please see attached lab footnote report for any applicable footnotes.

Collection Media: FilterTube
Date : 09-MAR-16

Submitted by: MWJ
NYS DOH # : 11626

Approved by: nkp
Supervisor: MWJ QC by: KSB

< -Less Than mg -Milligrams m3 -Cubic Meters kg -Kilograms NA -Not Applicable ND -Not Detected
> -Greater Than ug -Micrograms l -Liters NS -Not Specified ppm -Parts per Million LOQ-Limit of Quantitation

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LABORATORY ANALYSIS REPORT

Client : Center for Toxicology & Env. H
Site : NS
Project No. : 107907
Date Sampled : 03-MAR-16
Date Received : 05-MAR-16

Account No.: 13913
Login No. : L368884
Date Analyzed : 08-MAR-16
Report ID : 925948

Client ID : HOTX0303PNAH003 **Lab ID : L368884-3** **Air Volume : 963.9 Liter**
Date Sampled : 03/03/16 **Date Analyzed : 03/08/16**

Parameter	LOQ ug	Filter ug	Front ug	Back ug	Total ug	Conc mg/m3	ppm
1-Nitropyrene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Acenaphthene	0.3	<0.3	<0.3	<0.3	<0.3	<0.0003	<0.00005
Acenaphthylene	0.3	<0.3	<0.3	<0.3	<0.3	<0.0003	<0.00005
Anthracene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00005
Benzo(a)anthracene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Benzo(a)pyrene	0.3	<0.3	<0.3	<0.3	<0.5	<0.0005	<0.00005
Benzo(b)fluoranthene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Benzo(e)pyrene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0005	<0.00004
Benzo(g,h,i)perylene	0.3	<0.3	<0.3	<0.3	<0.5	<0.0005	<0.00005
Benzo(k)fluoranthene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Chrysene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Dibenz(a,h)anthracene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Fluoranthene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00005
Fluorene	0.3	<0.3	<0.3	<0.3	<0.3	<0.0003	<0.00005
Indeno(1,2,3-cd)pyrene	0.3	<0.3	<0.3	<0.3	<0.5	<0.0005	<0.00004

COMMENTS: Please see attached lab footnote report for any applicable footnotes.

Collection Media: FilterTube
Date : 09-MAR-16

Submitted by: MWJ
NYS DOH # : 11626

Approved by: nkp
Supervisor: MWJ QC by: KSB

< -Less Than mg -Milligrams m3 -Cubic Meters kg -Kilograms NA -Not Applicable ND -Not Detected
> -Greater Than ug -Micrograms l -Liters NS -Not Specified ppm -Parts per Million LOQ-Limit of Quantitation

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LABORATORY ANALYSIS REPORT

Client : Center for Toxicology & Env. H
Site : NS
Project No. : 107907
Date Sampled : 03-MAR-16
Date Received : 05-MAR-16

Account No.: 13913
Login No. : L368884
Date Analyzed : 08-MAR-16
Report ID : 925948

Client ID : HOTX0303PNAH003 **Lab ID : L368884-3** **Air Volume : 963.9 Liter**
Date Sampled : 03/03/16 **Date Analyzed : 03/08/16**

Parameter	LOQ ug	Filter ug	Front ug	Back ug	Total ug	Conc mg/m3	ppm
Naphthalene	0.3	<0.3	<0.3	<0.3	<0.3	<0.0003	<0.00006
Phenanthrene	0.3	<0.3	<0.3	<0.3	<0.3	<0.0004	<0.00005
Pyrene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00005

COMMENTS: Please see attached lab footnote report for any applicable footnotes.

Collection Media: FilterTube
Date : 09-MAR-16

Submitted by: MWJ
NYS DOH # : 11626

Approved by: nkp
Supervisor: MWJ QC by: KSB

< -Less Than mg -Milligrams m3 -Cubic Meters kg -Kilograms NA -Not Applicable ND -Not Detected
> -Greater Than ug -Micrograms l -Liters NS -Not Specified ppm -Parts per Million LOQ-Limit of Quantitation

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LABORATORY ANALYSIS REPORT

Client : Center for Toxicology & Env. H
Site : NS
Project No. : 107907
Date Sampled : 03-MAR-16
Date Received : 05-MAR-16

Account No.: 13913
Login No. : L368884
Date Analyzed : 08-MAR-16
Report ID : 925948

Client ID : HOTX0303PNAH004 **Lab ID : L368884-4** **Air Volume : NA**
Date Sampled : 03/03/16 **Date Analyzed : 03/08/16**

Parameter	LOQ ug	Filter ug	Front ug	Back ug	Total ug	Conc mg/m3	ppm
1-Nitropyrene	0.3	<0.3	<0.3	<0.3	<0.4	NA	NA
Acenaphthene	0.3	<0.3	<0.3	<0.3	<0.3	NA	NA
Acenaphthylene	0.3	<0.3	<0.3	<0.3	<0.3	NA	NA
Anthracene	0.3	<0.3	<0.3	<0.3	<0.4	NA	NA
Benzo(a)anthracene	0.3	<0.3	<0.3	<0.3	<0.4	NA	NA
Benzo(a)pyrene	0.3	<0.3	<0.3	<0.3	<0.5	NA	NA
Benzo(b)fluoranthene	0.3	<0.3	<0.3	<0.3	<0.4	NA	NA
Benzo(e)pyrene	0.3	<0.3	<0.3	<0.3	<0.4	NA	NA
Benzo(g,h,i)perylene	0.3	<0.3	<0.3	<0.3	<0.5	NA	NA
Benzo(k)fluoranthene	0.3	<0.3	<0.3	<0.3	<0.4	NA	NA
Chrysene	0.3	<0.3	<0.3	<0.3	<0.4	NA	NA
Dibenz(a,h)anthracene	0.3	<0.3	<0.3	<0.3	<0.4	NA	NA
Fluoranthene	0.3	<0.3	<0.3	<0.3	<0.4	NA	NA
Fluorene	0.3	<0.3	<0.3	<0.3	<0.3	NA	NA
Indeno(1,2,3-cd)pyrene	0.3	<0.3	<0.3	<0.3	<0.5	NA	NA

COMMENTS: Please see attached lab footnote report for any applicable footnotes.

Collection Media: FilterTube
Date : 09-MAR-16

Submitted by: MWJ
NYS DOH # : 11626

Approved by: nkp
Supervisor: MWJ QC by: KSB

< -Less Than mg -Milligrams m3 -Cubic Meters kg -Kilograms NA -Not Applicable ND -Not Detected
> -Greater Than ug -Micrograms l -Liters NS -Not Specified ppm -Parts per Million LOQ-Limit of Quantitation

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LABORATORY ANALYSIS REPORT

Client : Center for Toxicology & Env. H
Site : NS
Project No. : 107907
Date Sampled : 03-MAR-16
Date Received : 05-MAR-16

Account No.: 13913
Login No. : L368884
Date Analyzed : 08-MAR-16
Report ID : 925948

Client ID : HOTX0303PNAH004 **Lab ID : L368884-4** **Air Volume : NA**
Date Sampled : 03/03/16 **Date Analyzed : 03/08/16**

Parameter	LOQ ug	Filter ug	Front ug	Back ug	Total ug	Conc mg/m3	ppm
Naphthalene	0.3	<0.3	<0.3	<0.3	<0.3	NA	NA
Phenanthrene	0.3	<0.3	<0.3	<0.3	<0.3	NA	NA
Pyrene	0.3	<0.3	<0.3	<0.3	<0.4	NA	NA

COMMENTS: Please see attached lab footnote report for any applicable footnotes.

Collection Media: FilterTube
Date : 09-MAR-16

Submitted by: MWJ
NYS DOH # : 11626

Approved by: nkp
Supervisor: MWJ QC by: KSB

< -Less Than mg -Milligrams m3 -Cubic Meters kg -Kilograms NA -Not Applicable ND -Not Detected
> -Greater Than ug -Micrograms l -Liters NS -Not Specified ppm -Parts per Million LOQ-Limit of Quantitation

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LABORATORY FOOTNOTE REPORT

Client Name : Center for Toxicology & Env. Health LLC
Site :
Project No. : 107907

Date Sampled : 03-MAR-16 Account No.: 13913
Date Received: 05-MAR-16 Login No. : L368884
Date Analyzed: 08-MAR-16

Unless otherwise noted below, all quality control results associated with the samples were within established control limits or did not impact reported results.

WARNING: The sample(s) to which the findings recorded herein (the "Findings") relate was(were) drawn and / or provided by the Client or by a third party acting at the Client's direction. The Findings constitute no warranty of the sample's representativeness of any goods and strictly relate to the sample(s). The Company accepts no liability with regard to the origin or source from which the sample(s) is/are said to be extracted.

Unrounded results are carried through the calculations that yield the final result and the final result is rounded to the number of significant figures appropriate to the accuracy of the analytical method. Please note that results appearing in the columns preceeding the final result column may have been rounded and therefore, if carried through the calculations, may not yield an identical final result to the one reported.

The stated LOQs for each analyte represent the demonstrated LOQ concentrations prior to correction for desorption efficiency (if applicable).

Unless otherwise noted below, reported results have not been blank corrected for any field blank or method blank.

L368884 (Report ID: 925948):
1-Nitropyrene - Total ug corrected for a desorption efficiency of 99%.
Acenaphthene - Total ug corrected for a desorption efficiency of 102%.
Acenaphthylene - Total ug corrected for a desorption efficiency of 102%.
Anthracene - Total ug corrected for a desorption efficiency of 98%.
Benzo(a)anthracene - Total ug corrected for a desorption efficiency of 98%.
Benzo(a)pyrene - Total ug corrected for a desorption efficiency of 98%.
Benzo(b)fluoranthene - Total ug corrected for a desorption efficiency of 97%.
Benzo(e)pyrene - Total ug corrected for a desorption efficiency of 98%.
Benzo(g,h,i)perylene - Total ug corrected for a desorption efficiency of 96%.
Benzo(k)fluoranthene - Total ug corrected for a desorption efficiency of 97%.
Chrysene - Total ug corrected for a desorption efficiency of 98%.
Dibenz(a,h)anthracene - Total ug corrected for a desorption efficiency of 99%.
Fluoranthene - Total ug corrected for a desorption efficiency of 98%.
Fluorene - Total ug corrected for a desorption efficiency of 97%.
Indeno(1,2,3-cd)pyrene - Total ug corrected for a desorption efficiency of 99%.
Naphthalene - Total ug corrected for a desorption efficiency of 99%.

<	-Less Than	mg	-Milligrams	m3	-Cubic Meters	kg	-Kilograms	ppm	-Parts per Million
>	-Greater Than	ug	-Micrograms	l	-Liters	NS	-Not Specified	ND	-Not Detected	NA	-Not Applicable

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LABORATORY FOOTNOTE REPORT

Client Name : Center for Toxicology & Env. Health LLC
Site :
Project No. : 107907

Date Sampled : 03-MAR-16 Account No.: 13913
Date Received: 05-MAR-16 Login No. : L368884
Date Analyzed: 08-MAR-16

L368884 (Report ID: 925948):
Phenanthrene - Total ug corrected for a desorption efficiency of 98%.
Pyrene - Total ug corrected for a desorption efficiency of 99%.
SOPs: il-n5506(12)
Results corrected for compound and matrix-specific desorption efficiencies.
Results reported as (*) designate possible breakthrough or migration.
Reported result may be biased low.

L368884 (Report ID: 925948):
Accuracy and mean recovery data presented below is based on a 95% confidence interval (k=2).
The estimated uncertainty applies to the media, technology, and SOP referenced in this report
and does not account for the uncertainty associated with the sampling process.

Parameter	Accuracy	Mean Recovery
1-Nitropyrene	+/-16%	107%
Acenaphthene	+/-14.4%	104%
Acenaphthylene	+/-11.7%	100%
Anthracene	+/-15.7%	114%
Benzo(a)anthracene	+/-16.1%	110%
Benzo(a)pyrene	+/-26%	115%
Benzo(b)fluoranthene	+/-19%	113%
Benzo(e)pyrene	+/-19.2%	111%
Benzo(g,h,i)perylene	+/-20.2%	112%
Benzo(k)fluoranthene	+/-15.5%	109%
Chrysene	+/-14%	108%
Dibenz(a,h)anthracene	+/-15.6%	103%
Fluoranthene	+/-16.2%	110%
Fluorene	+/-12.4%	109%
Indeno(1,2,3-cd)pyrene	+/-19.5%	113%
Naphthalene	+/-13.3%	105%
Phenanthrene	+/-13.4%	108%
Pyrene	+/-14.6%	112%

< -Less Than mg -Milligrams m3 -Cubic Meters kg -Kilograms ppm -Parts per Million
> -Greater Than ug -Micrograms l -Liters NS -Not Specified ND -Not Detected NA -Not Applicable

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LABORATORY FOOTNOTE REPORT

Client Name : Center for Toxicology & Env. Health LLC
Site :
Project No. : 107907

Date Sampled : 03-MAR-16 Account No.: 13913
Date Received: 05-MAR-16 Login No. : L368884
Date Analyzed: 08-MAR-16

Parameter	Method	PEL
1-Nitropyrene	mod. NIOSH 5506; HPLC/UV	NA
Acenaphthene	mod. NIOSH 5506; HPLC/UV	NA
Acenaphthylene	mod. NIOSH 5506; HPLC/UV	NA
Anthracene	mod. NIOSH 5506; HPLC/UV	NA
Benzo(a)anthracene	mod. NIOSH 5506; HPLC/UV	NA
Benzo(a)pyrene	mod. NIOSH 5506; HPLC/UV	0.2 mg/m3 (TWA)
Benzo(b)fluoranthene	mod. NIOSH 5506; HPLC/UV	NA
Benzo(e)pyrene	mod. NIOSH 5506; HPLC/UV	NA
Benzo(g,h,i)perylene	mod. NIOSH 5506; HPLC/UV	NA
Benzo(k)fluoranthene	mod. NIOSH 5506; HPLC/UV	NA
Chrysene	mod. NIOSH 5506; HPLC/UV	0.2 mg/m3 (TWA)
Dibenz(a,h)anthracene	mod. NIOSH 5506; HPLC/UV	NA
Fluoranthene	mod. NIOSH 5506; HPLC/UV	NA
Fluorene	mod. NIOSH 5506; HPLC/UV	NA
Indeno(1,2,3-cd)pyrene	mod. NIOSH 5506; HPLC/UV	NA
Naphthalene	mod. NIOSH 5506; HPLC/UV	10 ppm (TWA)
Phenanthrene	mod. NIOSH 5506; HPLC/UV	NA
Pyrene	mod. NIOSH 5506; HPLC/UV	NA

< -Less Than mg -Milligrams m3 -Cubic Meters kg -Kilograms ppm -Parts per Million
> -Greater Than ug -Micrograms l -Liters NS -Not Specified ND -Not Detected NA -Not Applicable

Sample: WG340895-1 **Spikelot:** IH610903-2
QC Type: DLS **Raw File:**
Analysis date 03/07/16 16:28:52 **Approval Status:** YES
Instrument: LC5

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
NAPHTHALENE	.084425	.099	85.3	70.0 to 130.				
PYRENE	.083583	.099	84.4	70.0 to 130.				
BENZO(A)ANTHRACENE	.080538	.099	81.4	70.0 to 130.				
CHRYSENE	.097754	.099	98.7	70.0 to 130.				
BENZO(E)PYRENE	.084248	.1	84.3	70.0 to 130.				
BENZO(B)FLUORANTHENE	.082271	.099	83.1	70.0 to 130.				
BENZO(K)FLUORANTHENE	.120363	.099	122	70.0 to 130.				
BENZO(A)PYRENE	.100972	.099	102	70.0 to 130.				
DIBENZ(A,H)ANTHRACENE	.080941	.099	81.8	70.0 to 130.				
BENZO(G,H,I)PERYLENE	.082459	.099	83.3	70.0 to 130.				
ACENAPHTHYLENE	.098705	.099	99.7	70.0 to 130.				
INDENO-1,2,3-CD-PYRENE	.077173	.099	78	70.0 to 130.				
ACENAPHTHENE	.082126	.1	82.1	70.0 to 130.				
FLUORENE	.079658	.098	81.3	70.0 to 130.				
PHENANTHRENE	.082312	.098	84	70.0 to 130.				
ANTHRACENE	.099890	.099	101	70.0 to 130.				
FLUORANTHENE	.077883	.098	79.5	70.0 to 130.				
1-NITROPYRENE	.070224	.099	70.9	70.0 to 130.				

Sample: WG340895-2 **Spikelot:** IH610903-1
QC Type: CCV **Raw File:**
Analysis date 03/07/16 16:48:49 **Approval Status:** YES
Instrument: LC5

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
NAPHTHALENE	4.75422	4.95	96	88.5 to 120.				
PYRENE	4.99215	4.95	101	92.5 to 125.				
BENZO(A)ANTHRACENE	5.07803	4.95	103	93.7 to 119.				
CHRYSENE	4.85604	4.95	98.1	88.9 to 118.				
BENZO(E)PYRENE	4.90084	4.9995	98	90.6 to 127.				
BENZO(B)FLUORANTHENE	4.82344	4.95	97.4	93.8 to 125.				
BENZO(K)FLUORANTHENE	4.88800	4.95	98.7	88.2 to 117.				
BENZO(A)PYRENE	4.94738	4.95	99.9	83.3 to 137.				
DIBENZ(A,H)ANTHRACENE	4.78071	4.95	96.6	85.0 to 120.				
BENZO(G,H,I)PERYLENE	4.87233	4.95	98.4	88.6 to 123.				
ACENAPHTHYLENE	4.85971	4.95	98.2	89.8 to 117.				

Sample: WG340895-2 **Spikelot:** IH610903-1
QC Type: CCV **Raw File:**
Analysis date 03/07/16 16:48:49 **Approval Status:** YES
Instrument: LC5

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
INDENO-1,2,3-CD-PYRENE	4.97846	4.95	101	94.8 to 127.				
ACENAPHTHENE	4.96463	4.9995	99.3	87.1 to 119.				
FLUORENE	4.89261	4.9	99.8	92.7 to 123.				
PHENANTHRENE	4.93216	4.9	101	91.1 to 120.				
ANTHRACENE	5.64601	4.95	114	91.4 to 130.				
FLUORANTHENE	4.77760	4.9	97.5	92.0 to 120.				
1-NITROPYRENE	4.54327	4.95	91.8	86.8 to 123.				

Sample: WG340892-2 **Spikelot:** NA
QC Type: MBLANK **Raw File:**
Analysis date 03/07/16 17:48:43 **Approval Status:** YES
Instrument: LC5

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
FLUORANTHENE(FRONT)	.228294	<.3						
FLUORANTHENE(BACK)	.111757	<.3						
BENZO(B)FLUORANTHENE(FRONT)	.093302	<.3						
BENZO(B)FLUORANTHENE(BACK)	0	<.3						
ACENAPHTHENE(FRONT)	0	<.3						
ACENAPHTHENE(BACK)	0	<.3						
ACENAPHTHYLENE(FRONT)	0	<.3						
ACENAPHTHYLENE(BACK)	0	<.3						
ANTHRACENE(FRONT)	0	<.3						
ANTHRACENE(BACK)	0	<.3						
BENZO(A)ANTHRACENE(FRONT)	0	<.3						
BENZO(A)ANTHRACENE(BACK)	0	<.3						
BENZO(A)PYRENE(FRONT)	0	<.3						
BENZO(A)PYRENE(BACK)	0	<.3						
BENZO(E)PYRENE(FRONT)	0	<.3						
BENZO(E)PYRENE(BACK)	0	<.3						
BENZO(G,H,I)PERYLENE(FRONT)	0	<.3						
BENZO(G,H,I)PERYLENE(BACK)	0	<.3						
BENZO(K)FLUORANTHENE(FRONT)	0	<.3						
BENZO(K)FLUORANTHENE(BACK)	0	<.3						
CHRYSENE(FRONT)	0	<.3						
CHRYSENE(BACK)	0	<.3						

Sample: WG340892-2 **Spikelot:** NA
QC Type: MBLANK **Raw File:**
Analysis date 03/07/16 17:48:43 **Approval Status:** YES
Instrument: LC5

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
DIBENZ(A,H)ANTHRACENE(FRONT)	0	<.3						
DIBENZ(A,H)ANTHRACENE(BACK)	0	<.3						
FLUORENE(FRONT)	0	<.3						
FLUORENE(BACK)	0	<.3						
INDENO-1,2,3-CD-PYRENE(FRONT)	0	<.3						
INDENO-1,2,3-CD-PYRENE(BACK)	0	<.3						
NAPHTHALENE(FRONT)	0	<.3						
NAPHTHALENE(BACK)	0	<.3						
1-NITROPYRENE(FRONT)	0	<.3						
1-NITROPYRENE(BACK)	0	<.3						
PHENANTHRENE(FRONT)	0	<.3						
PHENANTHRENE(BACK)	0	<.3						
PYRENE(FRONT)	0	<.3						
PYRENE(BACK)	0	<.3						

Sample: WG340892-3 **Spikelot:** IH610903
QC Type: BS **Raw File:**
Analysis date 03/07/16 18:28:42 **Approval Status:** YES
Instrument: LC5

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
NAPHTHALENE	4.69288	4.95	94.8		95.8	85.2 to 125		
BENZO(A)ANTHRACENE	5.08107	4.95	103		105	85.3 to 134		
CHRYSENE	4.86812	4.95	98.3		100	86.7 to 129		
BENZO(E)PYRENE	4.87767	4.9995	97.6		99.6	82.4 to 140		
BENZO(B)FLUORANTHENE	4.81743	4.95	97.3		100	85.0 to 142		
BENZO(K)FLUORANTHENE	4.86308	4.95	98.2		101	85.3 to 132		
BENZO(A)PYRENE	4.84732	4.95	97.9		99.9	76.5 to 154		
DIBENZ(A,H)ANTHRACENE	4.76896	4.95	96.3		97.3	79.8 to 127		
BENZO(G,H,I)PERYLENE	4.94956	4.95	100		104	81.7 to 142		
INDENO-1,2,3-CD-PYRENE	4.87624	4.95	98.5		99.5	83.3 to 142		
ACENAPHTHYLENE	4.77353	4.95	96.4		94.5	82.8 to 118		
ACENAPHTHENE	4.94700	4.9995	98.9		97	82.3 to 125		
FLUORENE	4.88383	4.9	99.7		103	90.7 to 128		
PHENANTHRENE	4.91289	4.9	100		102	87.8 to 128		
ANTHRACENE	5.70295	4.95	115		118	90.2 to 137		

Sample: WG340892-3 **Spikelot:** IH610903
QC Type: BS **Raw File:**
Analysis date 03/07/16 18:28:42 **Approval Status:** YES
Instrument: LC5

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
FLUORANTHENE	4.86561	4.9	99.3		101	85.5 to 134		
1-NITROPYRENE	4.67692	4.95	94.5		95.4	82.7 to 131		
PYRENE	4.98901	4.95	101		102	89.7 to 134		

Sample: WG340892-4 **Spikelot:** IH610903
QC Type: BSD **Raw File:**
Analysis date 03/07/16 18:48:39 **Approval Status:** YES
Instrument: LC5

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
NAPHTHALENE	4.82262	4.95	97.4		98.4	85.2 to 125	-2.68	-10 to 10.0
BENZO(A)ANTHRACENE	5.14694	4.95	104		106	85.3 to 134	-.948	-10 to 10.0
CHRYSENE	4.92536	4.95	99.5		102	86.7 to 129	-1.98	-10 to 10.0
BENZO(E)PYRENE	5.03005	4.9995	101		103	82.4 to 140	-3.36	-10 to 10.0
BENZO(B)FLUORANTHENE	4.95009	4.95	100		103	85.0 to 142	-2.96	-10 to 10.0
BENZO(K)FLUORANTHENE	4.97938	4.95	101		104	85.3 to 132	-2.93	-10 to 10.0
BENZO(A)PYRENE	4.96078	4.95	100		102	76.5 to 154	-2.08	-10 to 10.0
DIBENZ(A,H)ANTHRACENE	4.85999	4.95	98.2		99.2	79.8 to 127	-1.93	-11.5 to 9.87
BENZO(G,H,I)PERYLENE	5.03069	4.95	102		106	81.7 to 142	-1.9	-10 to 10.0
INDENO-1,2,3-CD-PYRENE	5.08164	4.95	103		104	83.3 to 142	-4.42	-10 to 10.0
ACENAPHTHYLENE	4.88332	4.95	98.7		96.7	82.8 to 118	-2.3	-10 to 10.0
ACENAPHTHENE	5.03035	4.9995	101		98.6	82.3 to 125	-1.64	-10 to 10.0
FLUORENE	4.97123	4.9	101		105	90.7 to 128	-1.92	-10 to 10.0
PHENANTHRENE	4.99121	4.9	102		104	87.8 to 128	-1.94	-10 to 10.0
ANTHRACENE	5.82374	4.95	118		120	90.2 to 137	-1.68	-10 to 10.0
FLUORANTHENE	4.92016	4.9	100		102	85.5 to 134	-.985	-10 to 10.0
1-NITROPYRENE	4.69855	4.95	94.9		95.9	82.7 to 131	-.523	-10 to 10.0
PYRENE	4.98546	4.95	101		102	89.7 to 134	0	-10.4 to 8.90

Sample: WG340892-5 **Spikelot:** IH610903
QC Type: BS **Raw File:**
Analysis date 03/07/16 19:08:40 **Approval Status:** YES
Instrument: LC5

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
NAPHTHALENE	4.54813	4.95	91.9		99.9	85.2 to 125		
PYRENE	4.24977	4.95	85.9		105	89.7 to 134		

Sample: WG340892-5 **Spikelot:** IH610903
QC Type: BS **Raw File:**
Analysis date 03/07/16 19:08:40 **Approval Status:** YES
Instrument: LC5

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
BENZO(A)ANTHRACENE	4.16639	4.95	84.2		108	85.3 to 134		
CHRYSENE	4.02628	4.95	81.3		106	86.7 to 129		
BENZO(E)PYRENE	3.66117	4.9995	73.2		108	82.4 to 140		
BENZO(B)FLUORANTHENE	3.84413	4.95	77.7		108	85.0 to 142		
BENZO(K)FLUORANTHENE	3.92861	4.95	79.4		110	85.3 to 132		
BENZO(A)PYRENE	3.64092	4.95	73.6		111	76.5 to 154		
DIBENZ(A,H)ANTHRACENE	3.57532	4.95	72.2		100	79.8 to 127		
BENZO(G,H,I)PERYLENE	3.37577	4.95	68.2		116	81.7 to 142		
INDENO-1,2,3-CD-PYRENE	3.40386	4.95	68.8		107	83.3 to 142		
ACENAPHTHYLENE	4.51139	4.95	91.1		94.9	82.8 to 118		
ACENAPHTHENE	4.61546	4.9995	92.3		103	82.3 to 125		
FLUORENE	4.54236	4.9	92.7		103	90.7 to 128		
PHENANTHRENE	4.48695	4.9	91.6		106	87.8 to 128		
ANTHRACENE	5.18056	4.95	105		123	90.2 to 137		
FLUORANTHENE	4.37126	4.9	89.2		107	85.5 to 134		
1-NITROPYRENE	4.17378	4.95	84.3		100	82.7 to 131		

Sample: WG340892-6 **Spikelot:** IH610903
QC Type: BSD **Raw File:**
Analysis date 03/07/16 19:28:39 **Approval Status:** YES
Instrument: LC5

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
NAPHTHALENE	4.54802	4.95	91.9		99.9	85.2 to 125	0	-10 to 10.0
BENZO(A)ANTHRACENE	4.16337	4.95	84.1		108	85.3 to 134	0	-10 to 10.0
CHRYSENE	4.01297	4.95	81.1		105	86.7 to 129	.948	-10 to 10.0
BENZO(E)PYRENE	3.60009	4.9995	72		106	82.4 to 140	1.87	-10 to 10.0
BENZO(B)FLUORANTHENE	3.76876	4.95	76.1		106	85.0 to 142	1.87	-10 to 10.0
BENZO(K)FLUORANTHENE	4.49746	4.95	90.9		126	85.3 to 132	-13.6	-10 to 10.0
BENZO(A)PYRENE	4.14824	4.95	83.8		127	76.5 to 154	-13.4	-10 to 10.0
DIBENZ(A,H)ANTHRACENE	3.44525	4.95	69.6		96.7	79.8 to 127	3.36	-11.5 to 9.87
BENZO(G,H,I)PERYLENE	2.96854	4.95	60		102	81.7 to 142	12.8	-10 to 10.0
INDENO-1,2,3-CD-PYRENE	3.36797	4.95	68		106	83.3 to 142	.939	-10 to 10.0
ACENAPHTHYLENE	4.47629	4.95	90.4		94.2	82.8 to 118	.74	-10 to 10.0
ACENAPHTHENE	4.59986	4.9995	92		102	82.3 to 125	.976	-10 to 10.0
FLUORENE	4.54591	4.9	92.8		103	90.7 to 128	0	-10 to 10.0

Sample: WG340892-6 **Spikelot:** IH610903
QC Type: BSD **Raw File:**
Analysis date 03/07/16 19:28:39 **Approval Status:** YES
Instrument: LC5

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
PHENANTHRENE	4.44771	4.9	90.8		106	87.8 to 128	0	-10 to 10.0
ANTHRACENE	5.13206	4.95	104		122	90.2 to 137	.816	-10 to 10.0
FLUORANTHENE	4.35084	4.9	88.8		107	85.5 to 134	0	-10 to 10.0
1-NITROPYRENE	4.20087	4.95	84.9		101	82.7 to 131	-.995	-10 to 10.0
PYRENE	4.30204	4.95	86.9		106	89.7 to 134	-.948	-10.4 to 8.90

Sample: WG340895-3 **Spikelot:** IH610903-1
QC Type: CCV **Raw File:**
Analysis date 03/07/16 22:48:26 **Approval Status:** YES
Instrument: LC5

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
NAPHTHALENE	4.78765	4.95	96.7	88.5 to 120.				
PYRENE	4.96293	4.95	100	92.5 to 125.				
BENZO(A)ANTHRACENE	5.09865	4.95	103	93.7 to 119.				
CHRYSENE	4.89393	4.95	98.9	88.9 to 118.				
BENZO(E)PYRENE	4.94044	4.9995	98.8	90.6 to 127.				
BENZO(B)FLUORANTHENE	4.90160	4.95	99	93.8 to 125.				
BENZO(K)FLUORANTHENE	4.92007	4.95	99.4	88.2 to 117.				
BENZO(A)PYRENE	5.02548	4.95	102	83.3 to 137.				
DIBENZ(A,H)ANTHRACENE	4.79845	4.95	96.9	85.0 to 120.				
BENZO(G,H,I)PERYLENE	4.96798	4.95	100	88.6 to 123.				
ACENAPHTHYLENE	4.88069	4.95	98.6	89.8 to 117.				
INDENO-1,2,3-CD-PYRENE	5.01446	4.95	101	94.8 to 127.				
ACENAPHTHENE	4.98412	4.9995	99.7	87.1 to 119.				
FLUORENE	4.91195	4.9	100	92.7 to 123.				
PHENANTHRENE	4.94431	4.9	101	91.1 to 120.				
ANTHRACENE	5.64722	4.95	114	91.4 to 130.				
FLUORANTHENE	4.80472	4.9	98.1	92.0 to 120.				
1-NITROPYRENE	4.61973	4.95	93.3	86.8 to 123.				

Sample: WG340893-2 **Spikelot:** NA
QC Type: MBLANK **Raw File:**
Analysis date 03/08/16 04:08:10 **Approval Status:** YES
Instrument: LC5

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits

Sample: WG340893-2 **Spikelot:** NA
QC Type: MBLANK **Raw File:**
Analysis date 03/08/16 04:08:10 **Approval Status:** YES
Instrument: LC5

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
ANTHRACENE(RAW)	0	<0.3						
BENZO(A)PYRENE(RAW)	0	<0.3						
CHRYSENE(RAW)	0	<0.3						
PHENANTHRENE(RAW)	0	<0.3						
PYRENE(RAW)	0	<0.3						

Sample: WG340893-3 **Spikelot:** IH610903
QC Type: BS **Raw File:**
Analysis date 03/08/16 04:28:08 **Approval Status:** YES
Instrument: LC5

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
PYRENE	5.00749	4.95	101		104	86.3 to 130		
CHRYSENE	4.96144	4.95	100		101	86.3 to 122		
BENZO(A)PYRENE	5.05726	4.95	102		104	87.7 to 133		
PHENANTHRENE	4.95557	4.9	101		102	87.5 to 120		
ANTHRACENE	5.86012	4.95	118		121	95.7 to 128		

Sample: WG340893-4 **Spikelot:** IH610903
QC Type: BSD **Raw File:**
Analysis date 03/08/16 04:48:07 **Approval Status:** YES
Instrument: LC5

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
PYRENE	4.83631	4.95	97.7		101	86.3 to 130	2.93	-10 to 10.0
CHRYSENE	4.97793	4.95	101		102	86.3 to 122	-.985	-10 to 10.0
BENZO(A)PYRENE	5.08516	4.95	103		105	87.7 to 133	-.957	-10 to 10.0
PHENANTHRENE	4.97136	4.9	101		102	87.5 to 120	0	-10 to 10.0
ANTHRACENE	5.84385	4.95	118		120	95.7 to 128	.83	-10 to 10.0

Sample: WG340895-4 **Spikelot:** IH610903-1
QC Type: CCV **Raw File:**
Analysis date 03/08/16 05:48:08 **Approval Status:** YES
Instrument: LC5

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
NAPHTHALENE	4.82929	4.95	97.6	88.5 to 120.				
PYRENE	4.95421	4.95	100	92.5 to 125.				
BENZO(A)ANTHRACENE	5.14071	4.95	104	93.7 to 119.				

Sample: WG340895-4 **Spikelot:** IH610903-1
QC Type: CCV **Raw File:**
Analysis date 03/08/16 05:48:08 **Approval Status:** YES
Instrument: LC5

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
CHRYSENE	4.91816	4.95	99.4	88.9 to 118.				
BENZO(E)PYRENE	4.93281	4.9995	98.7	90.6 to 127.				
BENZO(B)FLUORANTHENE	4.79763	4.95	96.9	93.8 to 125.				
BENZO(K)FLUORANTHENE	4.94857	4.95	100	88.2 to 117.				
BENZO(A)PYRENE	5.09407	4.95	103	83.3 to 137.				
DIBENZ(A,H)ANTHRACENE	4.82835	4.95	97.5	85.0 to 120.				
BENZO(G,H,I)PERYLENE	4.96174	4.95	100	88.6 to 123.				
ACENAPHTHYLENE	4.92246	4.95	99.4	89.8 to 117.				
INDENO-1,2,3-CD-PYRENE	4.98516	4.95	101	94.8 to 127.				
ACENAPHTHENE	5.04726	4.9995	101	87.1 to 119.				
FLUORENE	4.95001	4.9	101	92.7 to 123.				
PHENANTHRENE	4.99271	4.9	102	91.1 to 120.				
ANTHRACENE	5.70327	4.95	115	91.4 to 130.				
FLUORANTHENE	4.83762	4.9	98.7	92.0 to 120.				
1-NITROPYRENE	4.73468	4.95	95.7	86.8 to 123.				

Sample: WG340895-5 **Spikelot:** IH610903-2
QC Type: DLS **Raw File:**
Analysis date 03/08/16 08:23:22 **Approval Status:** YES
Instrument: LC5

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
NAPHTHALENE	.078893	.099	79.7	70.0 to 130.				
BENZO(A)ANTHRACENE	.087295	.099	88.2	70.0 to 130.				
CHRYSENE	.092496	.099	93.4	70.0 to 130.				
BENZO(E)PYRENE	.097077	.1	97.1	70.0 to 130.				
BENZO(B)FLUORANTHENE	.098961	.099	100	70.0 to 130.				
BENZO(K)FLUORANTHENE	.118206	.099	119	70.0 to 130.				
BENZO(A)PYRENE	.111028	.099	112	70.0 to 130.				
DIBENZ(A,H)ANTHRACENE	.080991	.099	81.8	70.0 to 130.				
BENZO(G,H,I)PERYLENE	.084750	.099	85.6	70.0 to 130.				
INDENO-1,2,3-CD-PYRENE	.073731	.099	74.5	70.0 to 130.				
ACENAPHTHYLENE	.087474	.099	88.4	70.0 to 130.				
ACENAPHTHENE	.095314	.1	95.3	70.0 to 130.				
FLUORENE	.080851	.098	82.5	70.0 to 130.				
PHENANTHRENE	.086946	.098	88.7	70.0 to 130.				

Sample: WG340895-5 **Spikelot:** IH610903-2
QC Type: DLS **Raw File:**
Analysis date 03/08/16 08:23:22 **Approval Status:** YES
Instrument: LC5

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
ANTHRACENE	.095545	.099	96.5	70.0 to 130.				
FLUORANTHENE	.071997	.098	73.5	70.0 to 130.				
1-NITROPYRENE	.070753	.099	71.5	70.0 to 130.				
PYRENE	.084909	.099	85.8	70.0 to 130.				

Sample: WG340895-6 **Spikelot:** IH610903-1
QC Type: CCV **Raw File:**
Analysis date 03/08/16 08:43:22 **Approval Status:** YES
Instrument: LC5

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
NAPHTHALENE	4.82321	4.95	97.4	88.5 to 120.				
1-NITROPYRENE	4.62932	4.95	93.5	86.8 to 123.				
PYRENE	5.15036	4.95	104	92.5 to 125.				
BENZO(A)ANTHRACENE	5.13556	4.95	104	93.7 to 119.				
CHRYSENE	4.93400	4.95	99.7	88.9 to 118.				
BENZO(E)PYRENE	5.01275	4.9995	100	90.6 to 127.				
BENZO(B)FLUORANTHENE	4.99161	4.95	101	93.8 to 125.				
BENZO(K)FLUORANTHENE	4.91830	4.95	99.4	88.2 to 117.				
BENZO(A)PYRENE	5.12559	4.95	104	83.3 to 137.				
DIBENZ(A,H)ANTHRACENE	4.84469	4.95	97.9	85.0 to 120.				
ACENAPHTHYLENE	4.91673	4.95	99.3	89.8 to 117.				
BENZO(G,H,I)PERYLENE	4.95252	4.95	100	88.6 to 123.				
INDENO-1,2,3-CD-PYRENE	5.08632	4.95	103	94.8 to 127.				
ACENAPHTHENE	5.01974	4.9995	100	87.1 to 119.				
FLUORENE	4.95355	4.9	101	92.7 to 123.				
PHENANTHRENE	4.99722	4.9	102	91.1 to 120.				
ANTHRACENE	5.71741	4.95	116	91.4 to 130.				
FLUORANTHENE	4.96360	4.9	101	92.0 to 120.				

Sample: WG340895-8 **Spikelot:** IH610903-1
QC Type: CCV **Raw File:**
Analysis date 03/08/16 10:43:13 **Approval Status:** YES
Instrument: LC5

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
NAPHTHALENE	4.82764	4.95	97.5	88.5 to 120.				

Sample: WG340895-8 **Spikelot:** IH610903-1
QC Type: CCV **Raw File:**
Analysis date 03/08/16 10:43:13 **Approval Status:** YES
Instrument: LC5

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
1-NITROPYRENE	4.67281	4.95	94.4	86.8 to 123.				
PYRENE	5.11348	4.95	103	92.5 to 125.				
BENZO(A)ANTHRACENE	5.14209	4.95	104	93.7 to 119.				
CHRYSENE	4.94248	4.95	99.8	88.9 to 118.				
BENZO(E)PYRENE	5.02328	4.9995	100	90.6 to 127.				
BENZO(B)FLUORANTHENE	5.01921	4.95	101	93.8 to 125.				
BENZO(K)FLUORANTHENE	4.96351	4.95	100	88.2 to 117.				
BENZO(A)PYRENE	5.18548	4.95	105	83.3 to 137.				
DIBENZ(A,H)ANTHRACENE	4.84397	4.95	97.9	85.0 to 120.				
ACENAPHTHYLENE	4.92274	4.95	99.4	89.8 to 117.				
BENZO(G,H,I)PERYLENE	5.00011	4.95	101	88.6 to 123.				
INDENO-1,2,3-CD-PYRENE	5.10154	4.95	103	94.8 to 127.				
ACENAPHTHENE	5.03427	4.9995	101	87.1 to 119.				
FLUORENE	4.96065	4.9	101	92.7 to 123.				
PHENANTHRENE	4.98738	4.9	102	91.1 to 120.				
ANTHRACENE	5.70908	4.95	115	91.4 to 130.				
FLUORANTHENE	4.96398	4.9	101	92.0 to 120.				

Sample: WG340895-9 **Spikelot:** IH610903-1
QC Type: CCV **Raw File:**
Analysis date 03/08/16 13:03:00 **Approval Status:** YES
Instrument: LC5

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
NAPHTHALENE	4.83549	4.95	97.7	88.5 to 120.				
PYRENE	5.03904	4.95	102	92.5 to 125.				
BENZO(A)ANTHRACENE	5.15105	4.95	104	93.7 to 119.				
CHRYSENE	4.95384	4.95	100	88.9 to 118.				
BENZO(E)PYRENE	4.94551	4.9995	98.9	90.6 to 127.				
BENZO(B)FLUORANTHENE	4.84309	4.95	97.8	93.8 to 125.				
BENZO(K)FLUORANTHENE	4.97030	4.95	100	88.2 to 117.				
BENZO(A)PYRENE	5.17472	4.95	105	83.3 to 137.				
DIBENZ(A,H)ANTHRACENE	4.85204	4.95	98	85.0 to 120.				
BENZO(G,H,I)PERYLENE	5.01955	4.95	101	88.6 to 123.				
ACENAPHTHYLENE	4.86067	4.95	98.2	89.8 to 117.				
INDENO-1,2,3-CD-PYRENE	5.02082	4.95	101	94.8 to 127.				

Sample: WG340895-9 **Spikelot:** IH610903-1

QC Type: CCV **Raw File:**

Analysis date 03/08/16 13:03:00 **Approval Status:** YES

Instrument: LC5

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
ACENAPHTHENE	5.06999	4.9995	101	87.1 to 119.				
FLUORENE	4.99258	4.9	102	92.7 to 123.				
PHENANTHRENE	5.02636	4.9	103	91.1 to 120.				
ANTHRACENE	5.70377	4.95	115	91.4 to 130.				
FLUORANTHENE	4.84337	4.9	98.8	92.0 to 120.				
1-NITROPYRENE	4.62110	4.95	93.4	86.8 to 123.				

L368884

5120 North Shore Drive
North Little Rock, AR 72118
Phone: (501) 801-8500
Fax: (501) 801-8501
Website: www.cteh.com

Center for Toxicology and Environmental Health L.L.C.

SAMPLE CHAIN OF CUSTODY AND ANALYSIS REQUEST FORM

	Send Report To:	Send Invoice To:
Name	cconnolly@cteh.com;mberg@cteh.co	
Company	CTEH	CTEH
Address	5120 North Shore Drive North Little Rock, AR 72118	5120 North Shore Drive North Little Rock, AR 72118
Phone	(501)801-8500	(501)801-8500
Fax	(501)801-8501	(501)801-8501
e-mail	labresults@cteh.com	

CTEH Project #: 107907

Turnaround Requested:
Same Day __Next Day (24 hour) ___ Normal
_X_Other (Specify) 2 Day

Complete Data Packet Requested X Yes ☐No

Lab Contact Information:
Galson Laboratories
6601 Kirkville Road
E. Syracuse, NY 13057

775799537139
Date:03/05/16
Shipper:FEDEX
Initials:GMB
Prep:UNKNOWN

Client Sample Identification	Other Sample Identification	Sample Size	Units (Check one) ____L ___cm² ____	Sample Date	Sample Time (for non-air samples)	Initials	NIOSH 5506 PNAH	Matrix
HOTX0303PNAH001	AS17	961.1	L	03/03/16		PW	X	A
HOTX0303PNAH002	AS12	966.9	L	03/03/16		PW	X	A
HOTX0303PNAH003	AS07	963.9	L	03/03/16		PW	X	A
HOTX0303PNAH004	BL	0	L	03/03/16		PW	X	A

Samples Received in Light Sensitive Material: Yes or No

Rec'd intact & all accounted for? Yes or No
Rec'd w/custody seals intact? Yes or No
Rec'd in light sensitive packaging? Yes or No
Rec'd with ice pack? Yes or No
Rec'd temperature compliant? Yes or No

Not Used

RELINQUISHED BY	DATE/TIME	RECEIVED BY	DATE/TIME	COMMENTS
Justin Langley	03/03/16 16:00	Fed Ex		
		Gretchen BBS	3/5/16 920	

Mr. Charles Connolly
Center for Toxicology & Env. Health LLC
2000 Anders Lane
Kemah, TX 77565

March 14, 2016

DOH ELAP #11626 Account# 13913 Login# L368952
AIHA-LAP #100324

Dear Mr. Connolly:

Enclosed are the analytical results for the samples received by our laboratory on March 07, 2016. All test results meet the quality control requirements of AIHA-LAP and NELAC unless otherwise stated in this report. All samples on the chain of custody were received in good condition unless otherwise noted.

Results in this report are based on the sampling data provided by the client and refer only to the samples as they were received at the laboratory. Unless otherwise requested, all samples will be discarded 14 days from the date of this report, with the exception of IOMs, which will be cleaned and disposed of after seven calendar days.

Current Scopes of Accreditation can be viewed at www.galsonlabs.com in the accreditations section under the "about Galson" tab.

Please contact Pamela Weaver at (888) 432-5227, if you would like any additional information regarding this report. Thank you for using SGS Galson Laboratories.

Sincerely,

SGS Galson Laboratories

Lisa Swab
Laboratory Director

Enclosure(s)

Galson Laboratories, Inc. is now a part of SGS, the world's leading inspection, verification, testing, and certification company. As part of our transition to SGS, you will begin to see some formatting changes with reports that will improve the presentation of data and allow for the transition to the new logo.

SGS GALSON LABORATORIES

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(315) 432-5227
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www.galsonlabs.com

LABORATORY ANALYSIS REPORT

Client : Center for Toxicology & Env. H
Site : NS
Project No. : 107907
Date Sampled : 04-MAR-16
Date Received : 07-MAR-16

Account No.: 13913
Login No. : L368952
Date Analyzed : 11-MAR-16
Report ID : 926726

Client ID : HOTX0304PNAH001 **Lab ID : L368952-1#** **Air Volume : 986.9 Liter**
Date Sampled : 03/04/16 **Date Analyzed : 03/11/16**

Parameter	LOQ ug	Filter ug	Front ug	Back ug	Total ug	Conc mg/m3	ppm
1-Nitropyrene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Acenaphthene	0.3	<0.3	<0.3	<0.3	<0.3	<0.0003	<0.00005
Acenaphthylene	0.3	<0.3	<0.3	<0.3	<0.3	<0.0003	<0.00005
Anthracene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00005
Benzo(a)anthracene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Benzo(a)pyrene	0.3	<0.3	<0.3	<0.3	<0.5	<0.0005	<0.00004
Benzo(b)fluoranthene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Benzo(e)pyrene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Benzo(g,h,i)perylene	0.3	<0.3	<0.3	<0.3	<0.5	<0.0005	<0.00005
Benzo(k)fluoranthene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Chrysene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Dibenz(a,h)anthracene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Fluoranthene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Fluorene	0.3	<0.3	<0.3	<0.3	<0.3	<0.0003	<0.00005
Indeno(1,2,3-cd)pyrene	0.3	<0.3	<0.3	<0.3	<0.5	<0.0005	<0.00004

COMMENTS: Please see attached lab footnote report for any applicable footnotes.

Collection Media: FilterTube
Date : 14-MAR-16

Submitted by: PGM
NYS DOH # : 11626

Approved by: nkp/dnf
Supervisor: MWJ QC by: KSB

< -Less Than mg -Milligrams m3 -Cubic Meters kg -Kilograms NA -Not Applicable ND -Not Detected
> -Greater Than ug -Micrograms l -Liters NS -Not Specified ppm -Parts per Million LOQ-Limit of Quantitation

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LABORATORY ANALYSIS REPORT

Client : Center for Toxicology & Env. H
Site : NS
Project No. : 107907
Date Sampled : 04-MAR-16
Date Received : 07-MAR-16

Account No.: 13913
Login No. : L368952
Date Analyzed : 11-MAR-16
Report ID : 926726

Client ID : HOTX0304PNAH001 **Lab ID : L368952-1#** **Air Volume : 986.9 Liter**
Date Sampled : 03/04/16 **Date Analyzed : 03/11/16**

Parameter	LOQ ug	Filter ug	Front ug	Back ug	Total ug	Conc mg/m3	ppm
Naphthalene	0.3	<0.3	<0.3	<0.3	<0.3	<0.0003	<0.00006
Phenanthrene	0.3	<0.3	<0.3	<0.3	<0.3	<0.0004	<0.00005
Pyrene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004

COMMENTS: Please see attached lab footnote report for any applicable footnotes.

Collection Media: FilterTube
Date : 14-MAR-16

Submitted by: PGM
NYS DOH # : 11626

Approved by: nkp/dnf
Supervisor: MWJ QC by: KSB

< -Less Than mg -Milligrams m3 -Cubic Meters kg -Kilograms NA -Not Applicable ND -Not Detected
> -Greater Than ug -Micrograms l -Liters NS -Not Specified ppm -Parts per Million LOQ-Limit of Quantitation

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LABORATORY ANALYSIS REPORT

Client : Center for Toxicology & Env. H
Site : NS
Project No. : 107907
Date Sampled : 04-MAR-16
Date Received : 07-MAR-16

Account No.: 13913
Login No. : L368952
Date Analyzed : 11-MAR-16
Report ID : 926726

Client ID : HOTX0304PNAH002 **Lab ID : L368952-2#** **Air Volume : 969.8 Liter**
Date Sampled : 03/04/16 **Date Analyzed : 03/11/16**

Parameter	LOQ ug	Filter ug	Front ug	Back ug	Total ug	Conc mg/m3	ppm
1-Nitropyrene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Acenaphthene	0.3	<0.3	<0.3	<0.3	<0.3	<0.0003	<0.00005
Acenaphthylene	0.3	<0.3	<0.3	<0.3	<0.3	<0.0003	<0.00005
Anthracene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00005
Benzo(a)anthracene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Benzo(a)pyrene	0.3	<0.3	<0.3	<0.3	<0.5	<0.0005	<0.00005
Benzo(b)fluoranthene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Benzo(e)pyrene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0005	<0.00004
Benzo(g,h,i)perylene	0.3	<0.3	<0.3	<0.3	<0.5	<0.0005	<0.00005
Benzo(k)fluoranthene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Chrysene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Dibenz(a,h)anthracene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Fluoranthene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00005
Fluorene	0.3	<0.3	<0.3	<0.3	<0.3	<0.0003	<0.00005
Indeno(1,2,3-cd)pyrene	0.3	<0.3	<0.3	<0.3	<0.5	<0.0005	<0.00004

COMMENTS: Please see attached lab footnote report for any applicable footnotes.

Collection Media: FilterTube
Date : 14-MAR-16

Submitted by: PGM
NYS DOH # : 11626

Approved by: nkp/dnf
Supervisor: MWJ QC by: KSB

< -Less Than mg -Milligrams m3 -Cubic Meters kg -Kilograms NA -Not Applicable ND -Not Detected
> -Greater Than ug -Micrograms l -Liters NS -Not Specified ppm -Parts per Million LOQ-Limit of Quantitation

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LABORATORY ANALYSIS REPORT

Client : Center for Toxicology & Env. H
Site : NS
Project No. : 107907
Date Sampled : 04-MAR-16
Date Received : 07-MAR-16

Account No.: 13913
Login No. : L368952
Date Analyzed : 11-MAR-16
Report ID : 926726

Client ID : HOTX0304PNAH002 **Lab ID : L368952-2#** **Air Volume : 969.8 Liter**
Date Sampled : 03/04/16 **Date Analyzed : 03/11/16**

Parameter	LOQ ug	Filter ug	Front ug	Back ug	Total ug	Conc mg/m3	ppm
Naphthalene	0.3	<0.3	<0.3	<0.3	<0.3	<0.0003	<0.00006
Phenanthrene	0.3	<0.3	<0.3	<0.3	<0.3	<0.0004	<0.00005
Pyrene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00005

COMMENTS: Please see attached lab footnote report for any applicable footnotes.

Collection Media: FilterTube
Date : 14-MAR-16

Submitted by: PGM
NYS DOH # : 11626

Approved by: nkp/dnf
Supervisor: MWJ QC by: KSB

< -Less Than mg -Milligrams m3 -Cubic Meters kg -Kilograms NA -Not Applicable ND -Not Detected
> -Greater Than ug -Micrograms l -Liters NS -Not Specified ppm -Parts per Million LOQ-Limit of Quantitation

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LABORATORY ANALYSIS REPORT

Client : Center for Toxicology & Env. H
Site : NS
Project No. : 107907
Date Sampled : 04-MAR-16
Date Received : 07-MAR-16

Account No.: 13913
Login No. : L368952
Date Analyzed : 11-MAR-16
Report ID : 926726

Client ID : HOTX0304PNAH003 **Lab ID : L368952-3#** **Air Volume : 974.6 Liter**
Date Sampled : 03/04/16 **Date Analyzed : 03/11/16**

Parameter	LOQ ug	Filter ug	Front ug	Back ug	Total ug	Conc mg/m3	ppm
1-Nitropyrene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Acenaphthene	0.3	<0.3	<0.3	<0.3	<0.3	<0.0003	<0.00005
Acenaphthylene	0.3	<0.3	<0.3	<0.3	<0.3	<0.0003	<0.00005
Anthracene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00005
Benzo(a)anthracene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Benzo(a)pyrene	0.3	<0.3	<0.3	<0.3	<0.5	<0.0005	<0.00005
Benzo(b)fluoranthene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Benzo(e)pyrene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0005	<0.00004
Benzo(g,h,i)perylene	0.3	<0.3	<0.3	<0.3	<0.5	<0.0005	<0.00005
Benzo(k)fluoranthene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Chrysene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Dibenz(a,h)anthracene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Fluoranthene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Fluorene	0.3	<0.3	<0.3	<0.3	<0.3	<0.0003	<0.00005
Indeno(1,2,3-cd)pyrene	0.3	<0.3	<0.3	<0.3	<0.5	<0.0005	<0.00004

COMMENTS: Please see attached lab footnote report for any applicable footnotes.

Collection Media: FilterTube
Date : 14-MAR-16

Submitted by: PGM
NYS DOH # : 11626

Approved by: nkp/dnf
Supervisor: MWJ QC by: KSB

< -Less Than mg -Milligrams m3 -Cubic Meters kg -Kilograms NA -Not Applicable ND -Not Detected
> -Greater Than ug -Micrograms l -Liters NS -Not Specified ppm -Parts per Million LOQ-Limit of Quantitation

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LABORATORY ANALYSIS REPORT

Client : Center for Toxicology & Env. H
Site : NS
Project No. : 107907
Date Sampled : 04-MAR-16
Date Received : 07-MAR-16

Account No.: 13913
Login No. : L368952
Date Analyzed : 11-MAR-16
Report ID : 926726

Client ID : HOTX0304PNAH003 **Lab ID : L368952-3#** **Air Volume : 974.6 Liter**
Date Sampled : 03/04/16 **Date Analyzed : 03/11/16**

Parameter	LOQ ug	Filter ug	Front ug	Back ug	Total ug	Conc mg/m3	ppm
Naphthalene	0.3	<0.3	<0.3	<0.3	<0.3	<0.0003	<0.00006
Phenanthrene	0.3	<0.3	<0.3	<0.3	<0.3	<0.0004	<0.00005
Pyrene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00005

COMMENTS: Please see attached lab footnote report for any applicable footnotes.

Collection Media: FilterTube
Date : 14-MAR-16

Submitted by: PGM
NYS DOH # : 11626

Approved by: nkp/dnf
Supervisor: MWJ QC by: KSB

< -Less Than mg -Milligrams m3 -Cubic Meters kg -Kilograms NA -Not Applicable ND -Not Detected
> -Greater Than ug -Micrograms l -Liters NS -Not Specified ppm -Parts per Million LOQ-Limit of Quantitation

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LABORATORY ANALYSIS REPORT

Client : Center for Toxicology & Env. H
Site : NS
Project No. : 107907
Date Sampled : 04-MAR-16
Date Received : 07-MAR-16

Account No.: 13913
Login No. : L368952
Date Analyzed : 11-MAR-16
Report ID : 926726

Client ID : HOTX0304PNAH004 **Lab ID : L368952-4#** **Air Volume : NA**
Date Sampled : 03/04/16 **Date Analyzed : 03/11/16**

Parameter	LOQ ug	Filter ug	Front ug	Back ug	Total ug	Conc mg/m3	ppm
1-Nitropyrene	0.3	<0.3	<0.3	<0.3	<0.4	NA	NA
Acenaphthene	0.3	<0.3	<0.3	<0.3	<0.3	NA	NA
Acenaphthylene	0.3	<0.3	<0.3	<0.3	<0.3	NA	NA
Anthracene	0.3	<0.3	<0.3	<0.3	<0.4	NA	NA
Benzo(a)anthracene	0.3	<0.3	<0.3	<0.3	<0.4	NA	NA
Benzo(a)pyrene	0.3	<0.3	<0.3	<0.3	<0.5	NA	NA
Benzo(b)fluoranthene	0.3	<0.3	<0.3	<0.3	<0.4	NA	NA
Benzo(e)pyrene	0.3	<0.3	<0.3	<0.3	<0.4	NA	NA
Benzo(g,h,i)perylene	0.3	<0.3	<0.3	<0.3	<0.5	NA	NA
Benzo(k)fluoranthene	0.3	<0.3	<0.3	<0.3	<0.4	NA	NA
Chrysene	0.3	<0.3	<0.3	<0.3	<0.4	NA	NA
Dibenz(a,h)anthracene	0.3	<0.3	<0.3	<0.3	<0.4	NA	NA
Fluoranthene	0.3	<0.3	<0.3	<0.3	<0.4	NA	NA
Fluorene	0.3	<0.3	<0.3	<0.3	<0.3	NA	NA
Indeno(1,2,3-cd)pyrene	0.3	<0.3	<0.3	<0.3	<0.5	NA	NA

COMMENTS: Please see attached lab footnote report for any applicable footnotes.

Collection Media: FilterTube
Date : 14-MAR-16

Submitted by: PGM
NYS DOH # : 11626

Approved by: nkp/dnf
Supervisor: MWJ QC by: KSB

< -Less Than mg -Milligrams m3 -Cubic Meters kg -Kilograms NA -Not Applicable ND -Not Detected
> -Greater Than ug -Micrograms l -Liters NS -Not Specified ppm -Parts per Million LOQ-Limit of Quantitation

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LABORATORY ANALYSIS REPORT

Client : Center for Toxicology & Env. H
Site : NS
Project No. : 107907
Date Sampled : 04-MAR-16
Date Received : 07-MAR-16

Account No.: 13913
Login No. : L368952
Date Analyzed : 11-MAR-16
Report ID : 926726

Client ID : HOTX0304PNAH004 **Lab ID : L368952-4#** **Air Volume : NA**
Date Sampled : 03/04/16 **Date Analyzed : 03/11/16**

Parameter	LOQ ug	Filter ug	Front ug	Back ug	Total ug	Conc mg/m3	ppm
Naphthalene	0.3	<0.3	<0.3	<0.3	<0.3	NA	NA
Phenanthrene	0.3	<0.3	<0.3	<0.3	<0.3	NA	NA
Pyrene	0.3	<0.3	<0.3	<0.3	<0.4	NA	NA

COMMENTS: Please see attached lab footnote report for any applicable footnotes.

Collection Media: FilterTube
Date : 14-MAR-16

Submitted by: PGM
NYS DOH # : 11626

Approved by: nkp/dnf
Supervisor: MWJ QC by: KSB

< -Less Than mg -Milligrams m3 -Cubic Meters kg -Kilograms NA -Not Applicable ND -Not Detected
> -Greater Than ug -Micrograms l -Liters NS -Not Specified ppm -Parts per Million LOQ-Limit of Quantitation

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LABORATORY FOOTNOTE REPORT

Client Name : Center for Toxicology & Env. Health LLC
Site :
Project No. : 107907

Date Sampled : 04-MAR-16 Account No.: 13913
Date Received: 07-MAR-16 Login No. : L368952
Date Analyzed: 11-MAR-16

Unless otherwise noted below, all quality control results associated with the samples were within established control limits or did not impact reported results.

WARNING: The sample(s) to which the findings recorded herein (the "Findings") relate was(were) drawn and / or provided by the Client or by a third party acting at the Client's direction. The Findings constitute no warranty of the sample's representativeness of any goods and strictly relate to the sample(s). The Company accepts no liability with regard to the origin or source from which the sample(s) is/are said to be extracted.

Unrounded results are carried through the calculations that yield the final result and the final result is rounded to the number of significant figures appropriate to the accuracy of the analytical method. Please note that results appearing in the columns preceeding the final result column may have been rounded and therefore, if carried through the calculations, may not yield an identical final result to the one reported.

The stated LOQs for each analyte represent the demonstrated LOQ concentrations prior to correction for desorption efficiency (if applicable).

Unless otherwise noted below, reported results have not been blank corrected for any field blank or method blank.

L368952 (Report ID: 926726):
1-Nitropyrene - Total ug corrected for a desorption efficiency of 99%.
Acenaphthene - Total ug corrected for a desorption efficiency of 102%.
Acenaphthylene - Total ug corrected for a desorption efficiency of 102%.
Anthracene - Total ug corrected for a desorption efficiency of 98%.
Benzo(a)anthracene - Total ug corrected for a desorption efficiency of 98%.
Benzo(a)pyrene - Total ug corrected for a desorption efficiency of 98%.
Benzo(b)fluoranthene - Total ug corrected for a desorption efficiency of 97%.
Benzo(e)pyrene - Total ug corrected for a desorption efficiency of 98%.
Benzo(g,h,i)perylene - Total ug corrected for a desorption efficiency of 96%.
Benzo(k)fluoranthene - Total ug corrected for a desorption efficiency of 97%.
Chrysene - Total ug corrected for a desorption efficiency of 98%.
Dibenz(a,h)anthracene - Total ug corrected for a desorption efficiency of 99%.
Fluoranthene - Total ug corrected for a desorption efficiency of 98%.
Fluorene - Total ug corrected for a desorption efficiency of 97%.
Indeno(1,2,3-cd)pyrene - Total ug corrected for a desorption efficiency of 99%.
Naphthalene - Total ug corrected for a desorption efficiency of 99%.

<	-Less Than	mg	-Milligrams	m3	-Cubic Meters	kg	-Kilograms	ppm	-Parts per Million
>	-Greater Than	ug	-Micrograms	l	-Liters	NS	-Not Specified	ND	-Not Detected	NA	-Not Applicable

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LABORATORY FOOTNOTE REPORT

Client Name : Center for Toxicology & Env. Health LLC
Site :
Project No. : 107907

Date Sampled : 04-MAR-16 Account No.: 13913
Date Received: 07-MAR-16 Login No. : L368952
Date Analyzed: 11-MAR-16

L368952 (Report ID: 926726):
Phenanthrene - Total ug corrected for a desorption efficiency of 98%.
Pyrene - Total ug corrected for a desorption efficiency of 99%.
SOPs: il-n5506(12)

#L368952 (Report ID: 926726):
The blank spike (BS) for tube was outside the control limits of 90.7 to 128.% at 88.8% recovery for FLUORENE. The reported results may be biased low.
The blank spike (BS) for tube was outside the control limits of 89.7 to 134.% at 88.7% recovery for PYRENE. The reported results may be biased low.
The blank spike (BS) for filter was outside the control limits of 85.3 to 134.% at 85.2% recovery for BENZO(A)ANTHRACENE. The reported results may be biased low.
The blank spike (BS) for filter was outside the control limits of 86.7 to 129.% at 85.1% recovery for CHRYSENE. The reported results may be biased low.
The blank spike (BS) for filter was outside the control limits of 90.7 to 128.% at 85.1% recovery for FLUORENE. The reported results may be biased low.
The blank spike (BS) for filter was outside the control limits of 85.2 to 125.% at 84.2% recovery for NAPHTHALENE. The reported results may be biased low.
The blank spike (BS) for filter was outside the control limits of 82.7 to 131.% at 81.8% recovery for 1-NITROPYRENE. The reported results may be biased low.
The blank spike (BS) for filter was outside the control limits of 89.7 to 134.% at 86.4% recovery for PYRENE. The reported results may be biased low.
The blank spike (BS) for filter was outside the control limits of 85.3 to 132.% at 80.7% recovery for BENZO(K)FLUORANTHENE. The reported results may be biased low.
The blank spike (BS) for filter was outside the control limits of 87.8 to 128.% at 85.5% recovery for PHENANTHRENE. The reported results may be biased low.
The blank spike (BS) for filter was outside the control limits of 85.0 to 142.% at 84.7% recovery for BENZO(B)FLUORANTHENE. The reported results may be biased low.
The blank spike (BS) for filter was outside the control limits of 82.8 to 118.% at 79.7% recovery for ACENAPHTHYLENE. The reported results may be biased low.
The blank spike (BS) for filter was outside the control limits of 85.5 to 134.% at 85.3% recovery for FLUORANTHENE. The reported results may be biased low.
The blank spike (BS) for filter was outside the control limits of 82.3 to 125.% at 80.9% recovery for ACENAPHTHENE. The reported results may be biased low.

< -Less Than mg -Milligrams m3 -Cubic Meters kg -Kilograms ppm -Parts per Million
> -Greater Than ug -Micrograms l -Liters NS -Not Specified ND -Not Detected NA -Not Applicable

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LABORATORY FOOTNOTE REPORT

Client Name : Center for Toxicology & Env. Health LLC
Site :
Project No. : 107907

Date Sampled : 04-MAR-16
Date Received: 07-MAR-16
Date Analyzed: 11-MAR-16

Account No.: 13913
Login No. : L368952

#L368952 (Report ID: 926726):
The Blank Spike Duplicate (BSD) tube recovery was outside the control limits of 90.7 to 128.% at 89.4% recovery for FLUORENE. The reported results may be biased low.
Where possible, control limits are statistically generated in-house.
In the absence of statistical limits, BS/BSD guidance default limits of 75-125% are used.

Accuracy and mean recovery data presented below is based on a 95% confidence interval (k=2).
The estimated uncertainty applies to the media, technology, and SOP referenced in this report and does not account for the uncertainty associated with the sampling process.

Parameter	Accuracy	Mean Recovery
1-Nitropyrene	+/-16%	107%
Acenaphthene	+/-14.4%	104%
Acenaphthylene	+/-11.7%	100%
Anthracene	+/-15.7%	114%
Benzo(a)anthracene	+/-16.1%	110%
Benzo(a)pyrene	+/-26%	115%
Benzo(b)fluoranthene	+/-19%	113%
Benzo(e)pyrene	+/-19.2%	111%
Benzo(g,h,i)perylene	+/-20.2%	112%
Benzo(k)fluoranthene	+/-15.5%	109%
Chrysene	+/-14%	108%
Dibenz(a,h)anthracene	+/-15.6%	103%
Fluoranthene	+/-16.2%	110%
Fluorene	+/-12.4%	109%
Indeno(1,2,3-cd)pyrene	+/-19.5%	113%
Naphthalene	+/-13.3%	105%
Phenanthrene	+/-13.4%	108%
Pyrene	+/-14.6%	112%

< -Less Than mg -Milligrams m3 -Cubic Meters kg -Kilograms ppm -Parts per Million
> -Greater Than ug -Micrograms l -Liters NS -Not Specified ND -Not Detected NA -Not Applicable

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LABORATORY FOOTNOTE REPORT

Client Name : Center for Toxicology & Env. Health LLC
Site :
Project No. : 107907

Date Sampled : 04-MAR-16 Account No.: 13913
Date Received: 07-MAR-16 Login No. : L368952
Date Analyzed: 11-MAR-16

Parameter	Method	PEL
1-Nitropyrene	mod. NIOSH 5506; HPLC/UV	NA
Acenaphthene	mod. NIOSH 5506; HPLC/UV	NA
Acenaphthylene	mod. NIOSH 5506; HPLC/UV	NA
Anthracene	mod. NIOSH 5506; HPLC/UV	NA
Benzo(a)anthracene	mod. NIOSH 5506; HPLC/UV	NA
Benzo(a)pyrene	mod. NIOSH 5506; HPLC/UV	0.2 mg/m3 (TWA)
Benzo(b)fluoranthene	mod. NIOSH 5506; HPLC/UV	NA
Benzo(e)pyrene	mod. NIOSH 5506; HPLC/UV	NA
Benzo(g,h,i)perylene	mod. NIOSH 5506; HPLC/UV	NA
Benzo(k)fluoranthene	mod. NIOSH 5506; HPLC/UV	NA
Chrysene	mod. NIOSH 5506; HPLC/UV	0.2 mg/m3 (TWA)
Dibenz(a,h)anthracene	mod. NIOSH 5506; HPLC/UV	NA
Fluoranthene	mod. NIOSH 5506; HPLC/UV	NA
Fluorene	mod. NIOSH 5506; HPLC/UV	NA
Indeno(1,2,3-cd)pyrene	mod. NIOSH 5506; HPLC/UV	NA
Naphthalene	mod. NIOSH 5506; HPLC/UV	10 ppm (TWA)
Phenanthrene	mod. NIOSH 5506; HPLC/UV	NA
Pyrene	mod. NIOSH 5506; HPLC/UV	NA

< -Less Than mg -Milligrams m3 -Cubic Meters kg -Kilograms ppm -Parts per Million
> -Greater Than ug -Micrograms l -Liters NS -Not Specified ND -Not Detected NA -Not Applicable

Sample: WG341163-1 **Spikelot:** IH610903-4
QC Type: DLS **Raw File:**
Analysis date 03/11/16 16:40:30 **Approval Status:** YES
Instrument: LC6

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
NAPHTHALENE	.094033	.099	95	70.0 to 130.				
BENZO(A)ANTHRACENE	.096028	.099	97	70.0 to 130.				
CHRYSENE	.090318	.099	91.2	70.0 to 130.				
BENZO(E)PYRENE	.120927	.1	121	70.0 to 130.				
BENZO(B)FLUORANTHENE	.097686	.099	98.7	70.0 to 130.				
BENZO(K)FLUORANTHENE	.090226	.099	91.1	70.0 to 130.				
BENZO(A)PYRENE	.092944	.099	93.9	70.0 to 130.				
DIBENZ(A,H)ANTHRACENE	.080525	.099	81.3	70.0 to 130.				
BENZO(G,H,I)PERYLENE	.092684	.099	93.6	70.0 to 130.				
INDENO-1,2,3-CD-PYRENE	.092522	.099	93.5	70.0 to 130.				
ACENAPHTHYLENE	.098414	.099	99.4	70.0 to 130.				
ACENAPHTHENE	.095200	.1	95.2	70.0 to 130.				
FLUORENE	.094293	.098	96.2	70.0 to 130.				
PHENANTHRENE	.096635	.098	98.6	70.0 to 130.				
ANTHRACENE	.124578	.099	126	70.0 to 130.				
FLUORANTHENE	.088087	.098	89.9	70.0 to 130.				
1-NITROPYRENE	.102178	.099	103	70.0 to 130.				
PYRENE	.116082	.099	117	70.0 to 130.				

Sample: WG341163-2 **Spikelot:** IH610903-3
QC Type: CCV **Raw File:**
Analysis date 03/11/16 17:00:26 **Approval Status:** YES
Instrument: LC6

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
NAPHTHALENE	4.75094	4.95	96	88.5 to 120.				
PYRENE	5.07305	4.95	102	92.5 to 125.				
BENZO(A)ANTHRACENE	5.20671	4.95	105	93.7 to 119.				
CHRYSENE	4.96859	4.95	100	88.9 to 118.				
BENZO(E)PYRENE	5.15784	4.9995	103	90.6 to 127.				
BENZO(B)FLUORANTHENE	5.12102	4.95	103	93.8 to 125.				
BENZO(K)FLUORANTHENE	4.91928	4.95	99.4	88.2 to 117.				
BENZO(A)PYRENE	5.84978	4.95	118	83.3 to 137.				
DIBENZ(A,H)ANTHRACENE	5.02036	4.95	101	85.0 to 120.				
ACENAPHTHYLENE	4.86467	4.95	98.3	89.8 to 117.				
BENZO(G,H,I)PERYLENE	5.17274	4.95	104	88.6 to 123.				

Sample: WG341163-2 **Spikelot:** IH610903-3
QC Type: CCV **Raw File:**
Analysis date 03/11/16 17:00:26 **Approval Status:** YES
Instrument: LC6

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
INDENO-1,2,3-CD-PYRENE	5.07795	4.95	103	94.8 to 127.				
ACENAPHTHENE	4.92059	4.9995	98.4	87.1 to 119.				
FLUORENE	4.95696	4.9	101	92.7 to 123.				
PHENANTHRENE	4.99765	4.9	102	91.1 to 120.				
ANTHRACENE	5.94558	4.95	120	91.4 to 130.				
FLUORANTHENE	4.96559	4.9	101	92.0 to 120.				
1-NITROPYRENE	4.80225	4.95	97	86.8 to 123.				

Sample: WG341157-2 **Spikelot:** NA
QC Type: MBLANK **Raw File:**
Analysis date 03/11/16 18:00:16 **Approval Status:** YES
Instrument: LC6

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
PYRENE(FRONT)	.198822	<.3						
PYRENE(BACK)	0	<.3						
ACENAPHTHENE(FRONT)	0	<.3						
ACENAPHTHENE(BACK)	0	<.3						
ACENAPHTHYLENE(FRONT)	0	<.3						
ACENAPHTHYLENE(BACK)	0	<.3						
ANTHRACENE(FRONT)	0	<.3						
ANTHRACENE(BACK)	0	<.3						
BENZO(A)ANTHRACENE(FRONT)	0	<.3						
BENZO(A)ANTHRACENE(BACK)	0	<.3						
BENZO(A)PYRENE(FRONT)	0	<.3						
BENZO(A)PYRENE(BACK)	0	<.3						
BENZO(B)FLUORANTHENE(FRONT)	0	<.3						
BENZO(B)FLUORANTHENE(BACK)	0	<.3						
BENZO(E)PYRENE(FRONT)	0	<.3						
BENZO(E)PYRENE(BACK)	0	<.3						
BENZO(G,H,I)PERYLENE(FRONT)	0	<.3						
BENZO(G,H,I)PERYLENE(BACK)	0	<.3						
BENZO(K)FLUORANTHENE(FRONT)	0	<.3						
BENZO(K)FLUORANTHENE(BACK)	0	<.3						
CHRYSENE(FRONT)	0	<.3						
CHRYSENE(BACK)	0	<.3						

Sample: WG341157-2 **Spikelot:** NA
QC Type: MBLANK **Raw File:**
Analysis date 03/11/16 18:00:16 **Approval Status:** YES
Instrument: LC6

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
DIBENZ(A,H)ANTHRACENE(FRONT)	0	<.3						
DIBENZ(A,H)ANTHRACENE(BACK)	0	<.3						
FLUORANTHENE(FRONT)	0	<.3						
FLUORANTHENE(BACK)	0	<.3						
FLUORENE(FRONT)	0	<.3						
FLUORENE(BACK)	0	<.3						
INDENO-1,2,3-CD-PYRENE(FRONT)	0	<.3						
INDENO-1,2,3-CD-PYRENE(BACK)	0	<.3						
NAPHTHALENE(FRONT)	0	<.3						
NAPHTHALENE(BACK)	0	<.3						
1-NITROPYRENE(FRONT)	0	<.3						
1-NITROPYRENE(BACK)	0	<.3						
PHENANTHRENE(FRONT)	0	<.3						
PHENANTHRENE(BACK)	0	<.3						

Sample: WG341157-3 **Spikelot:** IH578222
QC Type: BS **Raw File:**
Analysis date 03/11/16 18:40:07 **Approval Status:** YES
Instrument: LC6

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
NAPHTHALENE	83.3352	99.9999	83.3		84.2	85.2 to 125		
BENZO(A)ANTHRACENE	83.6129	100.0998	83.5		85.2	85.3 to 134		
CHRYSENE	83.5238	100.0998	83.4		85.1	86.7 to 129		
BENZO(E)PYRENE	83.9850	99.9999	84		85.7	82.4 to 140		
BENZO(B)FLUORANTHENE	82.1765	99.9999	82.2		84.7	85.0 to 142		
BENZO(K)FLUORANTHENE	77.9291	99.5	78.3		80.7	85.3 to 132		
BENZO(A)PYRENE	82.7049	99.0978	83.5		85.2	76.5 to 154		
DIBENZ(A,H)ANTHRACENE	83.6245	99.9999	83.6		84.5	79.8 to 127		
BENZO(G,H,I)PERYLENE	83.6905	99.6	84		87.5	81.7 to 142		
INDENO-1,2,3-CD-PYRENE	86.6853	99.9	86.8		87.6	83.3 to 142		
ACENAPHTHYLENE	81.1642	99.7997	81.3		79.7	82.8 to 118		
ACENAPHTHENE	82.5617	99.9999	82.6		80.9	82.3 to 125		
FLUORENE	82.2417	99.6	82.6		85.1	90.7 to 128		
PHENANTHRENE	83.9046	100.15	83.8		85.5	87.8 to 128		
ANTHRACENE	98.0916	99.9999	98.1		100	90.2 to 137		

Sample: WG341157-3 **Spikelot:** IH578222
QC Type: BS **Raw File:**
Analysis date 03/11/16 18:40:07 **Approval Status:** YES
Instrument: LC6

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
FLUORANTHENE	83.2389	99.5995	83.6		85.3	85.5 to 134		
1-NITROPYRENE	80.6259	99.5	81		81.8	82.7 to 131		
PYRENE	85.5800	100.1	85.5		86.4	89.7 to 134		

Sample: WG341157-4 **Spikelot:** IH578222
QC Type: BSD **Raw File:**
Analysis date 03/11/16 19:00:03 **Approval Status:** YES
Instrument: LC6

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
NAPHTHALENE	93.2798	99.9999	93.3		94.2	85.2 to 125	-11.2	-10 to 10.0
BENZO(A)ANTHRACENE	94.0160	100.0998	93.9		95.8	85.3 to 134	-11.7	-10 to 10.0
CHRYSENE	91.9710	100.0998	91.9		93.8	86.7 to 129	-9.73	-10 to 10.0
BENZO(E)PYRENE	92.0765	99.9999	92.1		94	82.4 to 140	-9.24	-10 to 10.0
BENZO(B)FLUORANTHENE	90.8115	99.9999	90.8		93.6	85.0 to 142	-9.98	-10 to 10.0
BENZO(K)FLUORANTHENE	91.4047	99.5	91.9		94.7	85.3 to 132	-16	-10 to 10.0
BENZO(A)PYRENE	93.0128	99.0078	93.9		95.8	76.5 to 154	-11.7	-10 to 10.0
DIBENZ(A,H)ANTHRACENE	90.3980	99.9999	90.4		91.3	79.8 to 127	-7.74	-11.5 to 9.87
BENZO(G,H,I)PERYLENE	94.5594	99.6	94.9		98.9	81.7 to 142	-12.2	-10 to 10.0
INDENO-1,2,3-CD-PYRENE	91.1064	99.9	91.2		92.1	83.3 to 142	-5.01	-10 to 10.0
ACENAPHTHYLENE	91.6560	99.7997	91.8		90	82.8 to 118	-12.1	-10 to 10.0
ACENAPHTHENE	92.3835	99.9999	92.4		90.6	82.3 to 125	-11.3	-10 to 10.0
FLUORENE	94.0025	99.6	94.4		97.3	90.7 to 128	-13.4	-10 to 10.0
PHENANTHRENE	94.8921	100.15	94.7		96.7	87.8 to 128	-12.3	-10 to 10.0
ANTHRACENE	107.810	99.9999	108		110	90.2 to 137	-9.52	-10 to 10.0
FLUORANTHENE	89.6193	99.5995	90		91.8	85.5 to 134	-7.34	-10 to 10.0
1-NITROPYRENE	90.6121	99.5	91.1		92	82.7 to 131	-11.7	-10 to 10.0
PYRENE	91.7502	100.1	91.7		92.6	89.7 to 134	-6.93	-10.4 to 8.90

Sample: WG341157-5 **Spikelot:** IH578222
QC Type: BS **Raw File:**
Analysis date 03/11/16 19:20:01 **Approval Status:** YES
Instrument: LC6

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
NAPHTHALENE	79.2612	99.9999	79.3		86.2	85.2 to 125		
BENZO(A)ANTHRACENE	71.9925	100.0998	71.9		92.2	85.3 to 134		

Sample: WG341157-5 **Spikelot:** IH578222
QC Type: BS **Raw File:**
Analysis date 03/11/16 19:20:01 **Approval Status:** YES
Instrument: LC6

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
CHRYSENE	74.2582	100.0998	74.2		96.3	86.7 to 129		
BENZO(E)PYRENE	65.9123	99.9999	65.9		96.9	82.4 to 140		
BENZO(B)FLUORANTHENE	68.5344	99.9999	68.5		95.2	85.0 to 142		
BENZO(K)FLUORANTHENE	64.5086	99.5	64.8		90	85.3 to 132		
BENZO(A)PYRENE	69.4161	99.0978	70		106	76.5 to 154		
DIBENZ(A,H)ANTHRACENE	65.8903	99.9999	65.9		91.5	79.8 to 127		
BENZO(G,H,I)PERYLENE	61.2809	99.6	61.5		104	81.7 to 142		
INDENO-1,2,3-CD-PYRENE	63.7996	99.9	63.9		99.8	83.3 to 142		
ACENAPHTHYLENE	82.7443	99.7997	82.9		86.4	82.8 to 118		
ACENAPHTHENE	79.1408	99.9999	79.1		87.9	82.3 to 125		
FLUORENE	79.5606	99.6	79.9		88.8	90.7 to 128		
PHENANTHRENE	79.3482	100.15	79.2		92.1	87.8 to 128		
ANTHRACENE	91.1846	99.9999	91.2		107	90.2 to 137		
FLUORANTHENE	73.9440	99.5995	74.2		89.4	85.5 to 134		
1-NITROPYRENE	75.9428	99.5	76.3		90.9	82.7 to 131		
PYRENE	72.7745	100.1	72.7		88.7	89.7 to 134		

Sample: WG341157-6 **Spikelot:** IH578222
QC Type: BSD **Raw File:**
Analysis date 03/11/16 19:39:57 **Approval Status:** YES
Instrument: LC6

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
NAPHTHALENE	80.0461	99.9999	80		87	85.2 to 125	-.924	-10 to 10.0
BENZO(A)ANTHRACENE	72.8945	100.0998	72.8		93.4	85.3 to 134	-1.29	-10 to 10.0
CHRYSENE	71.0685	100.0998	71		92.2	86.7 to 129	4.35	-10 to 10.0
BENZO(E)PYRENE	66.2280	99.9999	66.2		97.4	82.4 to 140	-.515	-10 to 10.0
BENZO(B)FLUORANTHENE	70.5362	99.9999	70.5		98	85.0 to 142	-2.9	-10 to 10.0
BENZO(K)FLUORANTHENE	66.9009	99.5	67.2		93.4	85.3 to 132	-3.71	-10 to 10.0
BENZO(A)PYRENE	69.1346	99.0978	69.8		106	76.5 to 154	0	-10 to 10.0
DIBENZ(A,H)ANTHRACENE	64.7216	99.9999	64.7		89.9	79.8 to 127	1.76	-11.5 to 9.87
BENZO(G,H,I)PERYLENE	59.7224	99.6	60		102	81.7 to 142	1.94	-10 to 10.0
INDENO-1,2,3-CD-PYRENE	58.6400	99.9	58.7		91.7	83.3 to 142	8.46	-10 to 10.0
ACENAPHTHYLENE	80.2903	99.7997	80.5		83.8	82.8 to 118	3.06	-10 to 10.0
ACENAPHTHENE	78.9789	99.9999	79		87.8	82.3 to 125	.114	-10 to 10.0
FLUORENE	80.1296	99.6	80.5		89.4	90.7 to 128	-.673	-10 to 10.0

Sample: WG341157-6 **Spikelot:** IH578222
QC Type: BSD **Raw File:**
Analysis date 03/11/16 19:39:57 **Approval Status:** YES
Instrument: LC6

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
PHENANTHRENE	77.0609	100.15	76.9		89.5	87.8 to 128	2.86	-10 to 10.0
ANTHRACENE	89.6011	99.9999	89.6		105	90.2 to 137	1.89	-10 to 10.0
FLUORANTHENE	76.4045	99.5995	76.7		92.4	85.5 to 134	-3.3	-10 to 10.0
1-NITROPYRENE	76.3105	99.5	76.7		91.3	82.7 to 131	-.439	-10 to 10.0
PYRENE	77.4496	100.1	77.4		94.4	89.7 to 134	-6.23	-10.4 to 8.90

Sample: WG341163-3 **Spikelot:** IH610903-3
QC Type: CCV **Raw File:**
Analysis date 03/11/16 22:59:12 **Approval Status:** YES
Instrument: LC6

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
NAPHTHALENE	4.79998	4.95	97	88.5 to 120.				
PYRENE	5.09263	4.95	103	92.5 to 125.				
BENZO(A)ANTHRACENE	5.22949	4.95	106	93.7 to 119.				
CHRYSENE	4.99145	4.95	101	88.9 to 118.				
BENZO(E)PYRENE	5.17067	4.9995	103	90.6 to 127.				
BENZO(B)FLUORANTHENE	5.12653	4.95	104	93.8 to 125.				
BENZO(K)FLUORANTHENE	4.93305	4.95	99.7	88.2 to 117.				
BENZO(A)PYRENE	6.10360	4.95	123	83.3 to 137.				
DIBENZ(A,H)ANTHRACENE	5.03913	4.95	102	85.0 to 120.				
BENZO(G,H,I)PERYLENE	5.29049	4.95	107	88.6 to 123.				
INDENO-1,2,3-CD-PYRENE	5.11946	4.95	103	94.8 to 127.				
ACENAPHTHYLENE	4.89862	4.95	99	89.8 to 117.				
ACENAPHTHENE	4.89142	4.9995	97.8	87.1 to 119.				
FLUORENE	4.95128	4.9	101	92.7 to 123.				
PHENANTHRENE	5.03180	4.9	103	91.1 to 120.				
ANTHRACENE	6.00085	4.95	121	91.4 to 130.				
FLUORANTHENE	4.98489	4.9	102	92.0 to 120.				
1-NITROPYRENE	4.79044	4.95	96.8	86.8 to 123.				

Sample: WG341163-4 **Spikelot:** IH610903-3
QC Type: CCV **Raw File:**
Analysis date 03/12/16 05:37:46 **Approval Status:** YES
Instrument: LC6

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits

Sample: WG341163-4 **Spikelot:** IH610903-3
QC Type: CCV **Raw File:**
Analysis date 03/12/16 05:37:46 **Approval Status:** YES
Instrument: LC6

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
NAPHTHALENE	4.82288	4.95	97.4	88.5 to 120.				
PYRENE	5.10840	4.95	103	92.5 to 125.				
BENZO(A)ANTHRACENE	5.25128	4.95	106	93.7 to 119.				
CHRYSENE	5.01868	4.95	101	88.9 to 118.				
BENZO(E)PYRENE	5.20237	4.9995	104	90.6 to 127.				
BENZO(B)FLUORANTHENE	5.17538	4.95	105	93.8 to 125.				
BENZO(K)FLUORANTHENE	4.94679	4.95	99.9	88.2 to 117.				
BENZO(A)PYRENE	6.30524	4.95	127	83.3 to 137.				
DIBENZ(A,H)ANTHRACENE	5.05933	4.95	102	85.0 to 120.				
ACENAPHTHYLENE	4.95218	4.95	100	89.8 to 117.				
BENZO(G,H,I)PERYLENE	5.35139	4.95	108	88.6 to 123.				
INDENO-1,2,3-CD-PYRENE	5.15484	4.95	104	94.8 to 127.				
ACENAPHTHENE	4.88739	4.9995	97.8	87.1 to 119.				
FLUORENE	4.96926	4.9	101	92.7 to 123.				
PHENANTHRENE	5.03772	4.9	103	91.1 to 120.				
ANTHRACENE	6.01812	4.95	122	91.4 to 130.				
FLUORANTHENE	5.01155	4.9	102	92.0 to 120.				
1-NITROPYRENE	4.80532	4.95	97.1	86.8 to 123.				

Sample: WG341163-5 **Spikelot:** IH610903-3
QC Type: CCV **Raw File:**
Analysis date 03/12/16 07:37:22 **Approval Status:** YES
Instrument: LC6

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
NAPHTHALENE	4.83947	4.95	97.8	88.5 to 120.				
PYRENE	5.14510	4.95	104	92.5 to 125.				
BENZO(A)ANTHRACENE	5.24149	4.95	106	93.7 to 119.				
CHRYSENE	5.00173	4.95	101	88.9 to 118.				
BENZO(E)PYRENE	5.18748	4.9995	104	90.6 to 127.				
BENZO(B)FLUORANTHENE	5.13759	4.95	104	93.8 to 125.				
BENZO(K)FLUORANTHENE	4.95977	4.95	100	88.2 to 117.				
BENZO(A)PYRENE	6.28951	4.95	127	83.3 to 137.				
DIBENZ(A,H)ANTHRACENE	5.04686	4.95	102	85.0 to 120.				
BENZO(G,H,I)PERYLENE	5.33574	4.95	108	88.6 to 123.				
ACENAPHTHYLENE	4.92814	4.95	99.6	89.8 to 117.				

Sample: WG341163-5 **Spikelot:** IH610903-3

QC Type: CCV **Raw File:**

Analysis date 03/12/16 07:37:22 **Approval Status:** YES

Instrument: LC6

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
INDENO-1,2,3-CD-PYRENE	5.12768	4.95	104	94.8 to 127.				
ACENAPHTHENE	4.89015	4.9995	97.8	87.1 to 119.				
FLUORENE	4.95696	4.9	101	92.7 to 123.				
PHENANTHRENE	5.05529	4.9	103	91.1 to 120.				
ANTHRACENE	6.00438	4.95	121	91.4 to 130.				
FLUORANTHENE	4.98408	4.9	102	92.0 to 120.				
1-NITROPYRENE	4.81359	4.95	97.2	86.8 to 123.				

L368952

5120 North Shore Drive
North Little Rock, AR 72118
Phone: (501) 801-8500
Fax: (501) 801-8501
Website: www.cteh.com

Center for Toxicology and Environmental Health L.L.C.

SAMPLE CHAIN OF CUSTODY AND ANALYSIS REQUEST FORM

104

Page 1 of 1

	Send Report To:	Send Invoice To:
Name		Accounts Payable
Company	CTEH	CTEH
Address	2000 Anders Lane Kemah, Texas 77565	5120 North Shore Drive North Little Rock, AR 72118
Phone	(281)535-2834	(501)801-8500
Fax	(281)535-0232	(501)801-8501
e-mail	labresults@cteh.com; mberg@cteh.com; cconnolly@cteh.com	raccounting@cteh.com

CTEH Project #: 107907

Turnaround Requested:
Same Day __Next Day (24 hour) X Normal
__Other (Specify) _____

Complete Data Packet Requested ☒Yes ☐No

Lab Contact Information:
Galson Laboratories
6601 Kirkville Road
E. Syracuse, NY 13057

Client Sample Identification	Other Sample Identification	Sample Size	Units (Check one) X L __cm²	Sample Date	Sample Time (for non-air samples)	Initials	PNAH								Matrix (A = air, B = bulk, S = soil, SW = wipe, T = tape, W = water)
HOTX030404PNAH0001	AS12	986.9	L	3/4/16		PW	Y								A
HOTX030404PNAH0002	AS17	989.8	L	3/4/16		PW	Y								A
HOTX030404PNAH0003	AS07	978.4	L	3/4/16		PW	Y								A
HOTX030404PNAH0004	BL	0	L	3/4/16		PW	Y								A

bottle in vial 368943

SK 3/7/16

Samples Received in Light Sensitive Material: (Yes) or No

Not Used

RELINQUISHED BY	DATE/TIME	RECEIVED BY	DATE/TIME
	3/5/16 11:30		
		M. Liaux	3/7/16 1135

Rec'd intact & all accounted for? (Yes) or No SK
Rec'd w/custody seals intact? Yes or No NA
Rec'd in light sensitive packaging? (Yes) or No SK
Rec'd with ice pack? (Yes) or No SK
Rec'd temperature compliant? (Yes) or No SK

Dr. Mike Berg
Center for Toxicology & Env. Health LLC
2000 Anders Lane
Kemah, TX 77565

March 15, 2016

DOH ELAP #11626 Account# 13913 Login# L369083
AIHA-LAP #100324

Dear Dr. Berg:

Enclosed are the analytical results for the samples received by our laboratory on March 08, 2016. All test results meet the quality control requirements of AIHA-LAP and NELAC unless otherwise stated in this report. All samples on the chain of custody were received in good condition unless otherwise noted.

Results in this report are based on the sampling data provided by the client and refer only to the samples as they were received at the laboratory. Unless otherwise requested, all samples will be discarded 14 days from the date of this report, with the exception of IOMs, which will be cleaned and disposed of after seven calendar days.

Current Scopes of Accreditation can be viewed at www.galsonlabs.com in the accreditations section under the "about Galson" tab.

Please contact Pamela Weaver at (888) 432-5227, if you would like any additional information regarding this report. Thank you for using SGS Galson Laboratories.

Sincerely,

SGS Galson Laboratories

Lisa Swab
Laboratory Director

Enclosure(s)

Galson Laboratories, Inc. is now a part of SGS, the world's leading inspection, verification, testing, and certification company. As part of our transition to SGS, you will begin to see some formatting changes with reports that will improve the presentation of data and allow for the transition to the new logo.

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FAX: (315) 437-0571
www.galsonlabs.com

LABORATORY ANALYSIS REPORT

Client : Center for Toxicology & Env. H
Site : NS
Project No. : 107907
Date Sampled : 05-MAR-16
Date Received : 08-MAR-16

Account No.: 13913
Login No. : L369083
Date Analyzed : 12-MAR-16
Report ID : 926928

Client ID : HOTX0305PNAH001 **Lab ID : L369083-1#** **Air Volume : 956.4 Liter**
Date Sampled : 03/05/16 **Date Analyzed : 03/12/16**

Parameter	LOQ ug	Filter ug	Front ug	Back ug	Total ug	Conc mg/m3	ppm
1-Nitropyrene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Acenaphthene	0.3	<0.3	<0.3	<0.3	<0.3	<0.0003	<0.00006
Acenaphthylene	0.3	<0.3	<0.3	<0.3	<0.3	<0.0003	<0.00005
Anthracene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00005
Benzo(a)anthracene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Benzo(a)pyrene	0.3	<0.3	<0.3	<0.3	<0.5	<0.0005	<0.00005
Benzo(b)fluoranthene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Benzo(e)pyrene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0005	<0.00004
Benzo(g,h,i)perylene	0.3	<0.3	<0.3	<0.3	<0.5	<0.0005	<0.00005
Benzo(k)fluoranthene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Chrysene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Dibenz(a,h)anthracene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Fluoranthene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00005
Fluorene	0.3	<0.3	<0.3	<0.3	<0.3	<0.0003	<0.00005
Indeno(1,2,3-cd)pyrene	0.3	<0.3	<0.3	<0.3	<0.5	<0.0005	<0.00004

COMMENTS: Please see attached lab footnote report for any applicable footnotes.

Collection Media: FilterTube
Date : 15-MAR-16

Submitted by: PGM
NYS DOH # : 11626

Approved by: nkp
Supervisor: MWJ QC by: TJB

< -Less Than mg -Milligrams m3 -Cubic Meters kg -Kilograms NA -Not Applicable ND -Not Detected
> -Greater Than ug -Micrograms l -Liters NS -Not Specified ppm -Parts per Million LOQ-Limit of Quantitation

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LABORATORY ANALYSIS REPORT

Client : Center for Toxicology & Env. H
Site : NS
Project No. : 107907
Date Sampled : 05-MAR-16
Date Received : 08-MAR-16

Account No.: 13913
Login No. : L369083
Date Analyzed : 12-MAR-16
Report ID : 926928

Client ID : HOTX0305PNAH001 **Lab ID : L369083-1#** **Air Volume : 956.4 Liter**
Date Sampled : 03/05/16 **Date Analyzed : 03/12/16**

Parameter	LOQ ug	Filter ug	Front ug	Back ug	Total ug	Conc mg/m3	ppm
Naphthalene	0.3	<0.3	<0.3	<0.3	<0.3	<0.0003	<0.00007
Phenanthrene	0.3	<0.3	<0.3	<0.3	<0.3	<0.0004	<0.00005
Pyrene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00005

COMMENTS: Please see attached lab footnote report for any applicable footnotes.

Collection Media: FilterTube
Date : 15-MAR-16

Submitted by: PGM
NYS DOH # : 11626

Approved by: nkp
Supervisor: MWJ QC by: TJB

< -Less Than mg -Milligrams m3 -Cubic Meters kg -Kilograms NA -Not Applicable ND -Not Detected
> -Greater Than ug -Micrograms l -Liters NS -Not Specified ppm -Parts per Million LOQ-Limit of Quantitation

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LABORATORY ANALYSIS REPORT

Client : Center for Toxicology & Env. H
Site : NS
Project No. : 107907
Date Sampled : 05-MAR-16
Date Received : 08-MAR-16

Account No.: 13913
Login No. : L369083
Date Analyzed : 12-MAR-16
Report ID : 926928

Client ID : HOTX0305PNAH002 **Lab ID : L369083-2#** **Air Volume : 971.9 Liter**
Date Sampled : 03/05/16 **Date Analyzed : 03/12/16**

Parameter	LOQ ug	Filter ug	Front ug	Back ug	Total ug	Conc mg/m3	ppm
1-Nitropyrene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Acenaphthene	0.3	<0.3	<0.3	<0.3	<0.3	<0.0003	<0.00005
Acenaphthylene	0.3	<0.3	<0.3	<0.3	<0.3	<0.0003	<0.00005
Anthracene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00005
Benzo(a)anthracene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Benzo(a)pyrene	0.3	<0.3	<0.3	<0.3	<0.5	<0.0005	<0.00005
Benzo(b)fluoranthene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Benzo(e)pyrene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0005	<0.00004
Benzo(g,h,i)perylene	0.3	<0.3	<0.3	<0.3	<0.5	<0.0005	<0.00005
Benzo(k)fluoranthene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Chrysene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Dibenz(a,h)anthracene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Fluoranthene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Fluorene	0.3	<0.3	<0.3	<0.3	<0.3	<0.0003	<0.00005
Indeno(1,2,3-cd)pyrene	0.3	<0.3	<0.3	<0.3	<0.5	<0.0005	<0.00004

COMMENTS: Please see attached lab footnote report for any applicable footnotes.

Collection Media: FilterTube
Date : 15-MAR-16

Submitted by: PGM
NYS DOH # : 11626

Approved by: nkp
Supervisor: MWJ QC by: TJB

< -Less Than mg -Milligrams m3 -Cubic Meters kg -Kilograms NA -Not Applicable ND -Not Detected
> -Greater Than ug -Micrograms l -Liters NS -Not Specified ppm -Parts per Million LOQ-Limit of Quantitation

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LABORATORY ANALYSIS REPORT

Client : Center for Toxicology & Env. H
Site : NS
Project No. : 107907
Date Sampled : 05-MAR-16
Date Received : 08-MAR-16

Account No.: 13913
Login No. : L369083
Date Analyzed : 12-MAR-16
Report ID : 926928

Client ID : HOTX0305PNAH002 **Lab ID : L369083-2#** **Air Volume : 971.9 Liter**
Date Sampled : 03/05/16 **Date Analyzed : 03/12/16**

Parameter	LOQ ug	Filter ug	Front ug	Back ug	Total ug	Conc mg/m3	ppm
Naphthalene	0.3	<0.3	<0.3	<0.3	<0.3	<0.0003	<0.00006
Phenanthrene	0.3	<0.3	<0.3	<0.3	<0.3	<0.0004	<0.00005
Pyrene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00005

COMMENTS: Please see attached lab footnote report for any applicable footnotes.

Collection Media: FilterTube
Date : 15-MAR-16

Submitted by: PGM
NYS DOH # : 11626

Approved by: nkp
Supervisor: MWJ QC by: TJB

< -Less Than mg -Milligrams m3 -Cubic Meters kg -Kilograms NA -Not Applicable ND -Not Detected
> -Greater Than ug -Micrograms l -Liters NS -Not Specified ppm -Parts per Million LOQ-Limit of Quantitation

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LABORATORY ANALYSIS REPORT

Client : Center for Toxicology & Env. H
Site : NS
Project No. : 107907
Date Sampled : 05-MAR-16
Date Received : 08-MAR-16

Account No.: 13913
Login No. : L369083
Date Analyzed : 12-MAR-16
Report ID : 926928

Client ID : HOTX0305PNAH003 **Lab ID : L369083-3#** **Air Volume : 958.1 Liter**
Date Sampled : 03/05/16 **Date Analyzed : 03/12/16**

Parameter	LOQ ug	Filter ug	Front ug	Back ug	Total ug	Conc mg/m3	ppm
1-Nitropyrene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Acenaphthene	0.3	<0.3	<0.3	<0.3	<0.3	<0.0003	<0.00006
Acenaphthylene	0.3	<0.3	<0.3	<0.3	<0.3	<0.0003	<0.00005
Anthracene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00005
Benzo(a)anthracene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Benzo(a)pyrene	0.3	<0.3	<0.3	<0.3	<0.5	<0.0005	<0.00005
Benzo(b)fluoranthene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Benzo(e)pyrene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0005	<0.00004
Benzo(g,h,i)perylene	0.3	<0.3	<0.3	<0.3	<0.5	<0.0005	<0.00005
Benzo(k)fluoranthene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Chrysene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Dibenz(a,h)anthracene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Fluoranthene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00005
Fluorene	0.3	<0.3	<0.3	<0.3	<0.3	<0.0003	<0.00005
Indeno(1,2,3-cd)pyrene	0.3	<0.3	<0.3	<0.3	<0.5	<0.0005	<0.00004

COMMENTS: Please see attached lab footnote report for any applicable footnotes.

Collection Media: FilterTube
Date : 15-MAR-16

Submitted by: PGM
NYS DOH # : 11626

Approved by: nkp
Supervisor: MWJ QC by: TJB

< -Less Than mg -Milligrams m3 -Cubic Meters kg -Kilograms NA -Not Applicable ND -Not Detected
> -Greater Than ug -Micrograms l -Liters NS -Not Specified ppm -Parts per Million LOQ-Limit of Quantitation

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LABORATORY ANALYSIS REPORT

Client : Center for Toxicology & Env. H
Site : NS
Project No. : 107907
Date Sampled : 05-MAR-16
Date Received : 08-MAR-16

Account No.: 13913
Login No. : L369083

Date Analyzed : 12-MAR-16
Report ID : 926928

Client ID : HOTX0305PNAH003 **Lab ID : L369083-3#** **Air Volume : 958.1 Liter**
Date Sampled : 03/05/16 **Date Analyzed : 03/12/16**

Parameter	LOQ ug	Filter ug	Front ug	Back ug	Total ug	Conc mg/m3	ppm
Naphthalene	0.3	<0.3	0.4	<0.3	0.5	0.0005	0.00009
Phenanthrene	0.3	<0.3	<0.3	<0.3	<0.3	<0.0004	<0.00005
Pyrene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00005

COMMENTS: Please see attached lab footnote report for any applicable footnotes.

Collection Media: FilterTube
Date : 15-MAR-16

Submitted by: PGM
NYS DOH # : 11626

Approved by: nkp
Supervisor: MWJ QC by: TJB

< -Less Than mg -Milligrams m3 -Cubic Meters kg -Kilograms NA -Not Applicable ND -Not Detected
> -Greater Than ug -Micrograms l -Liters NS -Not Specified ppm -Parts per Million LOQ-Limit of Quantitation

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LABORATORY ANALYSIS REPORT

Client : Center for Toxicology & Env. H
Site : NS
Project No. : 107907
Date Sampled : 05-MAR-16
Date Received : 08-MAR-16

Account No.: 13913
Login No. : L369083
Date Analyzed : 12-MAR-16
Report ID : 926928

Client ID : HOTX0305PNAH004 **Lab ID : L369083-4#** **Air Volume : NA**
Date Sampled : 03/05/16 **Date Analyzed : 03/12/16**

Parameter	LOQ ug	Filter ug	Front ug	Back ug	Total ug	Conc mg/m3	ppm
1-Nitropyrene	0.3	<0.3	<0.3	<0.3	<0.4	NA	NA
Acenaphthene	0.3	<0.3	<0.3	<0.3	<0.3	NA	NA
Acenaphthylene	0.3	<0.3	<0.3	<0.3	<0.3	NA	NA
Anthracene	0.3	<0.3	<0.3	<0.3	<0.4	NA	NA
Benzo(a)anthracene	0.3	<0.3	<0.3	<0.3	<0.4	NA	NA
Benzo(a)pyrene	0.3	<0.3	<0.3	<0.3	<0.5	NA	NA
Benzo(b)fluoranthene	0.3	<0.3	<0.3	<0.3	<0.4	NA	NA
Benzo(e)pyrene	0.3	<0.3	<0.3	<0.3	<0.4	NA	NA
Benzo(g,h,i)perylene	0.3	<0.3	<0.3	<0.3	<0.5	NA	NA
Benzo(k)fluoranthene	0.3	<0.3	<0.3	<0.3	<0.4	NA	NA
Chrysene	0.3	<0.3	<0.3	<0.3	<0.4	NA	NA
Dibenz(a,h)anthracene	0.3	<0.3	<0.3	<0.3	<0.4	NA	NA
Fluoranthene	0.3	<0.3	<0.3	<0.3	<0.4	NA	NA
Fluorene	0.3	<0.3	<0.3	<0.3	<0.3	NA	NA
Indeno(1,2,3-cd)pyrene	0.3	<0.3	<0.3	<0.3	<0.5	NA	NA

COMMENTS: Please see attached lab footnote report for any applicable footnotes.

Collection Media: FilterTube
Date : 15-MAR-16

Submitted by: PGM
NYS DOH # : 11626

Approved by: nkp
Supervisor: MWJ QC by: TJB

< -Less Than mg -Milligrams m3 -Cubic Meters kg -Kilograms NA -Not Applicable ND -Not Detected
> -Greater Than ug -Micrograms l -Liters NS -Not Specified ppm -Parts per Million LOQ-Limit of Quantitation

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LABORATORY ANALYSIS REPORT

Client : Center for Toxicology & Env. H
Site : NS
Project No. : 107907
Date Sampled : 05-MAR-16
Date Received : 08-MAR-16

Account No.: 13913
Login No. : L369083
Date Analyzed : 12-MAR-16
Report ID : 926928

Client ID : HOTX0305PNAH004 **Lab ID : L369083-4#** **Air Volume : NA**
Date Sampled : 03/05/16 **Date Analyzed : 03/12/16**

Parameter	LOQ ug	Filter ug	Front ug	Back ug	Total ug	Conc mg/m3	ppm
Naphthalene	0.3	<0.3	<0.3	<0.3	<0.3	NA	NA
Phenanthrene	0.3	<0.3	<0.3	<0.3	<0.3	NA	NA
Pyrene	0.3	<0.3	<0.3	<0.3	<0.4	NA	NA

COMMENTS: Please see attached lab footnote report for any applicable footnotes.

Collection Media: FilterTube
Date : 15-MAR-16

Submitted by: PGM
NYS DOH # : 11626

Approved by: nkp
Supervisor: MWJ QC by: TJB

< -Less Than mg -Milligrams m3 -Cubic Meters kg -Kilograms NA -Not Applicable ND -Not Detected
> -Greater Than ug -Micrograms l -Liters NS -Not Specified ppm -Parts per Million LOQ-Limit of Quantitation

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LABORATORY FOOTNOTE REPORT

Client Name : Center for Toxicology & Env. Health LLC
Site :
Project No. : 107907

Date Sampled : 05-MAR-16 Account No.: 13913
Date Received: 08-MAR-16 Login No. : L369083
Date Analyzed: 12-MAR-16

Unless otherwise noted below, all quality control results associated with the samples were within established control limits or did not impact reported results.

WARNING: The sample(s) to which the findings recorded herein (the "Findings") relate was(were) drawn and / or provided by the Client or by a third party acting at the Client's direction. The Findings constitute no warranty of the sample's representativeness of any goods and strictly relate to the sample(s). The Company accepts no liability with regard to the origin or source from which the sample(s) is/are said to be extracted.

Unrounded results are carried through the calculations that yield the final result and the final result is rounded to the number of significant figures appropriate to the accuracy of the analytical method. Please note that results appearing in the columns preceeding the final result column may have been rounded and therefore, if carried through the calculations, may not yield an identical final result to the one reported.

The stated LOQs for each analyte represent the demonstrated LOQ concentrations prior to correction for desorption efficiency (if applicable).

Unless otherwise noted below, reported results have not been blank corrected for any field blank or method blank.

L369083 (Report ID: 926928):
1-Nitropyrene - Total ug corrected for a desorption efficiency of 99%.
Acenaphthene - Total ug corrected for a desorption efficiency of 102%.
Acenaphthylene - Total ug corrected for a desorption efficiency of 102%.
Anthracene - Total ug corrected for a desorption efficiency of 98%.
Benzo(a)anthracene - Total ug corrected for a desorption efficiency of 98%.
Benzo(a)pyrene - Total ug corrected for a desorption efficiency of 98%.
Benzo(b)fluoranthene - Total ug corrected for a desorption efficiency of 97%.
Benzo(e)pyrene - Total ug corrected for a desorption efficiency of 98%.
Benzo(g,h,i)perylene - Total ug corrected for a desorption efficiency of 96%.
Benzo(k)fluoranthene - Total ug corrected for a desorption efficiency of 97%.
Chrysene - Total ug corrected for a desorption efficiency of 98%.
Dibenz(a,h)anthracene - Total ug corrected for a desorption efficiency of 99%.
Fluoranthene - Total ug corrected for a desorption efficiency of 98%.
Fluorene - Total ug corrected for a desorption efficiency of 97%.
Indeno(1,2,3-cd)pyrene - Total ug corrected for a desorption efficiency of 99%.
Naphthalene - Total ug corrected for a desorption efficiency of 99%.

< -Less Than	mg -Milligrams	m3 -Cubic Meters	kg -Kilograms	ppm -Parts per Million		
> -Greater Than	ug -Micrograms	l -Liters	NS -Not Specified	ND -Not Detected	NA -Not Applicable	

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East Syracuse, NY 13057
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LABORATORY FOOTNOTE REPORT

Client Name : Center for Toxicology & Env. Health LLC
Site :
Project No. : 107907

Date Sampled : 05-MAR-16 Account No.: 13913
Date Received: 08-MAR-16 Login No. : L369083
Date Analyzed: 12-MAR-16

L369083 (Report ID: 926928):
Phenanthrene - Total ug corrected for a desorption efficiency of 98%.
Pyrene - Total ug corrected for a desorption efficiency of 99%.
SOPs: il-n5506(12)

#L369083 (Report ID: 926928):
The blank spike (BS - for tube) was outside the control limits of 90.7 to 128.% at 88.8% recovery for FLUORENE. The reported results may be biased low.
The blank spike (BS - for tube) was outside the control limits of 89.7 to 134.% at 88.7% recovery for PYRENE. The reported results may be biased low.
The blank spike (BS - for filter) was outside the control limits of 85.3 to 134.% at 85.2% recovery for BENZO(A)ANTHRACENE. The reported results may be biased low.
The blank spike (BS - for filter) was outside the control limits of 86.7 to 129.% at 85.1% recovery for CHRYSENE. The reported results may be biased low.
The blank spike (BS - for filter) was outside the control limits of 90.7 to 128.% at 85.1% recovery for FLUORENE. The reported results may be biased low.
The blank spike (BS - for filter) was outside the control limits of 85.2 to 125.% at 84.2% recovery for NAPHTHALENE. The reported results may be biased low.
The blank spike (BS - for filter) was outside the control limits of 82.7 to 131.% at 81.8% recovery for 1-NITROPYRENE. The reported results may be biased low.
The blank spike (BS - for filter) was outside the control limits of 89.7 to 134.% at 86.4% recovery for PYRENE. The reported results may be biased low.
The blank spike (BS - for filter) was outside the control limits of 85.3 to 132.% at 80.7% recovery for BENZO(K)FLUORANTHENE. The reported results may be biased low.
The blank spike (BS - for filter) was outside the control limits of 87.8 to 128.% at 85.5% recovery for PHENANTHRENE. The reported results may be biased low.
The blank spike (BS - for filter) was outside the control limits of 85.0 to 142.% at 84.7% recovery for BENZO(B)FLUORANTHENE. The reported results may be biased low.
The blank spike (BS - for filter) was outside the control limits of 82.8 to 118.% at 79.7% recovery for ACENAPHTHYLENE. The reported results may be biased low.
The blank spike (BS - for filter) was outside the control limits of 85.5 to 134.% at 85.3% recovery for FLUORANTHENE. The reported results may be biased low.
The blank spike (BS - for filter) was outside the control limits of 82.3 to 125.% at 80.9% recovery for ACENAPHTHENE. The reported results may be biased low.

<	-Less Than	mg	-Milligrams	m3	-Cubic Meters	kg	-Kilograms	ppm	-Parts per Million
>	-Greater Than	ug	-Micrograms	l	-Liters	NS	-Not Specified	ND	-Not Detected	NA	-Not Applicable

GALSON LABORATORIES

6601 Kirkville Road
East Syracuse, NY 13057
(315) 432-5227
FAX: (315) 437-0571
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LABORATORY FOOTNOTE REPORT

Client Name : Center for Toxicology & Env. Health LLC
Site :
Project No. : 107907

Date Sampled : 05-MAR-16
Date Received: 08-MAR-16
Date Analyzed: 12-MAR-16

Account No.: 13913
Login No. : L369083

#L369083 (Report ID: 926928):
The Blank Spike Duplicate (BSD - for tube) recovery was outside the control limits of 90.7 to 128.% at 89.4% recovery for FLUORENE. The reported results may be biased low.
Where possible, control limits are statistically generated in-house.
In the absence of statistical limits, BS/BSD guidance default limits of 75-125% are used.

Accuracy and mean recovery data presented below is based on a 95% confidence interval (k=2).
The estimated uncertainty applies to the media, technology, and SOP referenced in this report and does not account for the uncertainty associated with the sampling process.

Parameter	Accuracy	Mean Recovery
1-Nitropyrene	+/-16%	107%
Acenaphthene	+/-14.4%	104%
Acenaphthylene	+/-11.7%	100%
Anthracene	+/-15.7%	114%
Benzo(a)anthracene	+/-16.1%	110%
Benzo(a)pyrene	+/-26%	115%
Benzo(b)fluoranthene	+/-19%	113%
Benzo(e)pyrene	+/-19.2%	111%
Benzo(g,h,i)perylene	+/-20.2%	112%
Benzo(k)fluoranthene	+/-15.5%	109%
Chrysene	+/-14%	108%
Dibenz(a,h)anthracene	+/-15.6%	103%
Fluoranthene	+/-16.2%	110%
Fluorene	+/-12.4%	109%
Indeno(1,2,3-cd)pyrene	+/-19.5%	113%
Naphthalene	+/-13.3%	105%
Phenanthrene	+/-13.4%	108%
Pyrene	+/-14.6%	112%

< -Less Than mg -Milligrams m3 -Cubic Meters kg -Kilograms ppm -Parts per Million
> -Greater Than ug -Micrograms l -Liters NS -Not Specified ND -Not Detected NA -Not Applicable

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Client Name : Center for Toxicology & Env. Health LLC
Site :
Project No. : 107907

Date Sampled : 05-MAR-16 Account No.: 13913
Date Received: 08-MAR-16 Login No. : L369083
Date Analyzed: 12-MAR-16

Parameter	Method	PEL
1-Nitropyrene	mod. NIOSH 5506; HPLC/UV	NA
Acenaphthene	mod. NIOSH 5506; HPLC/UV	NA
Acenaphthylene	mod. NIOSH 5506; HPLC/UV	NA
Anthracene	mod. NIOSH 5506; HPLC/UV	NA
Benzo(a)anthracene	mod. NIOSH 5506; HPLC/UV	NA
Benzo(a)pyrene	mod. NIOSH 5506; HPLC/UV	0.2 mg/m3 (TWA)
Benzo(b)fluoranthene	mod. NIOSH 5506; HPLC/UV	NA
Benzo(e)pyrene	mod. NIOSH 5506; HPLC/UV	NA
Benzo(g,h,i)perylene	mod. NIOSH 5506; HPLC/UV	NA
Benzo(k)fluoranthene	mod. NIOSH 5506; HPLC/UV	NA
Chrysene	mod. NIOSH 5506; HPLC/UV	0.2 mg/m3 (TWA)
Dibenz(a,h)anthracene	mod. NIOSH 5506; HPLC/UV	NA
Fluoranthene	mod. NIOSH 5506; HPLC/UV	NA
Fluorene	mod. NIOSH 5506; HPLC/UV	NA
Indeno(1,2,3-cd)pyrene	mod. NIOSH 5506; HPLC/UV	NA
Naphthalene	mod. NIOSH 5506; HPLC/UV	10 ppm (TWA)
Phenanthrene	mod. NIOSH 5506; HPLC/UV	NA
Pyrene	mod. NIOSH 5506; HPLC/UV	NA

< -Less Than mg -Milligrams m3 -Cubic Meters kg -Kilograms ppm -Parts per Million
> -Greater Than ug -Micrograms l -Liters NS -Not Specified ND -Not Detected NA -Not Applicable

Sample: WG341163-1 **Spikelot:** IH610903-4
QC Type: DLS **Raw File:**
Analysis date 03/11/16 16:40:30 **Approval Status:** YES
Instrument: LC6

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
NAPHTHALENE	.094033	.099	95	70.0 to 130.				
BENZO(A)ANTHRACENE	.096028	.099	97	70.0 to 130.				
CHRYSENE	.090318	.099	91.2	70.0 to 130.				
BENZO(E)PYRENE	.120927	.1	121	70.0 to 130.				
BENZO(B)FLUORANTHENE	.097686	.099	98.7	70.0 to 130.				
BENZO(K)FLUORANTHENE	.090226	.099	91.1	70.0 to 130.				
BENZO(A)PYRENE	.092944	.099	93.9	70.0 to 130.				
DIBENZ(A,H)ANTHRACENE	.080525	.099	81.3	70.0 to 130.				
BENZO(G,H,I)PERYLENE	.092684	.099	93.6	70.0 to 130.				
INDENO-1,2,3-CD-PYRENE	.092522	.099	93.5	70.0 to 130.				
ACENAPHTHYLENE	.098414	.099	99.4	70.0 to 130.				
ACENAPHTHENE	.095200	.1	95.2	70.0 to 130.				
FLUORENE	.094293	.098	96.2	70.0 to 130.				
PHENANTHRENE	.096635	.098	98.6	70.0 to 130.				
ANTHRACENE	.124578	.099	126	70.0 to 130.				
FLUORANTHENE	.088087	.098	89.9	70.0 to 130.				
1-NITROPYRENE	.102178	.099	103	70.0 to 130.				
PYRENE	.116082	.099	117	70.0 to 130.				

Sample: WG341163-2 **Spikelot:** IH610903-3
QC Type: CCV **Raw File:**
Analysis date 03/11/16 17:00:26 **Approval Status:** YES
Instrument: LC6

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
NAPHTHALENE	4.75094	4.95	96	88.5 to 120.				
PYRENE	5.07305	4.95	102	92.5 to 125.				
BENZO(A)ANTHRACENE	5.20671	4.95	105	93.7 to 119.				
CHRYSENE	4.96859	4.95	100	88.9 to 118.				
BENZO(E)PYRENE	5.15784	4.9995	103	90.6 to 127.				
BENZO(B)FLUORANTHENE	5.12102	4.95	103	93.8 to 125.				
BENZO(K)FLUORANTHENE	4.91928	4.95	99.4	88.2 to 117.				
BENZO(A)PYRENE	5.84978	4.95	118	83.3 to 137.				
DIBENZ(A,H)ANTHRACENE	5.02036	4.95	101	85.0 to 120.				
ACENAPHTHYLENE	4.86467	4.95	98.3	89.8 to 117.				
BENZO(G,H,I)PERYLENE	5.17274	4.95	104	88.6 to 123.				

Sample: WG341163-2 **Spikelot:** IH610903-3
QC Type: CCV **Raw File:**
Analysis date 03/11/16 17:00:26 **Approval Status:** YES
Instrument: LC6

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
INDENO-1,2,3-CD-PYRENE	5.07795	4.95	103	94.8 to 127.				
ACENAPHTHENE	4.92059	4.9995	98.4	87.1 to 119.				
FLUORENE	4.95696	4.9	101	92.7 to 123.				
PHENANTHRENE	4.99765	4.9	102	91.1 to 120.				
ANTHRACENE	5.94558	4.95	120	91.4 to 130.				
FLUORANTHENE	4.96559	4.9	101	92.0 to 120.				
1-NITROPYRENE	4.80225	4.95	97	86.8 to 123.				

Sample: WG341157-2 **Spikelot:** NA
QC Type: MBLANK **Raw File:**
Analysis date 03/11/16 18:00:16 **Approval Status:** YES
Instrument: LC6

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
PYRENE(FRONT)	.198822	<.3						
PYRENE(BACK)	0	<.3						
ACENAPHTHENE(FRONT)	0	<.3						
ACENAPHTHENE(BACK)	0	<.3						
ACENAPHTHYLENE(FRONT)	0	<.3						
ACENAPHTHYLENE(BACK)	0	<.3						
ANTHRACENE(FRONT)	0	<.3						
ANTHRACENE(BACK)	0	<.3						
BENZO(A)ANTHRACENE(FRONT)	0	<.3						
BENZO(A)ANTHRACENE(BACK)	0	<.3						
BENZO(A)PYRENE(FRONT)	0	<.3						
BENZO(A)PYRENE(BACK)	0	<.3						
BENZO(B)FLUORANTHENE(FRONT)	0	<.3						
BENZO(B)FLUORANTHENE(BACK)	0	<.3						
BENZO(E)PYRENE(FRONT)	0	<.3						
BENZO(E)PYRENE(BACK)	0	<.3						
BENZO(G,H,I)PERYLENE(FRONT)	0	<.3						
BENZO(G,H,I)PERYLENE(BACK)	0	<.3						
BENZO(K)FLUORANTHENE(FRONT)	0	<.3						
BENZO(K)FLUORANTHENE(BACK)	0	<.3						
CHRYSENE(FRONT)	0	<.3						
CHRYSENE(BACK)	0	<.3						

Sample: WG341157-2 **Spikelot:** NA
QC Type: MBLANK **Raw File:**
Analysis date 03/11/16 18:00:16 **Approval Status:** YES
Instrument: LC6

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
DIBENZ(A,H)ANTHRACENE(FRONT)	0	<.3						
DIBENZ(A,H)ANTHRACENE(BACK)	0	<.3						
FLUORANTHENE(FRONT)	0	<.3						
FLUORANTHENE(BACK)	0	<.3						
FLUORENE(FRONT)	0	<.3						
FLUORENE(BACK)	0	<.3						
INDENO-1,2,3-CD-PYRENE(FRONT)	0	<.3						
INDENO-1,2,3-CD-PYRENE(BACK)	0	<.3						
NAPHTHALENE(FRONT)	0	<.3						
NAPHTHALENE(BACK)	0	<.3						
1-NITROPYRENE(FRONT)	0	<.3						
1-NITROPYRENE(BACK)	0	<.3						
PHENANTHRENE(FRONT)	0	<.3						
PHENANTHRENE(BACK)	0	<.3						

Sample: WG341157-3 **Spikelot:** IH578222
QC Type: BS **Raw File:**
Analysis date 03/11/16 18:40:07 **Approval Status:** YES
Instrument: LC6

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
NAPHTHALENE	83.3352	99.9999	83.3		84.2	85.2 to 125		
BENZO(A)ANTHRACENE	83.6129	100.0998	83.5		85.2	85.3 to 134		
CHRYSENE	83.5238	100.0998	83.4		85.1	86.7 to 129		
BENZO(E)PYRENE	83.9850	99.9999	84		85.7	82.4 to 140		
BENZO(B)FLUORANTHENE	82.1765	99.9999	82.2		84.7	85.0 to 142		
BENZO(K)FLUORANTHENE	77.9291	99.5	78.3		80.7	85.3 to 132		
BENZO(A)PYRENE	82.7049	99.0978	83.5		85.2	76.5 to 154		
DIBENZ(A,H)ANTHRACENE	83.6245	99.9999	83.6		84.5	79.8 to 127		
BENZO(G,H,I)PERYLENE	83.6905	99.6	84		87.5	81.7 to 142		
INDENO-1,2,3-CD-PYRENE	86.6853	99.9	86.8		87.6	83.3 to 142		
ACENAPHTHYLENE	81.1642	99.7997	81.3		79.7	82.8 to 118		
ACENAPHTHENE	82.5617	99.9999	82.6		80.9	82.3 to 125		
FLUORENE	82.2417	99.6	82.6		85.1	90.7 to 128		
PHENANTHRENE	83.9046	100.15	83.8		85.5	87.8 to 128		
ANTHRACENE	98.0916	99.9999	98.1		100	90.2 to 137		

Sample: WG341157-3 **Spikelot:** IH578222
QC Type: BS **Raw File:**
Analysis date 03/11/16 18:40:07 **Approval Status:** YES
Instrument: LC6

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
FLUORANTHENE	83.2389	99.5995	83.6		85.3	85.5 to 134		
1-NITROPYRENE	80.6259	99.5	81		81.8	82.7 to 131		
PYRENE	85.5800	100.1	85.5		86.4	89.7 to 134		

Sample: WG341157-4 **Spikelot:** IH578222
QC Type: BSD **Raw File:**
Analysis date 03/11/16 19:00:03 **Approval Status:** YES
Instrument: LC6

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
NAPHTHALENE	93.2798	99.9999	93.3		94.2	85.2 to 125	-11.2	-10 to 10.0
BENZO(A)ANTHRACENE	94.0160	100.0998	93.9		95.8	85.3 to 134	-11.7	-10 to 10.0
CHRYSENE	91.9710	100.0998	91.9		93.8	86.7 to 129	-9.73	-10 to 10.0
BENZO(E)PYRENE	92.0765	99.9999	92.1		94	82.4 to 140	-9.24	-10 to 10.0
BENZO(B)FLUORANTHENE	90.8115	99.9999	90.8		93.6	85.0 to 142	-9.98	-10 to 10.0
BENZO(K)FLUORANTHENE	91.4047	99.5	91.9		94.7	85.3 to 132	-16	-10 to 10.0
BENZO(A)PYRENE	93.0128	99.0078	93.9		95.8	76.5 to 154	-11.7	-10 to 10.0
DIBENZ(A,H)ANTHRACENE	90.3980	99.9999	90.4		91.3	79.8 to 127	-7.74	-11.5 to 9.87
BENZO(G,H,I)PERYLENE	94.5594	99.6	94.9		98.9	81.7 to 142	-12.2	-10 to 10.0
INDENO-1,2,3-CD-PYRENE	91.1064	99.9	91.2		92.1	83.3 to 142	-5.01	-10 to 10.0
ACENAPHTHYLENE	91.6560	99.7997	91.8		90	82.8 to 118	-12.1	-10 to 10.0
ACENAPHTHENE	92.3835	99.9999	92.4		90.6	82.3 to 125	-11.3	-10 to 10.0
FLUORENE	94.0025	99.6	94.4		97.3	90.7 to 128	-13.4	-10 to 10.0
PHENANTHRENE	94.8921	100.15	94.7		96.7	87.8 to 128	-12.3	-10 to 10.0
ANTHRACENE	107.810	99.9999	108		110	90.2 to 137	-9.52	-10 to 10.0
FLUORANTHENE	89.6193	99.5995	90		91.8	85.5 to 134	-7.34	-10 to 10.0
1-NITROPYRENE	90.6121	99.5	91.1		92	82.7 to 131	-11.7	-10 to 10.0
PYRENE	91.7502	100.1	91.7		92.6	89.7 to 134	-6.93	-10.4 to 8.90

Sample: WG341157-5 **Spikelot:** IH578222
QC Type: BS **Raw File:**
Analysis date 03/11/16 19:20:01 **Approval Status:** YES
Instrument: LC6

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
NAPHTHALENE	79.2612	99.9999	79.3		86.2	85.2 to 125		
BENZO(A)ANTHRACENE	71.9925	100.0998	71.9		92.2	85.3 to 134		

Sample: WG341157-5 **Spikelot:** IH578222
QC Type: BS **Raw File:**
Analysis date 03/11/16 19:20:01 **Approval Status:** YES
Instrument: LC6

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
CHRYSENE	74.2582	100.0998	74.2		96.3	86.7 to 129		
BENZO(E)PYRENE	65.9123	99.9999	65.9		96.9	82.4 to 140		
BENZO(B)FLUORANTHENE	68.5344	99.9999	68.5		95.2	85.0 to 142		
BENZO(K)FLUORANTHENE	64.5086	99.5	64.8		90	85.3 to 132		
BENZO(A)PYRENE	69.4161	99.0978	70		106	76.5 to 154		
DIBENZ(A,H)ANTHRACENE	65.8903	99.9999	65.9		91.5	79.8 to 127		
BENZO(G,H,I)PERYLENE	61.2809	99.6	61.5		104	81.7 to 142		
INDENO-1,2,3-CD-PYRENE	63.7996	99.9	63.9		99.8	83.3 to 142		
ACENAPHTHYLENE	82.7443	99.7997	82.9		86.4	82.8 to 118		
ACENAPHTHENE	79.1408	99.9999	79.1		87.9	82.3 to 125		
FLUORENE	79.5606	99.6	79.9		88.8	90.7 to 128		
PHENANTHRENE	79.3482	100.15	79.2		92.1	87.8 to 128		
ANTHRACENE	91.1846	99.9999	91.2		107	90.2 to 137		
FLUORANTHENE	73.9440	99.5995	74.2		89.4	85.5 to 134		
1-NITROPYRENE	75.9428	99.5	76.3		90.9	82.7 to 131		
PYRENE	72.7745	100.1	72.7		88.7	89.7 to 134		

Sample: WG341157-6 **Spikelot:** IH578222
QC Type: BSD **Raw File:**
Analysis date 03/11/16 19:39:57 **Approval Status:** YES
Instrument: LC6

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
NAPHTHALENE	80.0461	99.9999	80		87	85.2 to 125	-.924	-10 to 10.0
BENZO(A)ANTHRACENE	72.8945	100.0998	72.8		93.4	85.3 to 134	-1.29	-10 to 10.0
CHRYSENE	71.0685	100.0998	71		92.2	86.7 to 129	4.35	-10 to 10.0
BENZO(E)PYRENE	66.2280	99.9999	66.2		97.4	82.4 to 140	-.515	-10 to 10.0
BENZO(B)FLUORANTHENE	70.5362	99.9999	70.5		98	85.0 to 142	-2.9	-10 to 10.0
BENZO(K)FLUORANTHENE	66.9009	99.5	67.2		93.4	85.3 to 132	-3.71	-10 to 10.0
BENZO(A)PYRENE	69.1346	99.0978	69.8		106	76.5 to 154	0	-10 to 10.0
DIBENZ(A,H)ANTHRACENE	64.7216	99.9999	64.7		89.9	79.8 to 127	1.76	-11.5 to 9.87
BENZO(G,H,I)PERYLENE	59.7224	99.6	60		102	81.7 to 142	1.94	-10 to 10.0
INDENO-1,2,3-CD-PYRENE	58.6400	99.9	58.7		91.7	83.3 to 142	8.46	-10 to 10.0
ACENAPHTHYLENE	80.2903	99.7997	80.5		83.8	82.8 to 118	3.06	-10 to 10.0
ACENAPHTHENE	78.9789	99.9999	79		87.8	82.3 to 125	.114	-10 to 10.0
FLUORENE	80.1296	99.6	80.5		89.4	90.7 to 128	-.673	-10 to 10.0

Sample: WG341157-6 **Spikelot:** IH578222
QC Type: BSD **Raw File:**
Analysis date 03/11/16 19:39:57 **Approval Status:** YES
Instrument: LC6

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
PHENANTHRENE	77.0609	100.15	76.9		89.5	87.8 to 128	2.86	-10 to 10.0
ANTHRACENE	89.6011	99.9999	89.6		105	90.2 to 137	1.89	-10 to 10.0
FLUORANTHENE	76.4045	99.5995	76.7		92.4	85.5 to 134	-3.3	-10 to 10.0
1-NITROPYRENE	76.3105	99.5	76.7		91.3	82.7 to 131	-.439	-10 to 10.0
PYRENE	77.4496	100.1	77.4		94.4	89.7 to 134	-6.23	-10.4 to 8.90

Sample: WG341163-3 **Spikelot:** IH610903-3
QC Type: CCV **Raw File:**
Analysis date 03/11/16 22:59:12 **Approval Status:** YES
Instrument: LC6

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
NAPHTHALENE	4.79998	4.95	97	88.5 to 120.				
PYRENE	5.09263	4.95	103	92.5 to 125.				
BENZO(A)ANTHRACENE	5.22949	4.95	106	93.7 to 119.				
CHRYSENE	4.99145	4.95	101	88.9 to 118.				
BENZO(E)PYRENE	5.17067	4.9995	103	90.6 to 127.				
BENZO(B)FLUORANTHENE	5.12653	4.95	104	93.8 to 125.				
BENZO(K)FLUORANTHENE	4.93305	4.95	99.7	88.2 to 117.				
BENZO(A)PYRENE	6.10360	4.95	123	83.3 to 137.				
DIBENZ(A,H)ANTHRACENE	5.03913	4.95	102	85.0 to 120.				
BENZO(G,H,I)PERYLENE	5.29049	4.95	107	88.6 to 123.				
INDENO-1,2,3-CD-PYRENE	5.11946	4.95	103	94.8 to 127.				
ACENAPHTHYLENE	4.89862	4.95	99	89.8 to 117.				
ACENAPHTHENE	4.89142	4.9995	97.8	87.1 to 119.				
FLUORENE	4.95128	4.9	101	92.7 to 123.				
PHENANTHRENE	5.03180	4.9	103	91.1 to 120.				
ANTHRACENE	6.00085	4.95	121	91.4 to 130.				
FLUORANTHENE	4.98489	4.9	102	92.0 to 120.				
1-NITROPYRENE	4.79044	4.95	96.8	86.8 to 123.				

Sample: WG341163-4 **Spikelot:** IH610903-3
QC Type: CCV **Raw File:**
Analysis date 03/12/16 05:37:46 **Approval Status:** YES
Instrument: LC6

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits

Sample: WG341163-4 **Spikelot:** IH610903-3
QC Type: CCV **Raw File:**
Analysis date 03/12/16 05:37:46 **Approval Status:** YES
Instrument: LC6

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
NAPHTHALENE	4.82288	4.95	97.4	88.5 to 120.				
PYRENE	5.10840	4.95	103	92.5 to 125.				
BENZO(A)ANTHRACENE	5.25128	4.95	106	93.7 to 119.				
CHRYSENE	5.01868	4.95	101	88.9 to 118.				
BENZO(E)PYRENE	5.20237	4.9995	104	90.6 to 127.				
BENZO(B)FLUORANTHENE	5.17538	4.95	105	93.8 to 125.				
BENZO(K)FLUORANTHENE	4.94679	4.95	99.9	88.2 to 117.				
BENZO(A)PYRENE	6.30524	4.95	127	83.3 to 137.				
DIBENZ(A,H)ANTHRACENE	5.05933	4.95	102	85.0 to 120.				
ACENAPHTHYLENE	4.95218	4.95	100	89.8 to 117.				
BENZO(G,H,I)PERYLENE	5.35139	4.95	108	88.6 to 123.				
INDENO-1,2,3-CD-PYRENE	5.15484	4.95	104	94.8 to 127.				
ACENAPHTHENE	4.88739	4.9995	97.8	87.1 to 119.				
FLUORENE	4.96926	4.9	101	92.7 to 123.				
PHENANTHRENE	5.03772	4.9	103	91.1 to 120.				
ANTHRACENE	6.01812	4.95	122	91.4 to 130.				
FLUORANTHENE	5.01155	4.9	102	92.0 to 120.				
1-NITROPYRENE	4.80532	4.95	97.1	86.8 to 123.				

Sample: WG341163-5 **Spikelot:** IH610903-3
QC Type: CCV **Raw File:**
Analysis date 03/12/16 07:37:22 **Approval Status:** YES
Instrument: LC6

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
NAPHTHALENE	4.83947	4.95	97.8	88.5 to 120.				
PYRENE	5.14510	4.95	104	92.5 to 125.				
BENZO(A)ANTHRACENE	5.24149	4.95	106	93.7 to 119.				
CHRYSENE	5.00173	4.95	101	88.9 to 118.				
BENZO(E)PYRENE	5.18748	4.9995	104	90.6 to 127.				
BENZO(B)FLUORANTHENE	5.13759	4.95	104	93.8 to 125.				
BENZO(K)FLUORANTHENE	4.95977	4.95	100	88.2 to 117.				
BENZO(A)PYRENE	6.28951	4.95	127	83.3 to 137.				
DIBENZ(A,H)ANTHRACENE	5.04686	4.95	102	85.0 to 120.				
BENZO(G,H,I)PERYLENE	5.33574	4.95	108	88.6 to 123.				
ACENAPHTHYLENE	4.92814	4.95	99.6	89.8 to 117.				

Sample: WG341163-5 **Spikelot:** IH610903-3

QC Type: CCV **Raw File:**

Analysis date 03/12/16 07:37:22 **Approval Status:** YES

Instrument: LC6

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
INDENO-1,2,3-CD-PYRENE	5.12768	4.95	104	94.8 to 127.				
ACENAPHTHENE	4.89015	4.9995	97.8	87.1 to 119.				
FLUORENE	4.95696	4.9	101	92.7 to 123.				
PHENANTHRENE	5.05529	4.9	103	91.1 to 120.				
ANTHRACENE	6.00438	4.95	121	91.4 to 130.				
FLUORANTHENE	4.98408	4.9	102	92.0 to 120.				
1-NITROPYRENE	4.81359	4.95	97.2	86.8 to 123.				

R81

5120 North Shore Drive
North Little Rock, AR 72118
Phone: (501) 801-8500
Fax: (501) 801-8501
Website: www.cteh.com

Center for Toxicology and Environmental Health L.L.C.

SAMPLE CHAIN OF CUSTODY AND ANALYSIS REQUEST FORM

Page 1 of 1

	Send Report To:	Send Invoice To:
Name	Mike Berg; Charles Connolly	Accounts Payable
Company	CTEH	CTEH
Address	2000 Anders Lane Kemah, Texas 77565	5120 North Shore Drive North Little Rock, AR 72118
Phone	(281)535-2834	(501)801-8500
Fax	(281)535-0232	(501)801-8501
e-mail	labresults@cteh.com; mberg@cteh.com cconnolly@cteh.com	raccounting@cteh.com

CTEH Project #: 107907

Turnaround Requested:
Same Day __Next Day (24 hour) X Normal
__Other (Specify) _____

Complete Data Packet Requested ☒Yes ☐No

Lab Contact Information:
Galson Laboratories
6601 Kirkville Road
E. Syracuse, NY 13057

Client Sample Identification	Other Sample Identification	Sample Size	Units (Check one) X L / __cm²	Sample Date	Sample Time (for non-air samples)	Initials	PNAH	Matrix (A = air, B = bulk, S = soil, SW = wipe, T = tape, W = water)
HOTX0305PNAH0001	AS12	956.4	L	3/5/16		PW	X	A
HOTX0305PNAH0002	AS07	971.9	L	3/5/16		PW	X	A
HOTX0305PNAH0003	AS18	958.1	L	3/5/16		PW	X	A
HOTX0305PNAH0004	BL	0	L	3/5/16		PW	X	A

Not Used

775813932260
Date: 03/08/16
Shipper: FEDEX
Initials: ZRK
Prep: UNKNOWN

Rec'd intact & all accounted for? Yes or No ZK
Rec'd w/custody seals intact? Yes or No N/A
Rec'd in light sensitive packaging? Yes or No ZK
Rec'd with ice pack? Yes or No ZK
Rec'd temperature compliant? Yes or No N/A

RELINQUISHED BY	DATE/TIME	RECEIVED BY	DATE/TIME	COMMENTS
Justin Langley	03/07/16 16:00	FedEx		
		Zach King	3/8/16 7:55	

Dr. Mike Berg
Center for Toxicology & Env. Health LLC
2000 Anders Lane
Kemah, TX 77565

March 16, 2016

DOH ELAP #11626 Account# 13913 Login# L369127
AIHA-LAP #100324

Dear Dr. Berg:

Enclosed are the analytical results for the samples received by our laboratory on March 09, 2016. All test results meet the quality control requirements of AIHA-LAP and NELAC unless otherwise stated in this report. All samples on the chain of custody were received in good condition unless otherwise noted.

Results in this report are based on the sampling data provided by the client and refer only to the samples as they were received at the laboratory. Unless otherwise requested, all samples will be discarded 14 days from the date of this report, with the exception of IOMs, which will be cleaned and disposed of after seven calendar days.

Current Scopes of Accreditation can be viewed at www.galsonlabs.com in the accreditations section under the "about Galson" tab.

Please contact Pamela Weaver at (888) 432-5227, if you would like any additional information regarding this report. Thank you for using SGS Galson Laboratories.

Sincerely,

SGS Galson Laboratories

Lisa Swab
Laboratory Director

Enclosure(s)

Galson Laboratories, Inc. is now a part of SGS, the world's leading inspection, verification, testing, and certification company. As part of our transition to SGS, you will begin to see some formatting changes with reports that will improve the presentation of data and allow for the transition to the new logo.

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FAX: (315) 437-0571
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LABORATORY ANALYSIS REPORT

Client : Center for Toxicology & Env. H
Site : NS
Project No. : 107907
Date Sampled : 07-MAR-16
Date Received : 09-MAR-16

Account No.: 13913
Login No. : L369127
Date Analyzed : 14-MAR-16
Report ID : 927152

Client ID : HOTX0307PNAH001 **Lab ID : L369127-1#** **Air Volume : 961.7 Liter**
Date Sampled : 03/07/16 **Date Analyzed : 03/14/16**

Parameter	LOQ ug	Filter ug	Front ug	Back ug	Total ug	Conc mg/m3	ppm
1-Nitropyrene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Acenaphthene	0.3	<0.3	<0.3	<0.3	<0.3	<0.0003	<0.00005
Acenaphthylene	0.3	<0.3	<0.3	<0.3	<0.3	<0.0003	<0.00005
Anthracene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00005
Benzo(a)anthracene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Benzo(a)pyrene	0.3	<0.3	<0.3	<0.3	<0.5	<0.0005	<0.00005
Benzo(b)fluoranthene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Benzo(e)pyrene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0005	<0.00004
Benzo(g,h,i)perylene	0.3	<0.3	<0.3	<0.3	<0.5	<0.0005	<0.00005
Benzo(k)fluoranthene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Chrysene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Dibenz(a,h)anthracene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Fluoranthene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00005
Fluorene	0.3	<0.3	<0.3	<0.3	<0.3	<0.0003	<0.00005
Indeno(1,2,3-cd)pyrene	0.3	<0.3	<0.3	<0.3	<0.5	<0.0005	<0.00004

COMMENTS: Please see attached lab footnote report for any applicable footnotes.

Collection Media: FilterTube
Date : 16-MAR-16

Submitted by: PGM
NYS DOH # : 11626

Approved by: nkp
Supervisor: MWJ QC by: CRD

< -Less Than mg -Milligrams m3 -Cubic Meters kg -Kilograms NA -Not Applicable ND -Not Detected
> -Greater Than ug -Micrograms l -Liters NS -Not Specified ppm -Parts per Million LOQ-Limit of Quantitation

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East Syracuse, NY 13057
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FAX: (315) 437-0571
www.galsonlabs.com

LABORATORY ANALYSIS REPORT

Client : Center for Toxicology & Env. H
Site : NS
Project No. : 107907
Date Sampled : 07-MAR-16
Date Received : 09-MAR-16

Account No.: 13913
Login No. : L369127
Date Analyzed : 14-MAR-16
Report ID : 927152

Client ID : HOTX0307PNAH001 **Lab ID : L369127-1#** **Air Volume : 961.7 Liter**
Date Sampled : 03/07/16 **Date Analyzed : 03/14/16**

Parameter	LOQ ug	Filter ug	Front ug	Back ug	Total ug	Conc mg/m3	ppm
Naphthalene	0.3	<0.3	<0.3	<0.3	<0.3	<0.0003	<0.00006
Phenanthrene	0.3	<0.3	<0.3	<0.3	<0.3	<0.0004	<0.00005
Pyrene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00005

COMMENTS: Please see attached lab footnote report for any applicable footnotes.

Collection Media: FilterTube
Date : 16-MAR-16

Submitted by: PGM
NYS DOH # : 11626

Approved by: nkp
Supervisor: MWJ QC by: CRD

< -Less Than mg -Milligrams m3 -Cubic Meters kg -Kilograms NA -Not Applicable ND -Not Detected
> -Greater Than ug -Micrograms l -Liters NS -Not Specified ppm -Parts per Million LOQ-Limit of Quantitation

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LABORATORY ANALYSIS REPORT

Client : Center for Toxicology & Env. H
Site : NS
Project No. : 107907
Date Sampled : 07-MAR-16
Date Received : 09-MAR-16

Account No.: 13913
Login No. : L369127
Date Analyzed : 14-MAR-16
Report ID : 927152

Client ID : HOTX0307PNAH002 **Lab ID : L369127-2#** **Air Volume : 950.9 Liter**
Date Sampled : 03/07/16 **Date Analyzed : 03/14/16**

Parameter	LOQ ug	Filter ug	Front ug	Back ug	Total ug	Conc mg/m3	ppm
1-Nitropyrene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Acenaphthene	0.3	<0.3	<0.3	<0.3	<0.3	<0.0004	<0.00006
Acenaphthylene	0.3	<0.3	<0.3	<0.3	<0.3	<0.0003	<0.00005
Anthracene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00005
Benzo(a)anthracene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Benzo(a)pyrene	0.3	<0.3	<0.3	<0.3	<0.5	<0.0005	<0.00005
Benzo(b)fluoranthene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Benzo(e)pyrene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0005	<0.00004
Benzo(g,h,i)perylene	0.3	<0.3	<0.3	<0.3	<0.5	<0.0005	<0.00005
Benzo(k)fluoranthene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Chrysene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Dibenz(a,h)anthracene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Fluoranthene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00005
Fluorene	0.3	<0.3	<0.3	<0.3	<0.3	<0.0004	<0.00005
Indeno(1,2,3-cd)pyrene	0.3	<0.3	<0.3	<0.3	<0.5	<0.0005	<0.00004

COMMENTS: Please see attached lab footnote report for any applicable footnotes.

Collection Media: FilterTube
Date : 16-MAR-16

Submitted by: PGM
NYS DOH # : 11626

Approved by: nkp
Supervisor: MWJ QC by: CRD

< -Less Than mg -Milligrams m3 -Cubic Meters kg -Kilograms NA -Not Applicable ND -Not Detected
> -Greater Than ug -Micrograms l -Liters NS -Not Specified ppm -Parts per Million LOQ-Limit of Quantitation

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LABORATORY ANALYSIS REPORT

Client : Center for Toxicology & Env. H
Site : NS
Project No. : 107907
Date Sampled : 07-MAR-16
Date Received : 09-MAR-16

Account No.: 13913
Login No. : L369127
Date Analyzed : 14-MAR-16
Report ID : 927152

Client ID : HOTX0307PNAH002 **Lab ID : L369127-2#** **Air Volume : 950.9 Liter**
Date Sampled : 03/07/16 **Date Analyzed : 03/14/16**

Parameter	LOQ ug	Filter ug	Front ug	Back ug	Total ug	Conc mg/m3	ppm
Naphthalene	0.3	<0.3	<0.3	<0.3	<0.3	<0.0003	<0.00007
Phenanthrene	0.3	<0.3	<0.3	<0.3	<0.3	<0.0004	<0.00005
Pyrene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00005

COMMENTS: Please see attached lab footnote report for any applicable footnotes.

Collection Media: FilterTube
Date : 16-MAR-16

Submitted by: PGM
NYS DOH # : 11626

Approved by: nkp
Supervisor: MWJ QC by: CRD

< -Less Than mg -Milligrams m3 -Cubic Meters kg -Kilograms NA -Not Applicable ND -Not Detected
> -Greater Than ug -Micrograms l -Liters NS -Not Specified ppm -Parts per Million LOQ-Limit of Quantitation

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LABORATORY ANALYSIS REPORT

Client : Center for Toxicology & Env. H
Site : NS
Project No. : 107907
Date Sampled : 07-MAR-16
Date Received : 09-MAR-16

Account No.: 13913
Login No. : L369127
Date Analyzed : 14-MAR-16
Report ID : 927152

Client ID : HOTX0307PNAH003 **Lab ID : L369127-3#** **Air Volume : 953.5 Liter**
Date Sampled : 03/07/16 **Date Analyzed : 03/14/16**

Parameter	LOQ ug	Filter ug	Front ug	Back ug	Total ug	Conc mg/m3	ppm
1-Nitropyrene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Acenaphthene	0.3	<0.3	<0.3	<0.3	<0.3	<0.0003	<0.00006
Acenaphthylene	0.3	<0.3	<0.3	<0.3	<0.3	<0.0003	<0.00005
Anthracene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00005
Benzo(a)anthracene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Benzo(a)pyrene	0.3	<0.3	<0.3	<0.3	<0.5	<0.0005	<0.00005
Benzo(b)fluoranthene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Benzo(e)pyrene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0005	<0.00004
Benzo(g,h,i)perylene	0.3	<0.3	<0.3	<0.3	<0.5	<0.0005	<0.00005
Benzo(k)fluoranthene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Chrysene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Dibenz(a,h)anthracene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Fluoranthene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00005
Fluorene	0.3	<0.3	<0.3	<0.3	<0.3	<0.0003	<0.00005
Indeno(1,2,3-cd)pyrene	0.3	<0.3	<0.3	<0.3	<0.5	<0.0005	<0.00004

COMMENTS: Please see attached lab footnote report for any applicable footnotes.

Collection Media: FilterTube
Date : 16-MAR-16

Submitted by: PGM
NYS DOH # : 11626

Approved by: nkp
Supervisor: MWJ QC by: CRD

< -Less Than mg -Milligrams m3 -Cubic Meters kg -Kilograms NA -Not Applicable ND -Not Detected
> -Greater Than ug -Micrograms l -Liters NS -Not Specified ppm -Parts per Million LOQ-Limit of Quantitation

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LABORATORY ANALYSIS REPORT

Client : Center for Toxicology & Env. H
Site : NS
Project No. : 107907
Date Sampled : 07-MAR-16
Date Received : 09-MAR-16

Account No.: 13913
Login No. : L369127
Date Analyzed : 14-MAR-16
Report ID : 927152

Client ID : HOTX0307PNAH003 **Lab ID : L369127-3#** **Air Volume : 953.5 Liter**
Date Sampled : 03/07/16 **Date Analyzed : 03/14/16**

Parameter	LOQ ug	Filter ug	Front ug	Back ug	Total ug	Conc mg/m3	ppm
Naphthalene	0.3	<0.3	<0.3	<0.3	<0.3	<0.0003	<0.00007
Phenanthrene	0.3	<0.3	<0.3	<0.3	<0.3	<0.0004	<0.00005
Pyrene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00005

COMMENTS: Please see attached lab footnote report for any applicable footnotes.

Collection Media: FilterTube
Date : 16-MAR-16

Submitted by: PGM
NYS DOH # : 11626

Approved by: nkp
Supervisor: MWJ QC by: CRD

< -Less Than mg -Milligrams m3 -Cubic Meters kg -Kilograms NA -Not Applicable ND -Not Detected
> -Greater Than ug -Micrograms l -Liters NS -Not Specified ppm -Parts per Million LOQ-Limit of Quantitation

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LABORATORY ANALYSIS REPORT

Client : Center for Toxicology & Env. H
Site : NS
Project No. : 107907
Date Sampled : 07-MAR-16
Date Received : 09-MAR-16

Account No.: 13913
Login No. : L369127
Date Analyzed : 14-MAR-16
Report ID : 927152

Client ID : HOTX0307PNAH004 **Lab ID : L369127-4#** **Air Volume : NA**
Date Sampled : 03/07/16 **Date Analyzed : 03/14/16**

Parameter	LOQ ug	Filter ug	Front ug	Back ug	Total ug	Conc mg/m3	ppm
1-Nitropyrene	0.3	<0.3	<0.3	<0.3	<0.4	NA	NA
Acenaphthene	0.3	<0.3	<0.3	<0.3	<0.3	NA	NA
Acenaphthylene	0.3	<0.3	<0.3	<0.3	<0.3	NA	NA
Anthracene	0.3	<0.3	<0.3	<0.3	<0.4	NA	NA
Benzo(a)anthracene	0.3	<0.3	<0.3	<0.3	<0.4	NA	NA
Benzo(a)pyrene	0.3	<0.3	<0.3	<0.3	<0.5	NA	NA
Benzo(b)fluoranthene	0.3	<0.3	<0.3	<0.3	<0.4	NA	NA
Benzo(e)pyrene	0.3	<0.3	<0.3	<0.3	<0.4	NA	NA
Benzo(g,h,i)perylene	0.3	<0.3	<0.3	<0.3	<0.5	NA	NA
Benzo(k)fluoranthene	0.3	<0.3	<0.3	<0.3	<0.4	NA	NA
Chrysene	0.3	<0.3	<0.3	<0.3	<0.4	NA	NA
Dibenz(a,h)anthracene	0.3	<0.3	<0.3	<0.3	<0.4	NA	NA
Fluoranthene	0.3	<0.3	<0.3	<0.3	<0.4	NA	NA
Fluorene	0.3	<0.3	<0.3	<0.3	<0.3	NA	NA
Indeno(1,2,3-cd)pyrene	0.3	<0.3	<0.3	<0.3	<0.5	NA	NA

COMMENTS: Please see attached lab footnote report for any applicable footnotes.

Collection Media: FilterTube
Date : 16-MAR-16

Submitted by: PGM
NYS DOH # : 11626

Approved by: nkp
Supervisor: MWJ QC by: CRD

< -Less Than mg -Milligrams m3 -Cubic Meters kg -Kilograms NA -Not Applicable ND -Not Detected
> -Greater Than ug -Micrograms l -Liters NS -Not Specified ppm -Parts per Million LOQ-Limit of Quantitation

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LABORATORY ANALYSIS REPORT

Client : Center for Toxicology & Env. H
Site : NS
Project No. : 107907
Date Sampled : 07-MAR-16
Date Received : 09-MAR-16

Account No.: 13913
Login No. : L369127
Date Analyzed : 14-MAR-16
Report ID : 927152

Client ID : HOTX0307PNAH004 **Lab ID : L369127-4#** **Air Volume : NA**
Date Sampled : 03/07/16 **Date Analyzed : 03/14/16**

Parameter	LOQ ug	Filter ug	Front ug	Back ug	Total ug	Conc mg/m3	ppm
Naphthalene	0.3	<0.3	<0.3	<0.3	<0.3	NA	NA
Phenanthrene	0.3	<0.3	<0.3	<0.3	<0.3	NA	NA
Pyrene	0.3	<0.3	<0.3	<0.3	<0.4	NA	NA

COMMENTS: Please see attached lab footnote report for any applicable footnotes.

Collection Media: FilterTube
Date : 16-MAR-16

Submitted by: PGM
NYS DOH # : 11626

Approved by: nkp
Supervisor: MWJ QC by: CRD

< -Less Than mg -Milligrams m3 -Cubic Meters kg -Kilograms NA -Not Applicable ND -Not Detected
> -Greater Than ug -Micrograms l -Liters NS -Not Specified ppm -Parts per Million LOQ-Limit of Quantitation

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LABORATORY FOOTNOTE REPORT

Client Name : Center for Toxicology & Env. Health LLC
Site :
Project No. : 107907

Date Sampled : 07-MAR-16 Account No.: 13913
Date Received: 09-MAR-16 Login No. : L369127
Date Analyzed: 14-MAR-16

Unless otherwise noted below, all quality control results associated with the samples were within established control limits or did not impact reported results.

WARNING: The sample(s) to which the findings recorded herein (the "Findings") relate was(were) drawn and / or provided by the Client or by a third party acting at the Client's direction. The Findings constitute no warranty of the sample's representativeness of any goods and strictly relate to the sample(s). The Company accepts no liability with regard to the origin or source from which the sample(s) is/are said to be extracted.

Unrounded results are carried through the calculations that yield the final result and the final result is rounded to the number of significant figures appropriate to the accuracy of the analytical method. Please note that results appearing in the columns preceeding the final result column may have been rounded and therefore, if carried through the calculations, may not yield an identical final result to the one reported.

The stated LOQs for each analyte represent the demonstrated LOQ concentrations prior to correction for desorption efficiency (if applicable).

Unless otherwise noted below, reported results have not been blank corrected for any field blank or method blank.

L369127 (Report ID: 927152):
1-Nitropyrene - Total ug corrected for a desorption efficiency of 99%.
Acenaphthene - Total ug corrected for a desorption efficiency of 102%.
Acenaphthylene - Total ug corrected for a desorption efficiency of 102%.
Anthracene - Total ug corrected for a desorption efficiency of 98%.
Benzo(a)anthracene - Total ug corrected for a desorption efficiency of 98%.
Benzo(a)pyrene - Total ug corrected for a desorption efficiency of 98%.
Benzo(b)fluoranthene - Total ug corrected for a desorption efficiency of 97%.
Benzo(e)pyrene - Total ug corrected for a desorption efficiency of 98%.
Benzo(g,h,i)perylene - Total ug corrected for a desorption efficiency of 96%.
Benzo(k)fluoranthene - Total ug corrected for a desorption efficiency of 97%.
Chrysene - Total ug corrected for a desorption efficiency of 98%.
Dibenz(a,h)anthracene - Total ug corrected for a desorption efficiency of 99%.
Fluoranthene - Total ug corrected for a desorption efficiency of 98%.
Fluorene - Total ug corrected for a desorption efficiency of 97%.
Indeno(1,2,3-cd)pyrene - Total ug corrected for a desorption efficiency of 99%.
Naphthalene - Total ug corrected for a desorption efficiency of 99%.

<	-Less Than	mg	-Milligrams	m3	-Cubic Meters	kg	-Kilograms	ppm	-Parts per Million
>	-Greater Than	ug	-Micrograms	l	-Liters	NS	-Not Specified	ND	-Not Detected	NA	-Not Applicable

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LABORATORY FOOTNOTE REPORT

Client Name : Center for Toxicology & Env. Health LLC
Site :
Project No. : 107907

Date Sampled : 07-MAR-16 Account No.: 13913
Date Received: 09-MAR-16 Login No. : L369127
Date Analyzed: 14-MAR-16

L369127 (Report ID: 927152):
Phenanthrene - Total ug corrected for a desorption efficiency of 98%.
Pyrene - Total ug corrected for a desorption efficiency of 99%.
SOPs: il-n5506(12)

#L369127 (Report ID: 927152):
The blank spike (BS - for tube) was outside the control limits of 79.8 to 127.% at 79.0%
recovery for DIBENZ(A,H)ANTHRACENE. The reported results may be biased low.
The blank spike (BS - for tube) was outside the control limits of 81.7 to 142.% at 76.9%
recovery for BENZO(G,H,I)PERYLENE. The reported results may be biased low.
The blank spike (BS - for tube) was outside the control limits of 85.3 to 132.% at 82.2%
recovery for BENZO(K)FLUORANTHENE. The reported results may be biased low.
The blank spike (BS - for tube) was outside the control limits of 83.3 to 142.% at 79.0%
recovery for INDENO-1,2,3-CD-PYRENE. The reported results may be biased low.
The Blank Spike Duplicate (BSD - for tube) recovery was outside the control limits of 81.7 to 142.%
at 76.9% recovery for BENZO(G,H,I)PERYLENE. The reported results may be biased low.
The Blank Spike Duplicate (BSD - for tube) recovery was outside the control limits of 79.8 to 127.%
at 77.6% recovery for DIBENZ(A,H)ANTHRACENE. The reported results may be biased low.
The Blank Spike Duplicate (BSD - for tube) recovery was outside the control limits of 85.3 to 132.%
at 81.7% recovery for BENZO(K)FLUORANTHENE. The reported results may be biased low.
The Blank Spike Duplicate (BSD - for tube) recovery was outside the control limits of 83.3 to 142.%
at 78.8% recovery for INDENO-1,2,3-CD-PYRENE. The reported results may be biased low.
Where possible, control limits are statistically generated in-house.
In the absence of statistical limits, BS/BSD guidance default limits of 75-125% are used.
The blank spike and blank spike duplicate were inadvertantly prepared with an expired stock. Low recoveries are not
considered to be attributed to the expired stock, as the filter portion of the blank spikes recovered
within control limits.

< -Less Than	mg -Milligrams	m3 -Cubic Meters	kg -Kilograms	ppm -Parts per Million		
> -Greater Than	ug -Micrograms	l -Liters	NS -Not Specified	ND -Not Detected	NA -Not Applicable	

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LABORATORY FOOTNOTE REPORT

Client Name : Center for Toxicology & Env. Health LLC
Site :
Project No. : 107907

Date Sampled : 07-MAR-16 Account No.: 13913
Date Received: 09-MAR-16 Login No. : L369127
Date Analyzed: 14-MAR-16

Accuracy and mean recovery data presented below is based on a 95% confidence interval (k=2).
The estimated uncertainty applies to the media, technology, and SOP referenced in this report
and does not account for the uncertainty associated with the sampling process.

Parameter	Accuracy	Mean Recovery
1-Nitropyrene	+/-16%	107%
Acenaphthene	+/-14.4%	104%
Acenaphthylene	+/-11.7%	100%
Anthracene	+/-15.7%	114%
Benzo(a)anthracene	+/-16.1%	110%
Benzo(a)pyrene	+/-26%	115%
Benzo(b)fluoranthene	+/-19%	113%
Benzo(e)pyrene	+/-19.2%	111%
Benzo(g,h,i)perylene	+/-20.2%	112%
Benzo(k)fluoranthene	+/-15.5%	109%
Chrysene	+/-14%	108%
Dibenz(a,h)anthracene	+/-15.6%	103%
Fluoranthene	+/-16.2%	110%
Fluorene	+/-12.4%	109%
Indeno(1,2,3-cd)pyrene	+/-19.5%	113%
Naphthalene	+/-13.3%	105%
Phenanthrene	+/-13.4%	108%
Pyrene	+/-14.6%	112%

Parameter	Method	PEL
1-Nitropyrene	mod. NIOSH 5506; HPLC/UV	NA
Acenaphthene	mod. NIOSH 5506; HPLC/UV	NA
Acenaphthylene	mod. NIOSH 5506; HPLC/UV	NA
Anthracene	mod. NIOSH 5506; HPLC/UV	NA
Benzo(a)anthracene	mod. NIOSH 5506; HPLC/UV	NA
Benzo(a)pyrene	mod. NIOSH 5506; HPLC/UV	0.2 mg/m3 (TWA)

< -Less Than mg -Milligrams m3 -Cubic Meters kg -Kilograms ppm -Parts per Million
> -Greater Than ug -Micrograms l -Liters NS -Not Specified ND -Not Detected NA -Not Applicable

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LABORATORY FOOTNOTE REPORT

Client Name : Center for Toxicology & Env. Health LLC
Site :
Project No. : 107907

Date Sampled : 07-MAR-16
Date Received: 09-MAR-16
Date Analyzed: 14-MAR-16

Account No.: 13913
Login No. : L369127

L369127 (Report ID: 927152):

Parameter	Method	PEL
Benzo(b)fluoranthene	mod. NIOSH 5506; HPLC/UV	NA
Benzo(e)pyrene	mod. NIOSH 5506; HPLC/UV	NA
Benzo(g,h,i)perylene	mod. NIOSH 5506; HPLC/UV	NA
Benzo(k)fluoranthene	mod. NIOSH 5506; HPLC/UV	NA
Chrysene	mod. NIOSH 5506; HPLC/UV	0.2 mg/m3 (TWA)
Dibenz(a,h)anthracene	mod. NIOSH 5506; HPLC/UV	NA
Fluoranthene	mod. NIOSH 5506; HPLC/UV	NA
Fluorene	mod. NIOSH 5506; HPLC/UV	NA
Indeno(1,2,3-cd)pyrene	mod. NIOSH 5506; HPLC/UV	NA
Naphthalene	mod. NIOSH 5506; HPLC/UV	10 ppm (TWA)
Phenanthrene	mod. NIOSH 5506; HPLC/UV	NA
Pyrene	mod. NIOSH 5506; HPLC/UV	NA

< -Less Than mg -Milligrams m3 -Cubic Meters kg -Kilograms ppm -Parts per Million
> -Greater Than ug -Micrograms l -Liters NS -Not Specified ND -Not Detected NA -Not Applicable

Sample: WG341347-1 **Spikelot:** IH610903-4
QC Type: DLS **Raw File:**
Analysis date 03/14/16 09:37:52 **Approval Status:** YES
Instrument: LC10

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
NAPHTHALENE	.090919	.099	91.8	70.0 to 130.				
BENZO(A)ANTHRACENE	.095927	.099	96.9	70.0 to 130.				
CHRYSENE	.099131	.099	100	70.0 to 130.				
BENZO(E)PYRENE	.089657	.1	89.7	70.0 to 130.				
BENZO(B)FLUORANTHENE	.105913	.099	107	70.0 to 130.				
BENZO(K)FLUORANTHENE	.100028	.099	101	70.0 to 130.				
BENZO(A)PYRENE	.092336	.099	93.3	70.0 to 130.				
DIBENZ(A,H)ANTHRACENE	.082671	.099	83.5	70.0 to 130.				
BENZO(G,H,I)PERYLENE	.119580	.099	121	70.0 to 130.				
INDENO-1,2,3-CD-PYRENE	.082827	.099	83.7	70.0 to 130.				
ACENAPHTHYLENE	.094495	.099	95.4	70.0 to 130.				
ACENAPHTHENE	.090042	.1	90.1	70.0 to 130.				
FLUORENE	.087792	.098	89.6	70.0 to 130.				
PHENANTHRENE	.089837	.098	91.7	70.0 to 130.				
ANTHRACENE	.101009	.099	102	70.0 to 130.				
FLUORANTHENE	.079659	.098	81.3	70.0 to 130.				
1-NITROPYRENE	.126761	.099	128	70.0 to 130.				
PYRENE	.105221	.099	106	70.0 to 130.				

Sample: WG341347-2 **Spikelot:** IH610903-3
QC Type: CCV **Raw File:**
Analysis date 03/14/16 09:58:42 **Approval Status:** YES
Instrument: LC10

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
NAPHTHALENE	4.83098	4.95	97.6	88.5 to 120.				
BENZO(A)ANTHRACENE	5.13936	4.95	104	93.7 to 119.				
CHRYSENE	4.95480	4.95	100	88.9 to 118.				
BENZO(E)PYRENE	5.09971	4.9995	102	90.6 to 127.				
BENZO(B)FLUORANTHENE	5.20853	4.95	105	93.8 to 125.				
BENZO(K)FLUORANTHENE	4.90079	4.95	99	88.2 to 117.				
BENZO(A)PYRENE	5.33864	4.95	108	83.3 to 137.				
DIBENZ(A,H)ANTHRACENE	4.85948	4.95	98.2	85.0 to 120.				
BENZO(G,H,I)PERYLENE	5.00614	4.95	101	88.6 to 123.				
INDENO-1,2,3-CD-PYRENE	5.08649	4.95	103	94.8 to 127.				
ACENAPHTHYLENE	4.98791	4.95	101	89.8 to 117.				

Sample: WG341347-2 **Spikelot:** IH610903-3
QC Type: CCV **Raw File:**
Analysis date 03/14/16 09:58:42 **Approval Status:** YES
Instrument: LC10

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
ACENAPHTHENE	4.93173	4.9995	98.6	87.1 to 119.				
FLUORENE	4.96356	4.9	101	92.7 to 123.				
PHENANTHRENE	4.98100	4.9	102	91.1 to 120.				
ANTHRACENE	5.90712	4.95	119	91.4 to 130.				
FLUORANTHENE	4.90643	4.9	100	92.0 to 120.				
1-NITROPYRENE	4.56351	4.95	92.2	86.8 to 123.				
PYRENE	4.99313	4.95	101	92.5 to 125.				

Sample: WG341346-2 **Spikelot:** NA
QC Type: MBLANK **Raw File:**
Analysis date 03/14/16 11:01:04 **Approval Status:** YES
Instrument: LC10

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
ACENAPHTHENE(FRONT)	0	<.3						
ACENAPHTHENE(BACK)	0	<.3						
ACENAPHTHYLENE(FRONT)	0	<.3						
ACENAPHTHYLENE(BACK)	0	<.3						
ANTHRACENE(FRONT)	0	<.3						
ANTHRACENE(BACK)	0	<.3						
BENZO(A)ANTHRACENE(FRONT)	0	<.3						
BENZO(A)ANTHRACENE(BACK)	0	<.3						
BENZO(A)PYRENE(FRONT)	0	<.3						
BENZO(A)PYRENE(BACK)	0	<.3						
BENZO(B)FLUORANTHENE(FRONT)	0	<.3						
BENZO(B)FLUORANTHENE(BACK)	0	<.3						
BENZO(E)PYRENE(FRONT)	0	<.3						
BENZO(E)PYRENE(BACK)	0	<.3						
BENZO(G,H,I)PERYLENE(FRONT)	0	<.3						
BENZO(G,H,I)PERYLENE(BACK)	0	<.3						
BENZO(K)FLUORANTHENE(FRONT)	0	<.3						
BENZO(K)FLUORANTHENE(BACK)	0	<.3						
CHRYSENE(FRONT)	0	<.3						
CHRYSENE(BACK)	0	<.3						
DIBENZ(A,H)ANTHRACENE(FRONT)	0	<.3						
DIBENZ(A,H)ANTHRACENE(BACK)	0	<.3						

Sample: WG341346-2 **Spikelot:** NA
QC Type: MBLANK **Raw File:**
Analysis date 03/14/16 11:01:04 **Approval Status:** YES
Instrument: LC10

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
FLUORANTHENE(FRONT)	0	<.3						
FLUORANTHENE(BACK)	0	<.3						
FLUORENE(FRONT)	0	<.3						
FLUORENE(BACK)	0	<.3						
INDENO-1,2,3-CD-PYRENE(FRONT)	0	<.3						
INDENO-1,2,3-CD-PYRENE(BACK)	0	<.3						
NAPHTHALENE(FRONT)	0	<.3						
NAPHTHALENE(BACK)	0	<.3						
1-NITROPYRENE(FRONT)	0	<.3						
1-NITROPYRENE(BACK)	0	<.3						
PHENANTHRENE(FRONT)	0	<.3						
PHENANTHRENE(BACK)	0	<.3						
PYRENE(FRONT)	0	<.3						
PYRENE(BACK)	0	<.3						

Sample: WG341346-3 **Spikelot:** IH588742-1
QC Type: BS **Raw File:**
Analysis date 03/14/16 11:42:39 **Approval Status:** YES
Instrument: LC10

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
NAPHTHALENE	4.77945	5	95.6		96.6	85.2 to 125		
PYRENE	5.21653	4.5846	114		115	89.7 to 134		
BENZO(A)ANTHRACENE	4.78841	4.9149	97.4		99.4	85.3 to 134		
CHRYSENE	4.89220	5	97.8		99.8	86.7 to 129		
BENZO(E)PYRENE	5.03981	5	101		103	82.4 to 140		
BENZO(B)FLUORANTHENE	4.95558	5.005	99		102	85.0 to 142		
BENZO(K)FLUORANTHENE	4.60730	4.995	92.2		95.1	85.3 to 132		
BENZO(A)PYRENE	4.96161	4.97	99.8		102	76.5 to 154		
DIBENZ(A,H)ANTHRACENE	4.91969	4.8724	101		102	79.8 to 127		
BENZO(G,H,I)PERYLENE	4.85438	4.9749	97.6		102	81.7 to 142		
INDENO-1,2,3-CD-PYRENE	4.90779	4.9499	99.1		100	83.3 to 142		
ACENAPHTHYLENE	4.85734	5	97.1		95.2	82.8 to 118		
ACENAPHTHENE	4.83748	4.9699	97.3		95.4	82.3 to 125		
FLUORENE	4.74535	4.9449	96		98.9	90.7 to 128		
PHENANTHRENE	4.71141	4.9649	94.9		96.8	87.8 to 128		

Sample: WG341346-3 **Spikelot:** IH588742-1
QC Type: BS **Raw File:**
Analysis date 03/14/16 11:42:39 **Approval Status:** YES
Instrument: LC10

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
ANTHRACENE	4.55203	4.97	91.6		93.5	90.2 to 137		
FLUORANTHENE	4.76699	4.93	96.7		98.7	85.5 to 134		
1-NITROPYRENE	4.63457	4.985	93		93.9	82.7 to 131		

Sample: WG341346-4 **Spikelot:** IH588742-1
QC Type: BSD **Raw File:**
Analysis date 03/14/16 12:03:31 **Approval Status:** YES
Instrument: LC10

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
NAPHTHALENE	4.92697	5	98.5		99.5	85.2 to 125	-2.96	-10 to 10.0
PYRENE	5.38632	4.5846	117		119	89.7 to 134	-3.42	-10.4 to 8.90
BENZO(A)ANTHRACENE	4.94590	4.9149	101		103	85.3 to 134	-3.56	-10 to 10.0
CHRYSENE	5.01390	5	100		102	86.7 to 129	-2.18	-10 to 10.0
BENZO(E)PYRENE	5.29444	5	106		108	82.4 to 140	-4.74	-10 to 10.0
BENZO(B)FLUORANTHENE	5.22737	5.005	104		108	85.0 to 142	-5.71	-10 to 10.0
BENZO(K)FLUORANTHENE	4.76109	4.995	95.3		98.3	85.3 to 132	-3.31	-10 to 10.0
BENZO(A)PYRENE	5.11208	4.97	103		105	76.5 to 154	-2.9	-10 to 10.0
DIBENZ(A,H)ANTHRACENE	5.08388	4.8724	104		105	79.8 to 127	-2.9	-11.5 to 9.87
BENZO(G,H,I)PERYLENE	5.06133	4.9749	102		106	81.7 to 142	-3.85	-10 to 10.0
INDENO-1,2,3-CD-PYRENE	5.13288	4.9499	104		105	83.3 to 142	-4.88	-10 to 10.0
ACENAPHTHYLENE	4.99026	5	99.8		97.8	82.8 to 118	-2.69	-10 to 10.0
ACENAPHTHENE	4.99431	4.9699	100		98.5	82.3 to 125	-3.2	-10 to 10.0
FLUORENE	4.96408	4.9449	100		103	90.7 to 128	-4.06	-10 to 10.0
PHENANTHRENE	4.95883	4.9649	99.9		102	87.8 to 128	-5.23	-10 to 10.0
ANTHRACENE	4.74682	4.97	95.5		97.5	90.2 to 137	-4.19	-10 to 10.0
FLUORANTHENE	4.94852	4.93	100		102	85.5 to 134	-3.29	-10 to 10.0
1-NITROPYRENE	4.79099	4.985	96.1		97.1	82.7 to 131	-3.35	-10 to 10.0

Sample: WG341346-5 **Spikelot:** IH588742-1
QC Type: BS **Raw File:**
Analysis date 03/14/16 12:24:22 **Approval Status:** YES
Instrument: LC10

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
1-NITROPYRENE	3.86763	4.985	77.6		92.4	82.7 to 131		
PYRENE	3.97119	4.5846	86.6		106	89.7 to 134		

Sample: WG341346-5 **Spikelot:** IH588742-1
QC Type: BS **Raw File:**
Analysis date 03/14/16 12:24:22 **Approval Status:** YES
Instrument: LC10

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
BENZO(A)ANTHRACENE	3.51237	4.9149	71.5		91.6	85.3 to 134		
CHRYSENE	3.51295	5	70.3		91.2	86.7 to 129		
BENZO(E)PYRENE	2.94616	5	58.9		86.7	82.4 to 140		
BENZO(B)FLUORANTHENE	3.15028	5.005	62.9		87.4	85.0 to 142		
BENZO(K)FLUORANTHENE	2.95762	4.995	59.2		82.2	85.3 to 132		
BENZO(A)PYRENE	2.79155	4.97	56.2		85.1	76.5 to 154		
DIBENZ(A,H)ANTHRACENE	2.77262	4.8724	56.9		79	79.8 to 127		
BENZO(G,H,I)PERYLENE	2.25675	4.9749	45.4		76.9	81.7 to 142		
NAPHTHALENE	4.54789	5	91		98.9	85.2 to 125		
INDENO-1,2,3-CD-PYRENE	2.50306	4.9499	50.6		79	83.3 to 142		
ACENAPHTHYLENE	4.48162	5	89.6		93.4	82.8 to 118		
ACENAPHTHENE	4.38421	4.9699	88.2		98	82.3 to 125		
FLUORENE	4.37597	4.9449	88.5		98.3	90.7 to 128		
PHENANTHRENE	4.12827	4.9649	83.1		96.7	87.8 to 128		
ANTHRACENE	3.86030	4.97	77.7		91.4	90.2 to 137		
FLUORANTHENE	3.91686	4.93	79.4		95.7	85.5 to 134		

Sample: WG341346-6 **Spikelot:** IH588742-1
QC Type: BSD **Raw File:**
Analysis date 03/14/16 12:45:10 **Approval Status:** YES
Instrument: LC10

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
1-NITROPYRENE	3.85594	4.985	77.4		92.1	82.7 to 131	.325	-10 to 10.0
PYRENE	3.93084	4.5846	85.7		105	89.7 to 134	.948	-10.4 to 8.90
BENZO(A)ANTHRACENE	3.38621	4.9149	68.9		88.3	85.3 to 134	3.67	-10 to 10.0
CHRYSENE	3.38449	5	67.7		87.9	86.7 to 129	3.69	-10 to 10.0
BENZO(E)PYRENE	2.90069	5	58		85.3	82.4 to 140	1.63	-10 to 10.0
BENZO(B)FLUORANTHENE	3.11521	5.005	62.2		86.4	85.0 to 142	1.15	-10 to 10.0
BENZO(K)FLUORANTHENE	2.93736	4.995	58.8		81.7	85.3 to 132	.61	-10 to 10.0
BENZO(A)PYRENE	2.83133	4.97	57		86.3	76.5 to 154	-1.4	-10 to 10.0
DIBENZ(A,H)ANTHRACENE	2.72315	4.8724	55.9		77.6	79.8 to 127	1.79	-11.5 to 9.87
BENZO(G,H,I)PERYLENE	2.25625	4.9749	45.4		76.9	81.7 to 142	0	-10 to 10.0
NAPHTHALENE	4.53033	5	90.6		98.5	85.2 to 125	.405	-10 to 10.0
INDENO-1,2,3-CD-PYRENE	2.49563	4.9499	50.4		78.8	83.3 to 142	.253	-10 to 10.0
ACENAPHTHYLENE	4.45893	5	89.2		92.9	82.8 to 118	.537	-10 to 10.0

Sample: WG341346-6 **Spikelot:** IH588742-1
QC Type: BSD **Raw File:**
Analysis date 03/14/16 12:45:10 **Approval Status:** YES
Instrument: LC10

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
ACENAPHTHENE	4.34784	4.9699	87.5		97.2	82.3 to 125	.82	-10 to 10.0
FLUORENE	4.37056	4.9449	88.4		98.2	90.7 to 128	.102	-10 to 10.0
PHENANTHRENE	4.11858	4.9649	83		96.5	87.8 to 128	.207	-10 to 10.0
ANTHRACENE	3.84606	4.97	77.4		91	90.2 to 137	.439	-10 to 10.0
FLUORANTHENE	3.92535	4.93	79.6		95.9	85.5 to 134	-.209	-10 to 10.0

Sample: WG341347-3 **Spikelot:** IH610903-3
QC Type: CCV **Raw File:**
Analysis date 03/14/16 16:13:22 **Approval Status:** YES
Instrument: LC10

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
NAPHTHALENE	4.81765	4.95	97.3	88.5 to 120.				
BENZO(A)ANTHRACENE	5.15444	4.95	104	93.7 to 119.				
CHRYSENE	4.97962	4.95	101	88.9 to 118.				
BENZO(E)PYRENE	5.09294	4.9995	102	90.6 to 127.				
BENZO(B)FLUORANTHENE	5.32366	4.95	108	93.8 to 125.				
BENZO(K)FLUORANTHENE	4.92969	4.95	99.6	88.2 to 117.				
BENZO(A)PYRENE	5.49122	4.95	111	83.3 to 137.				
DIBENZ(A,H)ANTHRACENE	4.87683	4.95	98.5	85.0 to 120.				
BENZO(G,H,I)PERYLENE	5.04049	4.95	102	88.6 to 123.				
INDENO-1,2,3-CD-PYRENE	5.14551	4.95	104	94.8 to 127.				
ACENAPHTHYLENE	4.97023	4.95	100	89.8 to 117.				
ACENAPHTHENE	4.91153	4.9995	98.2	87.1 to 119.				
FLUORENE	5.04819	4.9	103	92.7 to 123.				
PHENANTHRENE	4.98077	4.9	102	91.1 to 120.				
ANTHRACENE	5.91195	4.95	119	91.4 to 130.				
FLUORANTHENE	4.92638	4.9	101	92.0 to 120.				
1-NITROPYRENE	4.74407	4.95	95.8	86.8 to 123.				
PYRENE	5.05399	4.95	102	92.5 to 125.				

Sample: WG341347-4 **Spikelot:** IH610903-3
QC Type: CCV **Raw File:**
Analysis date 03/14/16 20:44:08 **Approval Status:** YES
Instrument: LC10

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits

Sample: WG341347-4 **Spikelot:** IH610903-3

QC Type: CCV **Raw File:**

Analysis date 03/14/16 20:44:08 **Approval Status:** YES

Instrument: LC10

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
NAPHTHALENE	4.81155	4.95	97.2	88.5 to 120.				
BENZO(A)ANTHRACENE	5.16235	4.95	104	93.7 to 119.				
CHRYSENE	4.97631	4.95	101	88.9 to 118.				
BENZO(E)PYRENE	5.10832	4.9995	102	90.6 to 127.				
BENZO(B)FLUORANTHENE	5.28226	4.95	107	93.8 to 125.				
BENZO(K)FLUORANTHENE	4.92489	4.95	99.5	88.2 to 117.				
BENZO(A)PYRENE	5.52996	4.95	112	83.3 to 137.				
DIBENZ(A,H)ANTHRACENE	4.88172	4.95	98.6	85.0 to 120.				
BENZO(G,H,I)PERYLENE	5.05637	4.95	102	88.6 to 123.				
INDENO-1,2,3-CD-PYRENE	5.12528	4.95	104	94.8 to 127.				
ACENAPHTHYLENE	4.95911	4.95	100	89.8 to 117.				
ACENAPHTHENE	4.92984	4.9995	98.6	87.1 to 119.				
FLUORENE	5.02848	4.9	103	92.7 to 123.				
PHENANTHRENE	4.94627	4.9	101	91.1 to 120.				
ANTHRACENE	5.94130	4.95	120	91.4 to 130.				
FLUORANTHENE	4.92667	4.9	101	92.0 to 120.				
1-NITROPYRENE	4.59348	4.95	92.8	86.8 to 123.				
PYRENE	5.04739	4.95	102	92.5 to 125.				

5120 North Shore Drive
North Little Rock, AR 72118
Phone: (501) 801-8500
Fax: (501) 801-8501
Website: www.cteh.com

Center for Toxicology and Environmental Health L.L.C.

SAMPLE CHAIN OF CUSTODY AND ANALYSIS REQUEST FORM

105

Page 1 of 1

	Send Report To:	Send Invoice To:
Name	Mike Berg, Charles Connolly	Accounts Payable
Company	CTEH	CTEH
Address	2000 Anders Lane Kemah, Texas 77565	5120 North Shore Drive North Little Rock, AR 72118
Phone	(281)535-2834	(501)801-8500
Fax	(281)535-0232	(501)801-8501
e-mail	labresults@cteh.com; cconnolly@cteh.com; mberg@cteh.com	laccounting@cteh.com

CTEH Project #: 107507

Turnaround Requested:
Same Day __Next Day (24 hour) X Normal
__Other (Specify) _____

Complete Data Packet Requested X Yes ☐ No

Lab Contact Information:
Galson Laboratories
6601 Kirkville Road
E. Syracuse, NY 13057

Client Sample Identification	Other Sample Identification	Sample Size	Units (Check one) X L __cm²	Sample Date	Sample Time (for non-air samples)	Initials	PNAH									Matrix (A = air, B = bulk, S = soil, SW = wipe, T = tape, W = water)
HOTX0307PNAH001	AS12	961.7	L	03/07/16		PS	X	0EB045								A
HOTX0307PNAH002	AS07	950.9	L	03/07/16		PS	X									A
HOTX0307PNAH003	AS18	953.5	L	03/07/16		PS	X									A
HOTX0307PNAH004	BL	0	L	03/07/16		PS	X									A

SK 3/9/16

775825464211
Date: 03/09/16
Shipper: FEDEX
Initials: SK
Prep: UNKNOWN

Samples Received in Light Sensitve Material: Yes or No

P.S. NOT USED

PS

RELINQUISHED BY	DATE/TIME	RECEIVED BY	DATE/TIME
Justin Langley	3/8/16 16:00	Fed Ex	
		M Krause	3/9/16 0735

COMMENTS

Rec'd intact & all accounted for? Yes or No SK
Rec'd w/custody seals intact? Yes or No NA
Rec'd in light sensitive packaging? Yes or No SK
Rec'd with ice pack? Yes or No SK
Rec'd temperature compliant? Yes or No SK

Dr. Mike Berg
Center for Toxicology & Env. Health LLC
2000 Anders Lane
Kemah, TX 77565

March 17, 2016

DOH ELAP #11626 Account# 13913 Login# L369250
AIHA-LAP #100324

Dear Dr. Berg:

Enclosed are the analytical results for the samples received by our laboratory on March 10, 2016. All test results meet the quality control requirements of AIHA-LAP and NELAC unless otherwise stated in this report. All samples on the chain of custody were received in good condition unless otherwise noted.

Results in this report are based on the sampling data provided by the client and refer only to the samples as they were received at the laboratory. Unless otherwise requested, all samples will be discarded 14 days from the date of this report, with the exception of IOMs, which will be cleaned and disposed of after seven calendar days.

Current Scopes of Accreditation can be viewed at www.galsonlabs.com in the accreditations section under the "about Galson" tab.

Please contact Pamela Weaver at (888) 432-5227, if you would like any additional information regarding this report. Thank you for using SGS Galson Laboratories.

Sincerely,

SGS Galson Laboratories

Lisa Swab
Laboratory Director

Enclosure(s)

Galson Laboratories, Inc. is now a part of SGS, the world's leading inspection, verification, testing, and certification company. As part of our transition to SGS, you will begin to see some formatting changes with reports that will improve the presentation of data and allow for the transition to the new logo.

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LABORATORY ANALYSIS REPORT

Client : Center for Toxicology & Env. H
Site : NS
Project No. : 107907
Date Sampled : 08-MAR-16
Date Received : 10-MAR-16

Account No.: 13913
Login No. : L369250

Date Analyzed : 14-MAR-16 - 15-MAR-16
Report ID : 927402

Client ID : HOTX0308PNAH001 **Lab ID : L369250-1** **Air Volume : 707.6 Liter**
Date Sampled : 03/08/16 **Date Analyzed : 03/14/16**

Parameter	LOQ ug	Filter ug	Front ug	Back ug	Total ug	Conc mg/m3	ppm
1-Nitropyrene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0005	<0.00005
Acenaphthene	0.3	<0.3	<0.3	<0.3	<0.3	<0.0005	<0.00007
Acenaphthylene	0.3	<0.3	<0.3	<0.3	<0.3	<0.0004	<0.00007
Anthracene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0005	<0.00007
Benzo(a)anthracene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0005	<0.00006
Benzo(a)pyrene	0.3	<0.3	<0.3	<0.3	<0.5	<0.0006	<0.00006
Benzo(b)fluoranthene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0006	<0.00006
Benzo(e)pyrene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0006	<0.00006
Benzo(g,h,i)perylene	0.3	<0.3	<0.3	<0.3	<0.5	<0.0007	<0.00006
Benzo(k)fluoranthene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0006	<0.00006
Chrysene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0006	<0.00006
Dibenz(a,h)anthracene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0006	<0.00005
Fluoranthene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0005	<0.00006
Fluorene	0.3	<0.3	<0.3	<0.3	<0.3	<0.0005	<0.00007
Indeno(1,2,3-cd)pyrene	0.3	<0.3	<0.3	<0.3	<0.5	<0.0007	<0.00006

COMMENTS: Please see attached lab footnote report for any applicable footnotes.

Collection Media: FilterTube
Date : 17-MAR-16

Submitted by: MWJ
NYS DOH # : 11626

Approved by: nkp
Supervisor: MWJ QC by: TJB

< -Less Than mg -Milligrams m3 -Cubic Meters kg -Kilograms NA -Not Applicable ND -Not Detected
> -Greater Than ug -Micrograms l -Liters NS -Not Specified ppm -Parts per Million LOQ-Limit of Quantitation

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LABORATORY ANALYSIS REPORT

Client : Center for Toxicology & Env. H
Site : NS
Project No. : 107907
Date Sampled : 08-MAR-16
Date Received : 10-MAR-16

Account No.: 13913
Login No. : L369250

Date Analyzed : 14-MAR-16 - 15-MAR-16
Report ID : 927402

Client ID : HOTX0308PNAH001 **Lab ID : L369250-1** **Air Volume : 707.6 Liter**
Date Sampled : 03/08/16 **Date Analyzed : 03/14/16**

Parameter	LOQ ug	Filter ug	Front ug	Back ug	Total ug	Conc mg/m3	ppm
Naphthalene	0.3	<0.3	<0.3	<0.3	<0.3	<0.0005	<0.00009
Phenanthrene	0.3	<0.3	<0.3	<0.3	<0.3	<0.0005	<0.00007
Pyrene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0005	<0.00006

COMMENTS: Please see attached lab footnote report for any applicable footnotes.

Collection Media: FilterTube
Date : 17-MAR-16

Submitted by: MWJ
NYS DOH # : 11626

Approved by: nkp
Supervisor: MWJ QC by: TJB

< -Less Than mg -Milligrams m3 -Cubic Meters kg -Kilograms NA -Not Applicable ND -Not Detected
> -Greater Than ug -Micrograms l -Liters NS -Not Specified ppm -Parts per Million LOQ-Limit of Quantitation

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LABORATORY ANALYSIS REPORT

Client : Center for Toxicology & Env. H
Site : NS
Project No. : 107907
Date Sampled : 08-MAR-16
Date Received : 10-MAR-16

Account No.: 13913
Login No. : L369250
Date Analyzed : 14-MAR-16 - 15-MAR-16
Report ID : 927402

Client ID : HOTX0308PNAH002 **Lab ID : L369250-2** **Air Volume : 691.2 Liter**
Date Sampled : 03/08/16 **Date Analyzed : 03/14/16**

Parameter	LOQ ug	Filter ug	Front ug	Back ug	Total ug	Conc mg/m3	ppm
1-Nitropyrene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0005	<0.00005
Acenaphthene	0.3	<0.3	<0.3	<0.3	<0.3	<0.0005	<0.00008
Acenaphthylene	0.3	<0.3	<0.3	<0.3	<0.3	<0.0005	<0.00007
Anthracene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0005	<0.00007
Benzo(a)anthracene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0006	<0.00006
Benzo(a)pyrene	0.3	<0.3	<0.3	<0.3	<0.5	<0.0007	<0.00006
Benzo(b)fluoranthene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0006	<0.00006
Benzo(e)pyrene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0006	<0.00006
Benzo(g,h,i)perylene	0.3	<0.3	<0.3	<0.3	<0.5	<0.0007	<0.00007
Benzo(k)fluoranthene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0006	<0.00006
Chrysene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0006	<0.00006
Dibenz(a,h)anthracene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0006	<0.00005
Fluoranthene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0005	<0.00006
Fluorene	0.3	<0.3	<0.3	<0.3	<0.3	<0.0005	<0.00007
Indeno(1,2,3-cd)pyrene	0.3	<0.3	<0.3	<0.3	<0.5	<0.0007	<0.00006

COMMENTS: Please see attached lab footnote report for any applicable footnotes.

Collection Media: FilterTube
Date : 17-MAR-16

Submitted by: MWJ
NYS DOH # : 11626

Approved by: nkp
Supervisor: MWJ QC by: TJB

< -Less Than mg -Milligrams m3 -Cubic Meters kg -Kilograms NA -Not Applicable ND -Not Detected
> -Greater Than ug -Micrograms l -Liters NS -Not Specified ppm -Parts per Million LOQ-Limit of Quantitation

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LABORATORY ANALYSIS REPORT

Client : Center for Toxicology & Env. H
Site : NS
Project No. : 107907
Date Sampled : 08-MAR-16
Date Received : 10-MAR-16

Account No.: 13913
Login No. : L369250
Date Analyzed : 14-MAR-16 - 15-MAR-16
Report ID : 927402

Client ID : HOTX0308PNAH002 **Lab ID : L369250-2** **Air Volume : 691.2 Liter**
Date Sampled : 03/08/16 **Date Analyzed : 03/14/16**

Parameter	LOQ ug	Filter ug	Front ug	Back ug	Total ug	Conc mg/m3	ppm
Naphthalene	0.3	<0.3	<0.3	<0.3	<0.3	<0.0005	<0.00009
Phenanthrene	0.3	<0.3	<0.3	<0.3	<0.3	<0.0005	<0.00007
Pyrene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0005	<0.00006

COMMENTS: Please see attached lab footnote report for any applicable footnotes.

Collection Media: FilterTube
Date : 17-MAR-16

Submitted by: MWJ
NYS DOH # : 11626

Approved by: nkp
Supervisor: MWJ QC by: TJB

< -Less Than mg -Milligrams m3 -Cubic Meters kg -Kilograms NA -Not Applicable ND -Not Detected
> -Greater Than ug -Micrograms l -Liters NS -Not Specified ppm -Parts per Million LOQ-Limit of Quantitation

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LABORATORY ANALYSIS REPORT

Client : Center for Toxicology & Env. H
Site : NS
Project No. : 107907
Date Sampled : 08-MAR-16
Date Received : 10-MAR-16

Account No.: 13913
Login No. : L369250
Date Analyzed : 14-MAR-16 - 15-MAR-16
Report ID : 927402

Client ID : HOTX0308PNAH003 **Lab ID : L369250-3** **Air Volume : 683.1 Liter**
Date Sampled : 03/08/16 **Date Analyzed : 03/14/16**

Parameter	LOQ ug	Filter ug	Front ug	Back ug	Total ug	Conc mg/m3	ppm
1-Nitropyrene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0005	<0.00005
Acenaphthene	0.3	<0.3	<0.3	<0.3	<0.3	<0.0005	<0.00008
Acenaphthylene	0.3	<0.3	<0.3	<0.3	<0.3	<0.0005	<0.00007
Anthracene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0005	<0.00007
Benzo(a)anthracene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0006	<0.00006
Benzo(a)pyrene	0.3	<0.3	<0.3	<0.3	<0.5	<0.0007	<0.00006
Benzo(b)fluoranthene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0006	<0.00006
Benzo(e)pyrene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0006	<0.00006
Benzo(g,h,i)perylene	0.3	<0.3	<0.3	<0.3	<0.5	<0.0007	<0.00007
Benzo(k)fluoranthene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0006	<0.00006
Chrysene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0006	<0.00006
Dibenz(a,h)anthracene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0006	<0.00005
Fluoranthene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0005	<0.00006
Fluorene	0.3	<0.3	<0.3	<0.3	<0.3	<0.0005	<0.00007
Indeno(1,2,3-cd)pyrene	0.3	<0.3	<0.3	<0.3	<0.5	<0.0007	<0.00006

COMMENTS: Please see attached lab footnote report for any applicable footnotes.

Collection Media: FilterTube
Date : 17-MAR-16

Submitted by: MWJ
NYS DOH # : 11626

Approved by: nkp
Supervisor: MWJ QC by: TJB

< -Less Than mg -Milligrams m3 -Cubic Meters kg -Kilograms NA -Not Applicable ND -Not Detected
> -Greater Than ug -Micrograms l -Liters NS -Not Specified ppm -Parts per Million LOQ-Limit of Quantitation

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LABORATORY ANALYSIS REPORT

Client : Center for Toxicology & Env. H
Site : NS
Project No. : 107907
Date Sampled : 08-MAR-16
Date Received : 10-MAR-16

Account No.: 13913
Login No. : L369250
Date Analyzed : 14-MAR-16 - 15-MAR-16
Report ID : 927402

Client ID : HOTX0308PNAH003 **Lab ID : L369250-3** **Air Volume : 683.1 Liter**
Date Sampled : 03/08/16 **Date Analyzed : 03/14/16**

Parameter	LOQ ug	Filter ug	Front ug	Back ug	Total ug	Conc mg/m3	ppm
Naphthalene	0.3	<0.3	<0.3	<0.3	<0.3	<0.0005	<0.00009
Phenanthrene	0.3	<0.3	<0.3	<0.3	<0.3	<0.0005	<0.00007
Pyrene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0005	<0.00006

COMMENTS: Please see attached lab footnote report for any applicable footnotes.

Collection Media: FilterTube
Date : 17-MAR-16

Submitted by: MWJ
NYS DOH # : 11626

Approved by: nkp
Supervisor: MWJ QC by: TJB

< -Less Than mg -Milligrams m3 -Cubic Meters kg -Kilograms NA -Not Applicable ND -Not Detected
> -Greater Than ug -Micrograms l -Liters NS -Not Specified ppm -Parts per Million LOQ-Limit of Quantitation

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LABORATORY ANALYSIS REPORT

Client : Center for Toxicology & Env. H
Site : NS
Project No. : 107907
Date Sampled : 08-MAR-16
Date Received : 10-MAR-16

Account No.: 13913
Login No. : L369250

Date Analyzed : 14-MAR-16 - 15-MAR-16
Report ID : 927402

Client ID : HOTX0308PNAH004 **Lab ID : L369250-4** **Air Volume : NA**
Date Sampled : 03/08/16 **Date Analyzed : 03/15/16**

Parameter	LOQ ug	Filter ug	Front ug	Back ug	Total ug	Conc mg/m3	ppm
1-Nitropyrene	0.3	<0.3	<0.3	<0.3	<0.4	NA	NA
Acenaphthene	0.3	<0.3	<0.3	<0.3	<0.3	NA	NA
Acenaphthylene	0.3	<0.3	<0.3	<0.3	<0.3	NA	NA
Anthracene	0.3	<0.3	<0.3	<0.3	<0.4	NA	NA
Benzo(a)anthracene	0.3	<0.3	<0.3	<0.3	<0.4	NA	NA
Benzo(a)pyrene	0.3	<0.3	<0.3	<0.3	<0.5	NA	NA
Benzo(b)fluoranthene	0.3	<0.3	<0.3	<0.3	<0.4	NA	NA
Benzo(e)pyrene	0.3	<0.3	<0.3	<0.3	<0.4	NA	NA
Benzo(g,h,i)perylene	0.3	<0.3	<0.3	<0.3	<0.5	NA	NA
Benzo(k)fluoranthene	0.3	<0.3	<0.3	<0.3	<0.4	NA	NA
Chrysene	0.3	<0.3	<0.3	<0.3	<0.4	NA	NA
Dibenz(a,h)anthracene	0.3	<0.3	<0.3	<0.3	<0.4	NA	NA
Fluoranthene	0.3	<0.3	<0.3	<0.3	<0.4	NA	NA
Fluorene	0.3	<0.3	<0.3	<0.3	<0.3	NA	NA
Indeno(1,2,3-cd)pyrene	0.3	<0.3	<0.3	<0.3	<0.5	NA	NA

COMMENTS: Please see attached lab footnote report for any applicable footnotes.

Collection Media: FilterTube
Date : 17-MAR-16

Submitted by: MWJ
NYS DOH # : 11626

Approved by: nkp
Supervisor: MWJ QC by: TJB

< -Less Than mg -Milligrams m3 -Cubic Meters kg -Kilograms NA -Not Applicable ND -Not Detected
> -Greater Than ug -Micrograms l -Liters NS -Not Specified ppm -Parts per Million LOQ-Limit of Quantitation

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LABORATORY ANALYSIS REPORT

Client : Center for Toxicology & Env. H
Site : NS
Project No. : 107907
Date Sampled : 08-MAR-16
Date Received : 10-MAR-16

Account No.: 13913
Login No. : L369250

Date Analyzed : 14-MAR-16 - 15-MAR-16
Report ID : 927402

Client ID : HOTX0308PNAH004 **Lab ID : L369250-4** **Air Volume : NA**
Date Sampled : 03/08/16 **Date Analyzed : 03/15/16**

Parameter	LOQ ug	Filter ug	Front ug	Back ug	Total ug	Conc mg/m3	ppm
Naphthalene	0.3	<0.3	<0.3	<0.3	<0.3	NA	NA
Phenanthrene	0.3	<0.3	<0.3	<0.3	<0.3	NA	NA
Pyrene	0.3	<0.3	<0.3	<0.3	<0.4	NA	NA

COMMENTS: Please see attached lab footnote report for any applicable footnotes.

Collection Media: FilterTube
Date : 17-MAR-16

Submitted by: MWJ
NYS DOH # : 11626

Approved by: nkp
Supervisor: MWJ QC by: TJB

< -Less Than mg -Milligrams m3 -Cubic Meters kg -Kilograms NA -Not Applicable ND -Not Detected
> -Greater Than ug -Micrograms l -Liters NS -Not Specified ppm -Parts per Million LOQ-Limit of Quantitation

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LABORATORY FOOTNOTE REPORT

Client Name : Center for Toxicology & Env. Health LLC
Site :
Project No. : 107907

Date Sampled : 08-MAR-16 Account No.: 13913
Date Received: 10-MAR-16 Login No. : L369250
Date Analyzed: 14-MAR-16 - 15-MAR-16

Unless otherwise noted below, all quality control results associated with the samples were within established control limits or did not impact reported results.

WARNING: The sample(s) to which the findings recorded herein (the "Findings") relate was(were) drawn and / or provided by the Client or by a third party acting at the Client's direction. The Findings constitute no warranty of the sample's representativeness of any goods and strictly relate to the sample(s). The Company accepts no liability with regard to the origin or source from which the sample(s) is/are said to be extracted.

Unrounded results are carried through the calculations that yield the final result and the final result is rounded to the number of significant figures appropriate to the accuracy of the analytical method. Please note that results appearing in the columns preceeding the final result column may have been rounded and therefore, if carried through the calculations, may not yield an identical final result to the one reported.

The stated LOQs for each analyte represent the demonstrated LOQ concentrations prior to correction for desorption efficiency (if applicable).

Unless otherwise noted below, reported results have not been blank corrected for any field blank or method blank.

L369250 (Report ID: 927402):
Results corrected for compound and matrix-specific desorption efficiencies.
SOPs: il-n5506(12)

L369250 (Report ID: 927402):
Accuracy and mean recovery data presented below is based on a 95% confidence interval (k=2).
The estimated uncertainty applies to the media, technology, and SOP referenced in this report and does not account for the uncertainty associated with the sampling process.

Parameter	Accuracy	Mean Recovery
1-Nitropyrene	+/-16%	107%
Acenaphthene	+/-14.4%	104%
Acenaphthylene	+/-11.7%	100%
Anthracene	+/-15.7%	114%
Benzo(a)anthracene	+/-16.1%	110%
Benzo(a)pyrene	+/-26%	115%

< -Less Than mg -Milligrams m3 -Cubic Meters kg -Kilograms ppm -Parts per Million
> -Greater Than ug -Micrograms l -Liters NS -Not Specified ND -Not Detected NA -Not Applicable

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Client Name : Center for Toxicology & Env. Health LLC
Site :
Project No. : 107907

Date Sampled : 08-MAR-16 Account No.: 13913
Date Received: 10-MAR-16 Login No. : L369250
Date Analyzed: 14-MAR-16 - 15-MAR-16

Benzo(b)fluoranthene	+/-19%	113%
Benzo(e)pyrene	+/-19.2%	111%
Benzo(g,h,i)perylene	+/-20.2%	112%
Benzo(k)fluoranthene	+/-15.5%	109%
Chrysene	+/-14%	108%
Dibenz(a,h)anthracene	+/-15.6%	103%
Fluoranthene	+/-16.2%	110%
Fluorene	+/-12.4%	109%
Indeno(1,2,3-cd)pyrene	+/-19.5%	113%
Naphthalene	+/-13.3%	105%
Phenanthrene	+/-13.4%	108%
Pyrene	+/-14.6%	112%

Parameter	Method	PEL
1-Nitropyrene	mod. NIOSH 5506; HPLC/UV	NA
Acenaphthene	mod. NIOSH 5506; HPLC/UV	NA
Acenaphthylene	mod. NIOSH 5506; HPLC/UV	NA
Anthracene	mod. NIOSH 5506; HPLC/UV	NA
Benzo(a)anthracene	mod. NIOSH 5506; HPLC/UV	NA
Benzo(a)pyrene	mod. NIOSH 5506; HPLC/UV	0.2 mg/m3 (TWA)
Benzo(b)fluoranthene	mod. NIOSH 5506; HPLC/UV	NA
Benzo(e)pyrene	mod. NIOSH 5506; HPLC/UV	NA
Benzo(g,h,i)perylene	mod. NIOSH 5506; HPLC/UV	NA
Benzo(k)fluoranthene	mod. NIOSH 5506; HPLC/UV	NA
Chrysene	mod. NIOSH 5506; HPLC/UV	0.2 mg/m3 (TWA)
Dibenz(a,h)anthracene	mod. NIOSH 5506; HPLC/UV	NA
Fluoranthene	mod. NIOSH 5506; HPLC/UV	NA
Fluorene	mod. NIOSH 5506; HPLC/UV	NA
Indeno(1,2,3-cd)pyrene	mod. NIOSH 5506; HPLC/UV	NA
Naphthalene	mod. NIOSH 5506; HPLC/UV	10 ppm (TWA)
Phenanthrene	mod. NIOSH 5506; HPLC/UV	NA
Pyrene	mod. NIOSH 5506; HPLC/UV	NA

< -Less Than mg -Milligrams m3 -Cubic Meters kg -Kilograms ppm -Parts per Million
> -Greater Than ug -Micrograms l -Liters NS -Not Specified ND -Not Detected NA -Not Applicable

Sample: WG341535-1 **Spikelot:** IH610903-4
QC Type: DLS **Raw File:**
Analysis date 03/14/16 15:59:54 **Approval Status:** YES
Instrument: LC6

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
NAPHTHALENE	.090506	.099	91.4	70.0 to 130.				
BENZO(A)ANTHRACENE	.092296	.099	93.2	70.0 to 130.				
CHRYSENE	.100766	.099	102	70.0 to 130.				
BENZO(E)PYRENE	.113629	.1	114	70.0 to 130.				
BENZO(B)FLUORANTHENE	.108322	.099	109	70.0 to 130.				
BENZO(K)FLUORANTHENE	.081596	.099	82.4	70.0 to 130.				
BENZO(A)PYRENE	.119954	.099	121	70.0 to 130.				
DIBENZ(A,H)ANTHRACENE	.076649	.099	77.4	70.0 to 130.				
BENZO(G,H,I)PERYLENE	.103182	.099	104	70.0 to 130.				
ACENAPHTHYLENE	.089544	.099	90.4	70.0 to 130.				
INDENO-1,2,3-CD-PYRENE	.097139	.099	98.1	70.0 to 130.				
ACENAPHTHENE	.105901	.1	106	70.0 to 130.				
FLUORENE	.100980	.098	103	70.0 to 130.				
PHENANTHRENE	.092198	.098	94.1	70.0 to 130.				
ANTHRACENE	.122313	.099	124	70.0 to 130.				
FLUORANTHENE	.090864	.098	92.7	70.0 to 130.				
1-NITROPYRENE	.105577	.099	107	70.0 to 130.				
PYRENE	.088870	.099	89.8	70.0 to 130.				

Sample: WG341535-2 **Spikelot:** IH610903-3
QC Type: CCV **Raw File:**
Analysis date 03/14/16 16:19:49 **Approval Status:** YES
Instrument: LC6

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
NAPHTHALENE	4.85385	4.95	98.1	88.5 to 120.				
PYRENE	5.15080	4.95	104	92.5 to 125.				
BENZO(A)ANTHRACENE	5.35786	4.95	108	93.7 to 119.				
CHRYSENE	5.16499	4.95	104	88.9 to 118.				
BENZO(E)PYRENE	5.23097	4.9995	105	90.6 to 127.				
BENZO(B)FLUORANTHENE	5.18033	4.95	105	93.8 to 125.				
BENZO(K)FLUORANTHENE	4.99181	4.95	101	88.2 to 117.				
BENZO(A)PYRENE	6.40492	4.95	129	83.3 to 137.				
ACENAPHTHYLENE	4.95615	4.95	100	89.8 to 117.				
DIBENZ(A,H)ANTHRACENE	5.08220	4.95	103	85.0 to 120.				
BENZO(G,H,I)PERYLENE	5.44410	4.95	110	88.6 to 123.				

Sample: WG341535-2 **Spikelot:** IH610903-3
QC Type: CCV **Raw File:**
Analysis date 03/14/16 16:19:49 **Approval Status:** YES
Instrument: LC6

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
INDENO-1,2,3-CD-PYRENE	5.26905	4.95	106	94.8 to 127.				
ACENAPHTHENE	4.92022	4.9995	98.4	87.1 to 119.				
FLUORENE	4.97861	4.9	102	92.7 to 123.				
PHENANTHRENE	5.09712	4.9	104	91.1 to 120.				
ANTHRACENE	6.15198	4.95	124	91.4 to 130.				
FLUORANTHENE	5.02666	4.9	103	92.0 to 120.				
1-NITROPYRENE	4.87315	4.95	98.4	86.8 to 123.				

Sample: WG341528-2 **Spikelot:** NA
QC Type: MBLANK **Raw File:**
Analysis date 03/14/16 17:19:37 **Approval Status:** YES
Instrument: LC6

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
ACENAPHTHENE(FRONT)	0	<.3						
ACENAPHTHENE(BACK)	0	<.3						
ACENAPHTHYLENE(FRONT)	0	<.3						
ACENAPHTHYLENE(BACK)	0	<.3						
ANTHRACENE(FRONT)	0	<.3						
ANTHRACENE(BACK)	0	<.3						
BENZO(A)ANTHRACENE(FRONT)	0	<.3						
BENZO(A)ANTHRACENE(BACK)	0	<.3						
BENZO(A)PYRENE(FRONT)	0	<.3						
BENZO(A)PYRENE(BACK)	0	<.3						
BENZO(B)FLUORANTHENE(FRONT)	0	<.3						
BENZO(B)FLUORANTHENE(BACK)	0	<.3						
BENZO(E)PYRENE(FRONT)	0	<.3						
BENZO(E)PYRENE(BACK)	0	<.3						
BENZO(G,H,I)PERYLENE(FRONT)	0	<.3						
BENZO(G,H,I)PERYLENE(BACK)	0	<.3						
BENZO(K)FLUORANTHENE(FRONT)	0	<.3						
BENZO(K)FLUORANTHENE(BACK)	0	<.3						
CHRYSENE(FRONT)	0	<.3						
CHRYSENE(BACK)	0	<.3						
DIBENZ(A,H)ANTHRACENE(FRONT)	0	<.3						
DIBENZ(A,H)ANTHRACENE(BACK)	0	<.3						

Sample: WG341528-2 **Spikelot:** NA
QC Type: MBLANK **Raw File:**
Analysis date 03/14/16 17:19:37 **Approval Status:** YES
Instrument: LC6

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
FLUORANTHENE(FRONT)	0	<.3						
FLUORANTHENE(BACK)	0	<.3						
FLUORENE(FRONT)	0	<.3						
FLUORENE(BACK)	0	<.3						
INDENO-1,2,3-CD-PYRENE(FRONT)	0	<.3						
INDENO-1,2,3-CD-PYRENE(BACK)	0	<.3						
NAPHTHALENE(FRONT)	0	<.3						
NAPHTHALENE(BACK)	0	<.3						
1-NITROPYRENE(FRONT)	0	<.3						
1-NITROPYRENE(BACK)	0	<.3						
PHENANTHRENE(FRONT)	0	<.3						
PHENANTHRENE(BACK)	0	<.3						
PYRENE(FRONT)	0	<.3						
PYRENE(BACK)	0	<.3						

Sample: WG341528-3 **Spikelot:** IH614842
QC Type: BS **Raw File:**
Analysis date 03/14/16 17:59:29 **Approval Status:** YES
Instrument: LC6

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
NAPHTHALENE	4.91456	4.95	99.3		100	85.2 to 125		
BENZO(A)ANTHRACENE	5.23472	4.95	106		108	85.3 to 134		
CHRYSENE	4.97492	4.95	101		103	86.7 to 129		
BENZO(E)PYRENE	5.16188	4.9995	103		105	82.4 to 140		
BENZO(B)FLUORANTHENE	5.11624	4.95	103		107	85.0 to 142		
BENZO(K)FLUORANTHENE	4.94766	4.95	100		103	85.3 to 132		
BENZO(A)PYRENE	6.38039	4.95	129		132	76.5 to 154		
DIBENZ(A,H)ANTHRACENE	4.97974	4.95	101		102	79.8 to 127		
BENZO(G,H,I)PERYLENE	5.33875	4.95	108		112	81.7 to 142		
INDENO-1,2,3-CD-PYRENE	5.08792	4.95	103		104	83.3 to 142		
ACENAPHTHYLENE	5.00099	4.95	101		99	82.8 to 118		
ACENAPHTHENE	4.92499	4.9995	98.5		96.6	82.3 to 125		
FLUORENE	4.92916	4.9	101		104	90.7 to 128		
PHENANTHRENE	5.05147	4.9	103		105	87.8 to 128		
ANTHRACENE	6.21692	4.95	126		128	90.2 to 137		

Sample: WG341528-3 **Spikelot:** IH614842
QC Type: BS **Raw File:**
Analysis date 03/14/16 17:59:29 **Approval Status:** YES
Instrument: LC6

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
FLUORANTHENE	4.95773	4.9	101		103	85.5 to 134		
1-NITROPYRENE	4.63117	4.95	93.6		94.5	82.7 to 131		
PYRENE	5.08160	4.95	103		104	89.7 to 134		

Sample: WG341528-4 **Spikelot:** IH614842
QC Type: BSD **Raw File:**
Analysis date 03/14/16 18:19:24 **Approval Status:** YES
Instrument: LC6

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
NAPHTHALENE	4.95909	4.95	100		101	85.2 to 125	-.995	-10 to 10.0
BENZO(A)ANTHRACENE	5.29406	4.95	107		109	85.3 to 134	-.922	-10 to 10.0
CHRYSENE	5.10623	4.95	103		105	86.7 to 129	-1.92	-10 to 10.0
BENZO(E)PYRENE	5.21985	4.9995	104		107	82.4 to 140	-1.89	-10 to 10.0
BENZO(B)FLUORANTHENE	5.18588	4.95	105		108	85.0 to 142	-.93	-10 to 10.0
BENZO(K)FLUORANTHENE	4.99667	4.95	101		104	85.3 to 132	-.966	-10 to 10.0
BENZO(A)PYRENE	6.60327	4.95	133		136	76.5 to 154	-2.99	-10 to 10.0
DIBENZ(A,H)ANTHRACENE	5.05001	4.95	102		103	79.8 to 127	-.976	-11.5 to 9.87
BENZO(G,H,I)PERYLENE	5.48832	4.95	111		115	81.7 to 142	-2.64	-10 to 10.0
INDENO-1,2,3-CD-PYRENE	5.21987	4.95	105		107	83.3 to 142	-2.84	-10 to 10.0
ACENAPHTHYLENE	5.03558	4.95	102		99.7	82.8 to 118	-.705	-10 to 10.0
ACENAPHTHENE	5.02128	4.9995	100		98.5	82.3 to 125	-1.95	-10 to 10.0
FLUORENE	5.02655	4.9	103		106	90.7 to 128	-1.9	-10 to 10.0
PHENANTHRENE	5.09900	4.9	104		106	87.8 to 128	-.948	-10 to 10.0
ANTHRACENE	6.34343	4.95	128		131	90.2 to 137	-2.32	-10 to 10.0
FLUORANTHENE	5.06541	4.9	103		105	85.5 to 134	-1.92	-10 to 10.0
1-NITROPYRENE	4.90617	4.95	99.1		100	82.7 to 131	-5.66	-10 to 10.0
PYRENE	5.21713	4.95	105		106	89.7 to 134	-1.9	-10.4 to 8.90

Sample: WG341528-5 **Spikelot:** IH614842
QC Type: BS **Raw File:**
Analysis date 03/14/16 18:39:22 **Approval Status:** YES
Instrument: LC6

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
NAPHTHALENE	4.68071	4.95	94.6		103	85.2 to 125		
PYRENE	4.35999	4.95	88.1		107	89.7 to 134		

Mr. Charles Connolly
Center for Toxicology & Env. Health LLC
5120 North Shore Drive
North Little Rock, AR 72118

March 18, 2016

DOH ELAP #11626 Account# 13913 Login# L368322
AIHA-LAP #100324

Dear Mr. Connolly:

Enclosed are the revised analytical results for the samples received by our laboratory on February 27, 2016: two sample IDs on the QC Summary attachment have been corrected. Please note that this revision cancels and supercedes L368322 (report reference: 1) issued 3/7/16 by SGS Galson Laboratories. Please also note that report reference: 2 was created to resolve an EDD issue, but was never sent. It was identical to report reference : 1. All test results meet the quality control requirements of AIHA-LAP and NELAC unless otherwise stated in this report. All samples on the chain of custody were received in good condition unless otherwise noted.

Results in this report are based on the sampling data provided by the client and refer only to the samples as they were received at the laboratory.

Current Scopes of Accreditation can be viewed at www.galsonlabs.com in the accreditations section under the "about Galson" tab.

Please contact Pamela Weaver at (888) 432-5227, if you would like any additional information regarding this report. Thank you for using SGS Galson Laboratories.

Sincerely,

SGS Galson Laboratories

Lisa Swab
Laboratory Director

Enclosure(s)

Galson Laboratories, Inc. is now a part of SGS, the world's leading inspection, verification, testing, and certification company. As part of our transition to SGS, you will begin to see some formatting changes with reports that will improve the presentation of data and allow for the transition to the new logo.

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LABORATORY ANALYSIS REPORT

Client : Center for Toxicology & Env. H
Site : NS
Project No. : 107907
Date Sampled : 25-FEB-16
Date Received : 27-FEB-16

Account No.: 13913
Login No. : L368322

Date Analyzed : 03-MAR-16 - 04-MAR-16
Report ID : 924517

Respirable Dust

	Sample ID	Lab ID	Air Vol liter	Total mg	Conc mg/m3
#	HOTX0225RD001	L368322-1	1356.2	-0.077	<0.037
	HOTX0225RD002	L368322-2	1338.1	<0.050	<0.037
	HOTX0225RD003	L368322-3	1343.2	<0.050	<0.037
	HOTX0225RD004	L368322-4	NA	<0.050	NA

COMMENTS: Please see attached lab footnote report for any applicable footnotes.

Level of quantitation: 0.050 mg
Analytical Method : mod. NIOSH 0600; Gravimetric
OSHA PEL : PNOR 5 mg/m3 (TWA)
Collection Media : PVC PW 37mm

Submitted by: MNS/PAH
Approved by : CRI
Date : 07-MAR-16
Supervisor: CRI

NYS DOH # : 11626
QC by: AMD

< -Less Than mg -Milligrams m3 -Cubic Meters kg -Kilograms NA -Not Applicable ND -Not Detected
> -Greater Than ug -Micrograms l -Liters NS -Not Specified ppm -Parts per Million

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LABORATORY ANALYSIS REPORT

Client : Center for Toxicology & Env. H
Site : NS
Project No. : 107907
Date Sampled : 25-FEB-16
Date Received : 27-FEB-16

Account No.: 13913
Login No. : L368322
Date Analyzed : 04-MAR-16
Report ID : 924518

Total Dust

Sample ID	Lab ID	Air Vol liter	Total mg	Conc mg/m3
HOTX0225TD001	L368322-5	1121.9	<0.050	<0.045
HOTX0225TD002	L368322-6	1064	<0.050	<0.047
HOTX0225TD003	L368322-7	1058.9	<0.050	<0.047
HOTX0225TD004	L368322-8	NA	<0.050	NA

COMMENTS: Please see attached lab footnote report for any applicable footnotes.

Level of quantitation: 0.050 mg
Analytical Method : mod. NIOSH 0500; Gravimetric
OSHA PEL : PNOR 15 mg/m3 (TWA)
Collection Media : PVC PW 37mm

Submitted by: MNS
Approved by : CRI
Date : 07-MAR-16
Supervisor: CRI

NYS DOH # : 11626
QC by: AMD

< -Less Than mg -Milligrams m3 -Cubic Meters kg -Kilograms NA -Not Applicable ND -Not Detected
> -Greater Than ug -Micrograms l -Liters NS -Not Specified ppm -Parts per Million

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LABORATORY FOOTNOTE REPORT

Client Name : Center for Toxicology & Env. Health LLC
Site :
Project No. : 107907

Date Sampled : 25-FEB-16 Account No.: 13913
Date Received: 27-FEB-16 Login No. : L368322
Date Analyzed: 03-MAR-16 - 04-MAR-16

Unless otherwise noted below, all quality control results associated with the samples were within established control limits or did not impact reported results.

WARNING: The sample(s) to which the findings recorded herein (the "Findings") relate was(were) drawn and / or provided by the Client or by a third party acting at the Client's direction. The Findings constitute no warranty of the sample's representativeness of any goods and strictly relate to the sample(s). The Company accepts no liability with regard to the origin or source from which the sample(s) is/are said to be extracted.

Unrounded results are carried through the calculations that yield the final result and the final result is rounded to the number of significant figures appropriate to the accuracy of the analytical method. Please note that results appearing in the columns preceeding the final result column may have been rounded and therefore, if carried through the calculations, may not yield an identical final result to the one reported.

The stated LOQs for each analyte represent the demonstrated LOQ concentrations prior to correction for desorption efficiency (if applicable).

Unless otherwise noted below, reported results have not been blank corrected for any field blank or method blank.

L368322 (Report ID: 924517):
SOPs: GRAV-SOP-5(15), GRAV-SOP-6(15)
Gravimetric analytical accuracy of the sampling media is -0.001 +/- 0.006 mg (average blank weight change +/- 95% confidence interval or k=2). The estimated uncertainly applies to the media, technology, and SOP(s) referenced in this report and does not account for any uncertainty associated with the sampling process.
PNOR = Particulates Not Otherwise Regulated.

#L368322-1 (Report ID: 924517):
Dust result is more negative than the LOQ. Reported result is biased low.

L368322 (Report ID: 924518):
SOPs: GRAV-SOP-5(15), GRAV-SOP-6(15)
Gravimetric analytical accuracy of the sampling media is -0.001 +/- 0.006 mg (average blank weight change +/- 95% confidence interval or k=2). The estimated uncertainly applies to the media, technology, and SOP(s) referenced in this report and does not account for any uncertainty associated with the sampling process.
PNOR = Particulates Not Otherwise Regulated.

<	-Less Than	mg	-Milligrams	m3	-Cubic Meters	kg	-Kilograms	ppm	-Parts per Million
>	-Greater Than	ug	-Micrograms	l	-Liters	NS	-Not Specified	ND	-Not Detected	NA	-Not Applicable

GRAVIMETRICS QC SUMMARY REPORT

Login: L368322
Matnum: 306
Matrix: PVC PW 37mm
Instrument Description: Mettler MX-5, M2
Method: mod. NIOSH 0500; GRAV
Reporting Level (mg): 0.050 mg
Analysis: Total Dust

Type	Sample #	Analysis Date	True Value (mg)	Found Value (mg)	Difference (mg)	Control Limit (mg)
CCV	WG340724-1	3/4/2016 06:51:00	19.943	19.943	0.000	0.008
BLANK	WG340724-3	3/4/2016 06:53:00	13.219	13.214	-0.005	-0.010
CCV	WG340724-6	3/4/2016 07:06:00	19.943	19.945	0.002	0.008
CCV	WG340780-1	3/4/2016 14:50:00	19.943	19.942	-0.001	0.008
CCV	WG340780-6	3/4/2016 15:05:00	19.943	19.941	-0.002	0.008

Type	Sample #	Analysis Date	Sample Result (mg)	Duplicate Result (mg)	Abs. Val. of mg Difference	Control Limit (mg)
DUP	WG340780-4	3/4/2016 15:00:00	0.006	0.007	0.001	0.004

Dup Workgroup number **Sample number**
WG340780-4 L368322-5

Instrument Description: Mettler MX-5, M3
Method: mod. NIOSH 0600; GRAV
Analysis: Respirable Dust

Type	Sample #	Analysis Date	True Value (mg)	Found Value (mg)	Difference (mg)	Control Limit (mg)
CCV	WG340741-1	3/4/2016 09:41:00	19.943	19.941	-0.002	0.008
BLANK	WG340741-3	3/4/2016 09:43:00	10.952	10.949	-0.003	-0.010
CCV	WG340741-7	3/4/2016 09:56:00	19.943	19.945	0.002	0.008
CCV	WG340758-1	3/4/2016 12:22:00	19.943	19.943	0.000	0.008
CCV	WG340758-4	3/4/2016 12:40:00	19.943	19.936	-0.007	0.008
CCV	WG340758-6	3/4/2016 12:57:00	19.943	19.935	-0.008	0.008

Type	Sample #	Analysis Date	Sample Result (mg)	Duplicate Result (mg)	Abs. Val. of mg Difference	Control Limit (mg)
DUP	WG340758-3	3/4/2016 12:38:00	-0.077	-0.073	0.004	0.004

Dup Workgroup number **Sample number**
WG340758-3 L368322-1

Instrument Description: Mettler XP6, M4

Type	Sample #	Analysis Date	True Value (mg)	Found Value (mg)	Difference (mg)	Control Limit (mg)
CCV	WG340590-1	3/4/2016 07:23:00	19.950	19.948	-0.002	0.008
BLANK	WG340590-3	3/4/2016 07:31:00	10.166	10.157	-0.009	-0.010
CCV	WG340590-7	3/4/2016 07:45:00	19.950	19.942	-0.008	0.008
CCV	WG340631-13	3/4/2016 12:52:00	19.950	19.949	-0.001	0.008
CCV	WG340631-19	3/4/2016 13:04:00	19.950	19.948	-0.002	0.008

Type	Sample #	Analysis Date	Sample Result (mg)	Duplicate Result (mg)	Abs. Val. of mg Difference	Control Limit (mg)
DUP	WG340631-17	3/4/2016 13:01:00	-0.023	-0.020	0.003	0.004

Dup Workgroup number **Sample number**
WG340631-17 L368322-2

775741473790
Date:02/27/16
Shipper:FEDEX
Initials:KMM
Prep:UNKNOWN

80

5120 North Shore Drive
North Little Rock, AR 72118
Phone: (501) 801-8500
Fax: (501) 801-8501
Website: www.cteh.com

or Toxicology and Environmental Health L.L.C.
CHAIN OF CUSTODY AND ANALYSIS REQUEST FORM

Page ___ of ___

	Send Report To:	Send Invoice To:
Name	cconnolly@cteh.com;mberg@cteh.co	
Company	CTEH	CTEH
Address	5120 North Shore Drive North Little Rock, AR 72118	5120 North Shore Drive North Little Rock, AR 72118
Phone	(501)801-8500	(501)801-8500
Fax	(501)801-8501	(501)801-8501
e-mail	labresults@cteh.com	

CTEH Project #: 107907

Turnaround Requested:
Same Day __Next Day (24 hour) _X_ Normal
__Other (Specify) _____

Complete Data Packet Requested X Yes ☐No

Lab Contact Information:
Galson Laboratories
6601 Kirkville Road
E. Syracuse, NY 13057

Client Sample Identification	Other Sample Identification	Sample Size	Units (Check one) ____L __cm² ____	Sample Date	Sample Time (for non-air samples)	Initials	NIOSH 0600 Resp dust	NIOSH 0500 Total Dust								Matrix A = air B = bulk S = soil SW = wipe T = tape W = water
HOTX0225RD001	AS16	1356.2	L	02/25/16		PWW	X									A
HOTX0225RD002	AS12	1338.1	L	02/25/16		PWW	X									A
HOTX0225RD003	AS07	1343.2	L	02/25/16		PWW	X									A
HOTX0225RD004	BL	0	L	02/25/16		PWW	X									A
HOTX0225TD001	AS16	1121.9	L	02/25/16		PWW		X								A
HOTX0225TD002	AS12	1064.0	L	02/25/16		PWW		X								A
HOTX0225TD003	AS07	1058.9	L	02/25/16		PWW		X								A
HOTX0225TD004	BL	0	L	02/25/16		PWW		X								A

RELINQUISHED BY	DATE/TIME	RECEIVED BY	DATE/TIME	COMMENTS
Justin Langley	2/26/16 16:00	Fed Ex		Rec'd intact & all accounted for? Yes or No KM Rec'd w/custody seals intact? Yes or No NA KM Rec'd in light sensitive packaging? Yes or No NA KM Rec'd with ice pack? Yes or No NA KM Rec'd temperature compliant? Yes or No KM
		Kenneth Kay	2/27/16 1032	

Mr. Charles Connolly
Center for Toxicology & Env. Health LLC
5120 North Shore Drive
North Little Rock, AR 72118

March 22, 2016

DOH ELAP #11626 Account# 13913 Login# L368483
AIHA-LAP #100324

Dear Mr. Connolly:

Enclosed are the revised analytical results for the samples received by our laboratory on March 01, 2016: the method blank result for Benzo(A)Pyrene has been corrected due to a belatedly discovered chromatographic anomaly/integration error. Please note that this revision cancels & supercedes L368483 (report reference: 1) issued 3/8/16 by SGS Galson Laboratories. All test results meet the quality control requirements of AIHA-LAP and NELAC unless otherwise stated in this report. All samples on the chain of custody were received in good condition unless otherwise noted.

Results in this report are based on the sampling data provided by the client and refer only to the samples as they were received at the laboratory.

Current Scopes of Accreditation can be viewed at www.galsonlabs.com in the accreditations section under the "about Galson" tab.

Please contact Pamela Weaver at (888) 432-5227, if you would like any additional information regarding this report. Thank you for using SGS Galson Laboratories.

Sincerely,

SGS Galson Laboratories

Lisa Swab
Laboratory Director

Enclosure(s)

Galson Laboratories, Inc. is now a part of SGS, the world's leading inspection, verification, testing, and certification company. As part of our transition to SGS, you will begin to see some formatting changes with reports that will improve the presentation of data and allow for the transition to the new logo.

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LABORATORY ANALYSIS REPORT

Client : Center for Toxicology & Env. H
Site : NS
Project No. : 107907
Date Sampled : 27-FEB-16
Date Received : 01-MAR-16

Account No.: 13913
Login No. : L368483
Date Analyzed : 02-MAR-16
Report ID : 925127

Client ID : HOTX0227PNAH001 **Lab ID : L368483-1** **Air Volume : 975.2 Liter**
Date Sampled : 02/27/16 **Date Analyzed : 03/02/16**

Parameter	LOQ ug	Filter ug	Front ug	Back ug	Total ug	Conc mg/m3	ppm
1-Nitropyrene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Acenaphthene	0.3	<0.3	<0.3	<0.3	<0.3	<0.0003	<0.00005
Acenaphthylene	0.3	<0.3	<0.3	<0.3	<0.3	<0.0003	<0.00005
Anthracene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00005
Benzo(a)anthracene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Benzo(a)pyrene	0.3	<0.3	<0.3	<0.3	<0.5	<0.0005	<0.00005
Benzo(b)fluoranthene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Benzo(e)pyrene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0005	<0.00004
Benzo(g,h,i)perylene	0.3	<0.3	<0.3	<0.3	<0.5	<0.0005	<0.00005
Benzo(k)fluoranthene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Chrysene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Dibenz(a,h)anthracene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Fluoranthene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Fluorene	0.3	<0.3	<0.3	<0.3	<0.3	<0.0003	<0.00005
Indeno(1,2,3-cd)pyrene	0.3	<0.3	<0.3	<0.3	<0.5	<0.0005	<0.00004

COMMENTS: Please see attached lab footnote report for any applicable footnotes.

Collection Media: FilterTube
Date : 08-MAR-16

Submitted by: EAW
NYS DOH # : 11626

Approved by: nkp
Supervisor: MWJ QC by: AMD

< -Less Than mg -Milligrams m3 -Cubic Meters kg -Kilograms NA -Not Applicable ND -Not Detected
> -Greater Than ug -Micrograms l -Liters NS -Not Specified ppm -Parts per Million LOQ-Limit of Quantitation

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LABORATORY ANALYSIS REPORT

Client : Center for Toxicology & Env. H
Site : NS
Project No. : 107907
Date Sampled : 27-FEB-16
Date Received : 01-MAR-16

Account No.: 13913
Login No. : L368483
Date Analyzed : 02-MAR-16
Report ID : 925127

Client ID : HOTX0227PNAH001 **Lab ID : L368483-1** **Air Volume : 975.2 Liter**
Date Sampled : 02/27/16 **Date Analyzed : 03/02/16**

Parameter	LOQ ug	Filter ug	Front ug	Back ug	Total ug	Conc mg/m3	ppm
Naphthalene	0.3	<0.3	0.3	<0.3	0.3	0.0004	0.00007
Phenanthrene	0.3	<0.3	<0.3	<0.3	<0.3	<0.0004	<0.00005
Pyrene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00005

COMMENTS: Please see attached lab footnote report for any applicable footnotes.

Collection Media: FilterTube
Date : 08-MAR-16

Submitted by: EAW
NYS DOH # : 11626

Approved by: nkp
Supervisor: MWJ QC by: AMD

< -Less Than mg -Milligrams m3 -Cubic Meters kg -Kilograms NA -Not Applicable ND -Not Detected
> -Greater Than ug -Micrograms l -Liters NS -Not Specified ppm -Parts per Million LOQ-Limit of Quantitation

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LABORATORY ANALYSIS REPORT

Client : Center for Toxicology & Env. H
Site : NS
Project No. : 107907
Date Sampled : 27-FEB-16
Date Received : 01-MAR-16

Account No.: 13913
Login No. : L368483
Date Analyzed : 02-MAR-16
Report ID : 925127

Client ID : HOTX0227PNAH002 **Lab ID : L368483-2** **Air Volume : 969.5 Liter**
Date Sampled : 02/27/16 **Date Analyzed : 03/02/16**

Parameter	LOQ ug	Filter ug	Front ug	Back ug	Total ug	Conc mg/m3	ppm
1-Nitropyrene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Acenaphthene	0.3	<0.3	<0.3	<0.3	<0.3	<0.0003	<0.00005
Acenaphthylene	0.3	<0.3	<0.3	<0.3	<0.3	<0.0003	<0.00005
Anthracene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00005
Benzo(a)anthracene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Benzo(a)pyrene	0.3	<0.3	<0.3	<0.3	<0.5	<0.0005	<0.00005
Benzo(b)fluoranthene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Benzo(e)pyrene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0005	<0.00004
Benzo(g,h,i)perylene	0.3	<0.3	<0.3	<0.3	<0.5	<0.0005	<0.00005
Benzo(k)fluoranthene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Chrysene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Dibenz(a,h)anthracene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Fluoranthene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00005
Fluorene	0.3	<0.3	<0.3	<0.3	<0.3	<0.0003	<0.00005
Indeno(1,2,3-cd)pyrene	0.3	<0.3	<0.3	<0.3	<0.5	<0.0005	<0.00004

COMMENTS: Please see attached lab footnote report for any applicable footnotes.

Collection Media: FilterTube
Date : 08-MAR-16

Submitted by: EAW
NYS DOH # : 11626

Approved by: nkp
Supervisor: MWJ QC by: AMD

< -Less Than mg -Milligrams m3 -Cubic Meters kg -Kilograms NA -Not Applicable ND -Not Detected
> -Greater Than ug -Micrograms l -Liters NS -Not Specified ppm -Parts per Million LOQ-Limit of Quantitation

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LABORATORY ANALYSIS REPORT

Client : Center for Toxicology & Env. H
Site : NS
Project No. : 107907
Date Sampled : 27-FEB-16
Date Received : 01-MAR-16

Account No.: 13913
Login No. : L368483
Date Analyzed : 02-MAR-16
Report ID : 925127

Client ID : HOTX0227PNAH002 **Lab ID : L368483-2** **Air Volume : 969.5 Liter**
Date Sampled : 02/27/16 **Date Analyzed : 03/02/16**

Parameter	LOQ ug	Filter ug	Front ug	Back ug	Total ug	Conc mg/m3	ppm
Naphthalene	0.3	<0.3	<0.3	<0.3	<0.3	<0.0003	<0.00006
Phenanthrene	0.3	<0.3	<0.3	<0.3	<0.3	<0.0004	<0.00005
Pyrene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00005

COMMENTS: Please see attached lab footnote report for any applicable footnotes.

Collection Media: FilterTube
Date : 08-MAR-16

Submitted by: EAW
NYS DOH # : 11626

Approved by: nkp
Supervisor: MWJ QC by: AMD

< -Less Than mg -Milligrams m3 -Cubic Meters kg -Kilograms NA -Not Applicable ND -Not Detected
> -Greater Than ug -Micrograms l -Liters NS -Not Specified ppm -Parts per Million LOQ-Limit of Quantitation

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LABORATORY ANALYSIS REPORT

Client : Center for Toxicology & Env. H
Site : NS
Project No. : 107907
Date Sampled : 27-FEB-16
Date Received : 01-MAR-16

Account No.: 13913
Login No. : L368483
Date Analyzed : 02-MAR-16
Report ID : 925127

Client ID : HOTX0227PNAH003 **Lab ID : L368483-3** **Air Volume : 952.9 Liter**
Date Sampled : 02/27/16 **Date Analyzed : 03/02/16**

Parameter	LOQ ug	Filter ug	Front ug	Back ug	Total ug	Conc mg/m3	ppm
1-Nitropyrene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Acenaphthene	0.3	<0.3	<0.3	<0.3	<0.3	<0.0003	<0.00006
Acenaphthylene	0.3	<0.3	<0.3	<0.3	<0.3	<0.0003	<0.00005
Anthracene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00005
Benzo(a)anthracene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Benzo(a)pyrene	0.3	<0.3	<0.3	<0.3	<0.5	<0.0005	<0.00005
Benzo(b)fluoranthene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Benzo(e)pyrene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0005	<0.00004
Benzo(g,h,i)perylene	0.3	<0.3	<0.3	<0.3	<0.5	<0.0005	<0.00005
Benzo(k)fluoranthene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Chrysene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Dibenz(a,h)anthracene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00004
Fluoranthene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00005
Fluorene	0.3	<0.3	<0.3	<0.3	<0.3	<0.0003	<0.00005
Indeno(1,2,3-cd)pyrene	0.3	<0.3	<0.3	<0.3	<0.5	<0.0005	<0.00004

COMMENTS: Please see attached lab footnote report for any applicable footnotes.

Collection Media: FilterTube
Date : 08-MAR-16

Submitted by: EAW
NYS DOH # : 11626

Approved by: nkp
Supervisor: MWJ QC by: AMD

< -Less Than mg -Milligrams m3 -Cubic Meters kg -Kilograms NA -Not Applicable ND -Not Detected
> -Greater Than ug -Micrograms l -Liters NS -Not Specified ppm -Parts per Million LOQ-Limit of Quantitation

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LABORATORY ANALYSIS REPORT

Client : Center for Toxicology & Env. H
Site : NS
Project No. : 107907
Date Sampled : 27-FEB-16
Date Received : 01-MAR-16

Account No.: 13913
Login No. : L368483
Date Analyzed : 02-MAR-16
Report ID : 925127

Client ID : HOTX0227PNAH003 **Lab ID : L368483-3** **Air Volume : 952.9 Liter**
Date Sampled : 02/27/16 **Date Analyzed : 03/02/16**

Parameter	LOQ ug	Filter ug	Front ug	Back ug	Total ug	Conc mg/m3	ppm
Naphthalene	0.3	<0.3	<0.3	<0.3	<0.3	<0.0003	<0.00007
Phenanthrene	0.3	<0.3	<0.3	<0.3	<0.3	<0.0004	<0.00005
Pyrene	0.3	<0.3	<0.3	<0.3	<0.4	<0.0004	<0.00005

COMMENTS: Please see attached lab footnote report for any applicable footnotes.

Collection Media: FilterTube
Date : 08-MAR-16

Submitted by: EAW
NYS DOH # : 11626

Approved by: nkp
Supervisor: MWJ QC by: AMD

< -Less Than mg -Milligrams m3 -Cubic Meters kg -Kilograms NA -Not Applicable ND -Not Detected
> -Greater Than ug -Micrograms l -Liters NS -Not Specified ppm -Parts per Million LOQ-Limit of Quantitation

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LABORATORY ANALYSIS REPORT

Client : Center for Toxicology & Env. H
Site : NS
Project No. : 107907
Date Sampled : 27-FEB-16
Date Received : 01-MAR-16

Account No.: 13913
Login No. : L368483
Date Analyzed : 02-MAR-16
Report ID : 925127

Client ID : HOTX0227PNAH004 **Lab ID : L368483-4** **Air Volume : NA**
Date Sampled : 02/27/16 **Date Analyzed : 03/02/16**

Parameter	LOQ ug	Filter ug	Front ug	Back ug	Total ug	Conc mg/m3	ppm
1-Nitropyrene	0.3	<0.3	<0.3	<0.3	<0.4	NA	NA
Acenaphthene	0.3	<0.3	<0.3	<0.3	<0.3	NA	NA
Acenaphthylene	0.3	<0.3	<0.3	<0.3	<0.3	NA	NA
Anthracene	0.3	<0.3	<0.3	<0.3	<0.4	NA	NA
Benzo(a)anthracene	0.3	<0.3	<0.3	<0.3	<0.4	NA	NA
Benzo(a)pyrene	0.3	<0.3	<0.3	<0.3	<0.5	NA	NA
Benzo(b)fluoranthene	0.3	<0.3	<0.3	<0.3	<0.4	NA	NA
Benzo(e)pyrene	0.3	<0.3	<0.3	<0.3	<0.4	NA	NA
Benzo(g,h,i)perylene	0.3	<0.3	<0.3	<0.3	<0.5	NA	NA
Benzo(k)fluoranthene	0.3	<0.3	<0.3	<0.3	<0.4	NA	NA
Chrysene	0.3	<0.3	<0.3	<0.3	<0.4	NA	NA
Dibenz(a,h)anthracene	0.3	<0.3	<0.3	<0.3	<0.4	NA	NA
Fluoranthene	0.3	<0.3	<0.3	<0.3	<0.4	NA	NA
Fluorene	0.3	<0.3	<0.3	<0.3	<0.3	NA	NA
Indeno(1,2,3-cd)pyrene	0.3	<0.3	<0.3	<0.3	<0.5	NA	NA

COMMENTS: Please see attached lab footnote report for any applicable footnotes.

Collection Media: FilterTube
Date : 08-MAR-16

Submitted by: EAW
NYS DOH # : 11626

Approved by: nkp
Supervisor: MWJ QC by: AMD

< -Less Than mg -Milligrams m3 -Cubic Meters kg -Kilograms NA -Not Applicable ND -Not Detected
> -Greater Than ug -Micrograms l -Liters NS -Not Specified ppm -Parts per Million LOQ-Limit of Quantitation

SGS GALSON LABORATORIES

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LABORATORY ANALYSIS REPORT

Client : Center for Toxicology & Env. H
Site : NS
Project No. : 107907
Date Sampled : 27-FEB-16
Date Received : 01-MAR-16

Account No.: 13913
Login No. : L368483
Date Analyzed : 02-MAR-16
Report ID : 925127

Client ID : HOTX0227PNAH004 **Lab ID : L368483-4** **Air Volume : NA**
Date Sampled : 02/27/16 **Date Analyzed : 03/02/16**

Parameter	LOQ ug	Filter ug	Front ug	Back ug	Total ug	Conc mg/m3	ppm
Naphthalene	0.3	<0.3	<0.3	<0.3	<0.3	NA	NA
Phenanthrene	0.3	<0.3	<0.3	<0.3	<0.3	NA	NA
Pyrene	0.3	<0.3	<0.3	<0.3	<0.4	NA	NA

COMMENTS: Please see attached lab footnote report for any applicable footnotes.

Collection Media: FilterTube
Date : 08-MAR-16

Submitted by: EAW
NYS DOH # : 11626

Approved by: nkp
Supervisor: MWJ QC by: AMD

< -Less Than mg -Milligrams m3 -Cubic Meters kg -Kilograms NA -Not Applicable ND -Not Detected
> -Greater Than ug -Micrograms l -Liters NS -Not Specified ppm -Parts per Million LOQ-Limit of Quantitation

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LABORATORY FOOTNOTE REPORT

Client Name : Center for Toxicology & Env. Health LLC
Site :
Project No. : 107907

Date Sampled : 27-FEB-16 Account No.: 13913
Date Received: 01-MAR-16 Login No. : L368483
Date Analyzed: 02-MAR-16

Unless otherwise noted below, all quality control results associated with the samples were within established control limits or did not impact reported results.

WARNING: The sample(s) to which the findings recorded herein (the "Findings") relate was(were) drawn and / or provided by the Client or by a third party acting at the Client's direction. The Findings constitute no warranty of the sample's representativeness of any goods and strictly relate to the sample(s). The Company accepts no liability with regard to the origin or source from which the sample(s) is/are said to be extracted.

Unrounded results are carried through the calculations that yield the final result and the final result is rounded to the number of significant figures appropriate to the accuracy of the analytical method. Please note that results appearing in the columns preceeding the final result column may have been rounded and therefore, if carried through the calculations, may not yield an identical final result to the one reported.

The stated LOQs for each analyte represent the demonstrated LOQ concentrations prior to correction for desorption efficiency (if applicable).

Unless otherwise noted below, reported results have not been blank corrected for any field blank or method blank.

L368483 (Report ID: 925127):
SOPs: il-n5506(12)
Results corrected for matrix- and compound-specific desorption efficiencies.

L368483 (Report ID: 925127):
Accuracy and mean recovery data presented below is based on a 95% confidence interval (k=2).
The estimated uncertainty applies to the media, technology, and SOP referenced in this report and does not account for the uncertainty associated with the sampling process.

Parameter	Accuracy	Mean Recovery
Acenaphthene	+/-14.4%	104%
Acenaphthylene	+/-11.7%	100%
Anthracene	+/-15.7%	114%
Benzo(a)anthracene	+/-16.1%	110%
Benzo(a)pyrene	+/-26%	115%
Benzo(b)fluoranthene	+/-19%	113%

< -Less Than mg -Milligrams m3 -Cubic Meters kg -Kilograms ppm -Parts per Million
> -Greater Than ug -Micrograms l -Liters NS -Not Specified ND -Not Detected NA -Not Applicable

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Client Name : Center for Toxicology & Env. Health LLC
Site :
Project No. : 107907

Date Sampled : 27-FEB-16 Account No.: 13913
Date Received: 01-MAR-16 Login No. : L368483
Date Analyzed: 02-MAR-16

Benzo(e)pyrene	+/-19.2%	111%
Benzo(g,h,i)perylene	+/-20.2%	112%
Benzo(k)fluoranthene	+/-15.5%	109%
Chrysene	+/-14%	108%
Dibenz(a,h)anthracene	+/-15.6%	103%
Fluoranthene	+/-16.2%	110%
Fluorene	+/-12.4%	109%
Indeno(1,2,3-cd)pyrene	+/-19.5%	113%
Naphthalene	+/-13.3%	105%
Phenanthrene	+/-13.4%	108%
Pyrene	+/-14.6%	112%
1-Nitropyrene	+/-16%	107%

Parameter	Method	PEL
1-Nitropyrene	mod. NIOSH 5506; HPLC/UV	NA
Acenaphthene	mod. NIOSH 5506; HPLC/UV	NA
Acenaphthylene	mod. NIOSH 5506; HPLC/UV	NA
Anthracene	mod. NIOSH 5506; HPLC/UV	NA
Benzo(a)anthracene	mod. NIOSH 5506; HPLC/UV	NA
Benzo(a)pyrene	mod. NIOSH 5506; HPLC/UV	0.2 mg/m3 (TWA)
Benzo(b)fluoranthene	mod. NIOSH 5506; HPLC/UV	NA
Benzo(e)pyrene	mod. NIOSH 5506; HPLC/UV	NA
Benzo(g,h,i)perylene	mod. NIOSH 5506; HPLC/UV	NA
Benzo(k)fluoranthene	mod. NIOSH 5506; HPLC/UV	NA
Chrysene	mod. NIOSH 5506; HPLC/UV	0.2 mg/m3 (TWA)
Dibenz(a,h)anthracene	mod. NIOSH 5506; HPLC/UV	NA
Fluoranthene	mod. NIOSH 5506; HPLC/UV	NA
Fluorene	mod. NIOSH 5506; HPLC/UV	NA
Indeno(1,2,3-cd)pyrene	mod. NIOSH 5506; HPLC/UV	NA
Naphthalene	mod. NIOSH 5506; HPLC/UV	10 ppm (TWA)
Phenanthrene	mod. NIOSH 5506; HPLC/UV	NA
Pyrene	mod. NIOSH 5506; HPLC/UV	NA

< -Less Than mg -Milligrams m3 -Cubic Meters kg -Kilograms ppm -Parts per Million
> -Greater Than ug -Micrograms l -Liters NS -Not Specified ND -Not Detected NA -Not Applicable

Sample: WG340484-1 **Spikelot:** IH609142-2
QC Type: DLS **Raw File:**
Analysis date 03/02/16 12:40:45 **Approval Status:** YES
Instrument: LC5

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
NAPHTHALENE	.097599	.099	98.6	70.0 to 130.				
BENZO(A)ANTHRACENE	.072150	.099	72.9	70.0 to 130.				
CHRYSENE	.091486	.099	92.4	70.0 to 130.				
BENZO(E)PYRENE	.096591	.1	96.6	70.0 to 130.				
BENZO(B)FLUORANTHENE	.104089	.099	105	70.0 to 130.				
BENZO(K)FLUORANTHENE	.076263	.099	77	70.0 to 130.				
BENZO(A)PYRENE	.110483	.099	112	70.0 to 130.				
DIBENZ(A,H)ANTHRACENE	.094816	.099	95.8	70.0 to 130.				
BENZO(G,H,I)PERYLENE	.107174	.099	108	70.0 to 130.				
INDENO-1,2,3-CD-PYRENE	.072746	.099	73.5	70.0 to 130.				
ACENAPHTHYLENE	.096232	.099	97.2	70.0 to 130.				
ACENAPHTHENE	.093729	.1	93.7	70.0 to 130.				
FLUORENE	.099645	.098	102	70.0 to 130.				
PHENANTHRENE	.096570	.098	98.5	70.0 to 130.				
ANTHRACENE	.125668	.099	127	70.0 to 130.				
FLUORANTHENE	.085017	.098	86.8	70.0 to 130.				
1-NITROPYRENE	.079355	.099	80.2	70.0 to 130.				
PYRENE	.074927	.099	75.7	70.0 to 130.				

Sample: WG340484-2 **Spikelot:** IH609142-1
QC Type: CCV **Raw File:**
Analysis date 03/02/16 13:00:44 **Approval Status:** YES
Instrument: LC5

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
NAPHTHALENE	4.65023	4.95	93.9	88.5 to 120.				
PYRENE	4.82863	4.95	97.5	92.5 to 125.				
BENZO(A)ANTHRACENE	4.88637	4.95	98.7	93.7 to 119.				
CHRYSENE	4.73982	4.95	95.8	88.9 to 118.				
BENZO(E)PYRENE	4.77833	4.9995	95.6	90.6 to 127.				
BENZO(B)FLUORANTHENE	4.88000	4.95	98.6	93.8 to 125.				
BENZO(K)FLUORANTHENE	4.77627	4.95	96.5	88.2 to 117.				
BENZO(A)PYRENE	5.00599	4.95	101	83.3 to 137.				
DIBENZ(A,H)ANTHRACENE	4.72156	4.95	95.4	85.0 to 120.				
BENZO(G,H,I)PERYLENE	4.76854	4.95	96.3	88.6 to 123.				
INDENO-1,2,3-CD-PYRENE	4.92279	4.95	99.5	94.8 to 127.				

Sample: WG340484-2 **Spikelot:** IH609142-1
QC Type: CCV **Raw File:**
Analysis date 03/02/16 13:00:44 **Approval Status:** YES
Instrument: LC5

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
ACENAPHTHYLENE	4.72858	4.95	95.5	89.8 to 117.				
ACENAPHTHENE	4.81478	4.9995	96.3	87.1 to 119.				
FLUORENE	4.86467	4.9	99.3	92.7 to 123.				
PHENANTHRENE	4.79390	4.9	97.8	91.1 to 120.				
ANTHRACENE	5.60022	4.95	113	91.4 to 130.				
FLUORANTHENE	4.65429	4.9	95	92.0 to 120.				
1-NITROPYRENE	4.80266	4.95	97	86.8 to 123.				

Sample: WG340480-5 **Spikelot:** IH610903
QC Type: BS **Raw File:**
Analysis date 03/02/16 15:20:31 **Approval Status:** YES
Instrument: LC5

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
NAPHTHALENE	4.49935	4.95	90.9		98.8	85.2 to 125		
BENZO(A)ANTHRACENE	4.28576	4.95	86.6		111	85.3 to 134		
CHRYSENE	4.03043	4.95	81.4		106	86.7 to 129		
BENZO(E)PYRENE	3.67094	4.9995	73.4		108	82.4 to 140		
BENZO(B)FLUORANTHENE	3.96964	4.95	80.2		111	85.0 to 142		
BENZO(K)FLUORANTHENE	3.91210	4.95	79		110	85.3 to 132		
BENZO(A)PYRENE	3.91638	4.95	79.1		120	76.5 to 154		
DIBENZ(A,H)ANTHRACENE	3.50610	4.95	70.8		98.4	79.8 to 127		
BENZO(G,H,I)PERYLENE	3.10417	4.95	62.7		106	81.7 to 142		
INDENO-1,2,3-CD-PYRENE	3.27531	4.95	66.2		103	83.3 to 142		
ACENAPHTHYLENE	4.46305	4.95	90.2		93.9	82.8 to 118		
ACENAPHTHENE	4.49391	4.9995	89.9		99.9	82.3 to 125		
FLUORENE	4.57584	4.9	93.4		104	90.7 to 128		
PHENANTHRENE	4.45300	4.9	90.9		106	87.8 to 128		
ANTHRACENE	5.08376	4.95	103		121	90.2 to 137		
FLUORANTHENE	4.37414	4.9	89.3		108	85.5 to 134		
1-NITROPYRENE	4.35882	4.95	88.1		105	82.7 to 131		
PYRENE	4.16570	4.95	84.2		103	89.7 to 134		

Sample: WG340480-6 **Spikelot:** IH610903
QC Type: BSD **Raw File:**
Analysis date 03/02/16 15:40:29 **Approval Status:** YES
Instrument: LC5

Sample: WG340480-6 **Spikelot:** IH610903
QC Type: BSD **Raw File:**
Analysis date 03/02/16 15:40:29 **Approval Status:** YES
Instrument: LC5

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
NAPHTHALENE	4.49613	4.95	90.8		98.7	85.2 to 125	.101	-10 to 10.0
BENZO(A)ANTHRACENE	4.29670	4.95	86.8		111	85.3 to 134	0	-10 to 10.0
CHRYSENE	4.02399	4.95	81.3		106	86.7 to 129	0	-10 to 10.0
BENZO(E)PYRENE	3.66323	4.9995	73.3		108	82.4 to 140	0	-10 to 10.0
BENZO(B)FLUORANTHENE	3.98014	4.95	80.4		112	85.0 to 142	-.897	-10 to 10.0
BENZO(K)FLUORANTHENE	3.80751	4.95	76.9		107	85.3 to 132	2.76	-10 to 10.0
BENZO(A)PYRENE	3.81384	4.95	77		117	76.5 to 154	2.53	-10 to 10.0
DIBENZ(A,H)ANTHRACENE	3.49506	4.95	70.6		98.1	79.8 to 127	.305	-11.5 to 9.87
BENZO(G,H,I)PERYLENE	3.23308	4.95	65.3		111	81.7 to 142	-4.61	-10 to 10.0
INDENO-1,2,3-CD-PYRENE	3.36327	4.95	67.9		106	83.3 to 142	-2.87	-10 to 10.0
ACENAPHTHYLENE	4.42308	4.95	89.4		93.1	82.8 to 118	.856	-10 to 10.0
ACENAPHTHENE	4.46931	4.9995	89.4		99.3	82.3 to 125	.602	-10 to 10.0
FLUORENE	4.54150	4.9	92.7		103	90.7 to 128	.966	-10 to 10.0
PHENANTHRENE	4.44089	4.9	90.6		105	87.8 to 128	.948	-10 to 10.0
ANTHRACENE	5.10918	4.95	103		121	90.2 to 137	0	-10 to 10.0
FLUORANTHENE	4.37162	4.9	89.2		107	85.5 to 134	.93	-10 to 10.0
1-NITROPYRENE	4.36942	4.95	88.3		105	82.7 to 131	0	-10 to 10.0
PYRENE	4.16471	4.95	84.1		103	89.7 to 134	0	-10.4 to 8.90

Sample: WG340484-3 **Spikelot:** IH609142-1
QC Type: CCV **Raw File:**
Analysis date 03/02/16 20:00:23 **Approval Status:** YES
Instrument: LC5

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
1-NITROPYRENE	4.82118	4.95	97.4	86.8 to 123.				
PYRENE	4.86024	4.95	98.2	92.5 to 125.				
BENZO(A)ANTHRACENE	5.18779	4.95	105	93.7 to 119.				
CHRYSENE	4.74673	4.95	95.9	88.9 to 118.				
BENZO(E)PYRENE	4.82904	4.9995	96.6	90.6 to 127.				
BENZO(B)FLUORANTHENE	4.90442	4.95	99.1	93.8 to 125.				
BENZO(K)FLUORANTHENE	4.78617	4.95	96.7	88.2 to 117.				
BENZO(A)PYRENE	5.12278	4.95	103	83.3 to 137.				
DIBENZ(A,H)ANTHRACENE	4.72598	4.95	95.5	85.0 to 120.				
BENZO(G,H,I)PERYLENE	4.77708	4.95	96.5	88.6 to 123.				
NAPHTHALENE	4.65519	4.95	94	88.5 to 120.				

Sample: WG340484-3 **Spikelot:** IH609142-1
QC Type: CCV **Raw File:**
Analysis date 03/02/16 20:00:23 **Approval Status:** YES
Instrument: LC5

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
INDENO-1,2,3-CD-PYRENE	4.94711	4.95	99.9	94.8 to 127.				
ACENAPHTHYLENE	4.72718	4.95	95.5	89.8 to 117.				
ACENAPHTHENE	4.79553	4.9995	95.9	87.1 to 119.				
FLUORENE	4.85235	4.9	99	92.7 to 123.				
PHENANTHRENE	4.79189	4.9	97.8	91.1 to 120.				
ANTHRACENE	5.62357	4.95	114	91.4 to 130.				
FLUORANTHENE	4.67190	4.9	95.3	92.0 to 120.				

Sample: WG340484-4 **Spikelot:** IH609142-2
QC Type: DLS **Raw File:**
Analysis date 03/03/16 11:36:00 **Approval Status:** YES
Instrument: LC5

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
NAPHTHALENE	.093883	.099	94.8	70.0 to 130.				
BENZO(A)ANTHRACENE	.081670	.099	82.5	70.0 to 130.				
CHRYSENE	.100833	.099	102	70.0 to 130.				
BENZO(E)PYRENE	.111388	.1	111	70.0 to 130.				
BENZO(B)FLUORANTHENE	.103023	.099	104	70.0 to 130.				
BENZO(K)FLUORANTHENE	.080177	.099	81	70.0 to 130.				
BENZO(A)PYRENE	.083965	.099	84.8	70.0 to 130.				
DIBENZ(A,H)ANTHRACENE	.095520	.099	96.5	70.0 to 130.				
BENZO(G,H,I)PERYLENE	.080468	.099	81.3	70.0 to 130.				
INDENO-1,2,3-CD-PYRENE	.095461	.099	96.4	70.0 to 130.				
ACENAPHTHYLENE	.098686	.099	99.7	70.0 to 130.				
ACENAPHTHENE	.101548	.1	102	70.0 to 130.				
FLUORENE	.095560	.098	97.5	70.0 to 130.				
PHENANTHRENE	.092455	.098	94.3	70.0 to 130.				
ANTHRACENE	.114140	.099	115	70.0 to 130.				
FLUORANTHENE	.090564	.098	92.4	70.0 to 130.				
1-NITROPYRENE	.101535	.099	103	70.0 to 130.				
PYRENE	.085944	.099	86.8	70.0 to 130.				

Sample: WG340484-5 **Spikelot:** IH609142-1
QC Type: CCV **Raw File:**
Analysis date 03/03/16 11:56:00 **Approval Status:** YES
Instrument: LC5

Sample: WG340484-5 **Spikelot:** IH609142-1
QC Type: CCV **Raw File:**
Analysis date 03/03/16 11:56:00 **Approval Status:** YES
Instrument: LC5

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
1-NITROPYRENE	4.79571	4.95	96.9	86.8 to 123.				
PYRENE	4.82694	4.95	97.5	92.5 to 125.				
BENZO(A)ANTHRACENE	4.92181	4.95	99.4	93.7 to 119.				
CHRYSENE	4.75696	4.95	96.1	88.9 to 118.				
BENZO(E)PYRENE	4.82151	4.9995	96.4	90.6 to 127.				
BENZO(B)FLUORANTHENE	4.91552	4.95	99.3	93.8 to 125.				
BENZO(K)FLUORANTHENE	4.79542	4.95	96.9	88.2 to 117.				
BENZO(A)PYRENE	4.51079	4.95	91.1	83.3 to 137.				
DIBENZ(A,H)ANTHRACENE	4.74749	4.95	95.9	85.0 to 120.				
BENZO(G,H,I)PERYLENE	4.64071	4.95	93.8	88.6 to 123.				
NAPHTHALENE	4.66981	4.95	94.3	88.5 to 120.				
INDENO-1,2,3-CD-PYRENE	4.93705	4.95	99.7	94.8 to 127.				
ACENAPHTHYLENE	4.73787	4.95	95.7	89.8 to 117.				
ACENAPHTHENE	4.91359	4.9995	98.3	87.1 to 119.				
FLUORENE	4.93287	4.9	101	92.7 to 123.				
PHENANTHRENE	4.81488	4.9	98.3	91.1 to 120.				
ANTHRACENE	5.58092	4.95	113	91.4 to 130.				
FLUORANTHENE	4.67103	4.9	95.3	92.0 to 120.				

Sample: WG340480-2 **Spikelot:** NA
QC Type: MBLANK **Raw File:**
Analysis date 03/03/16 12:15:58 **Approval Status:** YES
Instrument: LC5

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
FLUORANTHENE(FRONT)	.227862	<.3						
FLUORANTHENE(BACK)	.120835	<.3						
BENZO(A)ANTHRACENE(FRONT)	.165717	<.3						
BENZO(A)ANTHRACENE(BACK)	.082914	<.3						
ACENAPHTHENE(FRONT)	0	<.3						
ACENAPHTHENE(BACK)	0	<.3						
ACENAPHTHYLENE(FRONT)	0	<.3						
ACENAPHTHYLENE(BACK)	0	<.3						
ANTHRACENE(FRONT)	0	<.3						
ANTHRACENE(BACK)	0	<.3						
BENZO(A)PYRENE(FRONT)	0	<.3						

Sample: WG340480-2 **Spikelot:** NA
QC Type: MBLANK **Raw File:**
Analysis date 03/03/16 12:15:58 **Approval Status:** YES
Instrument: LC5

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
BENZO(A)PYRENE(BACK)	.143499	<.3						
BENZO(B)FLUORANTHENE(FRONT)	0	<.3						
BENZO(B)FLUORANTHENE(BACK)	0	<.3						
BENZO(E)PYRENE(FRONT)	0	<.3						
BENZO(E)PYRENE(BACK)	0	<.3						
BENZO(G,H,I)PERYLENE(FRONT)	0	<.3						
BENZO(G,H,I)PERYLENE(BACK)	0	<.3						
BENZO(K)FLUORANTHENE(FRONT)	0	<.3						
BENZO(K)FLUORANTHENE(BACK)	0	<.3						
CHRYSENE(FRONT)	0	<.3						
CHRYSENE(BACK)	0	<.3						
DIBENZ(A,H)ANTHRACENE(FRONT)	0	<.3						
DIBENZ(A,H)ANTHRACENE(BACK)	0	<.3						
FLUORENE(FRONT)	0	<.3						
FLUORENE(BACK)	0	<.3						
INDENO-1,2,3-CD-PYRENE(FRONT)	0	<.3						
INDENO-1,2,3-CD-PYRENE(BACK)	0	<.3						
NAPHTHALENE(FRONT)	0	<.3						
NAPHTHALENE(BACK)	0	<.3						
1-NITROPYRENE(FRONT)	0	<.3						
1-NITROPYRENE(BACK)	0	<.3						
PHENANTHRENE(FRONT)	0	<.3						
PHENANTHRENE(BACK)	0	<.3						
PYRENE(FRONT)	0	<.3						
PYRENE(BACK)	0	<.3						

Sample: WG340480-3 **Spikelot:** IH610903
QC Type: BS **Raw File:**
Analysis date 03/03/16 12:35:58 **Approval Status:** YES
Instrument: LC5

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
NAPHTHALENE	4.67096	4.95	94.4		95.3	85.2 to 125		
BENZO(A)ANTHRACENE	5.03582	4.95	102		104	85.3 to 134		
CHRYSENE	4.83094	4.95	97.6		99.6	86.7 to 129		
BENZO(E)PYRENE	4.82024	4.9995	96.4		98.4	82.4 to 140		

Sample: WG340480-3 **Spikelot:** IH610903
QC Type: BS **Raw File:**
Analysis date 03/03/16 12:35:58 **Approval Status:** YES
Instrument: LC5

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
BENZO(B)FLUORANTHENE	4.98300	4.95	101		104	85.0 to 142		
BENZO(K)FLUORANTHENE	4.93664	4.95	99.7		103	85.3 to 132		
BENZO(A)PYRENE	4.65876	4.95	94.1		96	76.5 to 154		
DIBENZ(A,H)ANTHRACENE	4.78617	4.95	96.7		97.7	79.8 to 127		
BENZO(G,H,I)PERYLENE	4.69476	4.95	94.8		98.8	81.7 to 142		
INDENO-1,2,3-CD-PYRENE	4.99576	4.95	101		102	83.3 to 142		
ACENAPHTHYLENE	4.75884	4.95	96.1		94.3	82.8 to 118		
ACENAPHTHENE	4.99622	4.9995	99.9		98	82.3 to 125		
FLUORENE	4.97192	4.9	101		105	90.7 to 128		
PHENANTHRENE	4.86460	4.9	99.3		101	87.8 to 128		
ANTHRACENE	5.59611	4.95	113		115	90.2 to 137		
FLUORANTHENE	4.72036	4.9	96.3		98.3	85.5 to 134		
1-NITROPYRENE	4.84657	4.95	97.9		98.9	82.7 to 131		
PYRENE	4.83695	4.95	97.7		98.7	89.7 to 134		

Sample: WG340480-4 **Spikelot:** IH610903
QC Type: BSD **Raw File:**
Analysis date 03/03/16 12:55:56 **Approval Status:** YES
Instrument: LC5

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
NAPHTHALENE	4.73382	4.95	95.6		96.6	85.2 to 125	-1.35	-10 to 10.0
BENZO(A)ANTHRACENE	5.08061	4.95	103		105	85.3 to 134	-.957	-10 to 10.0
CHRYSENE	4.88840	4.95	98.8		101	86.7 to 129	-1.4	-10 to 10.0
BENZO(E)PYRENE	4.82952	4.9995	96.6		98.6	82.4 to 140	-.203	-10 to 10.0
BENZO(B)FLUORANTHENE	4.99825	4.95	101		104	85.0 to 142	0	-10 to 10.0
BENZO(K)FLUORANTHENE	4.92540	4.95	99.5		103	85.3 to 132	0	-10 to 10.0
BENZO(A)PYRENE	4.62988	4.95	93.5		95.4	76.5 to 154	.627	-10 to 10.0
DIBENZ(A,H)ANTHRACENE	4.84594	4.95	97.9		98.9	79.8 to 127	-1.22	-11.5 to 9.87
BENZO(G,H,I)PERYLENE	4.76283	4.95	96.2		100	81.7 to 142	-1.21	-10 to 10.0
INDENO-1,2,3-CD-PYRENE	4.98729	4.95	101		102	83.3 to 142	0	-10 to 10.0
ACENAPHTHYLENE	4.76294	4.95	96.2		94.3	82.8 to 118	0	-10 to 10.0
ACENAPHTHENE	5.00474	4.9995	100		98.1	82.3 to 125	-.102	-10 to 10.0
FLUORENE	5.02451	4.9	103		106	90.7 to 128	-.948	-10 to 10.0
PHENANTHRENE	4.92885	4.9	101		103	87.8 to 128	-1.96	-10 to 10.0
ANTHRACENE	5.67344	4.95	115		117	90.2 to 137	-1.72	-10 to 10.0

Sample: WG340480-4 **Spikelot:** IH610903
QC Type: BSD **Raw File:**
Analysis date 03/03/16 12:55:56 **Approval Status:** YES
Instrument: LC5

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
FLUORANTHENE	4.77750	4.9	97.5		99.5	85.5 to 134	-1.21	-10 to 10.0
1-NITROPYRENE	4.89915	4.95	99		100	82.7 to 131	-1.11	-10 to 10.0
PYRENE	4.92401	4.95	99.5		100	89.7 to 134	-1.31	-10.4 to 8.90

Sample: WG340484-6 **Spikelot:** IH609142-1
QC Type: CCV **Raw File:**
Analysis date 03/03/16 13:15:57 **Approval Status:** YES
Instrument: LC5

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
FLUORANTHENE	4.66608	4.9	95.2	92.0 to 120.				
1-NITROPYRENE	4.87329	4.95	98.5	86.8 to 123.				
PYRENE	4.84955	4.95	98	92.5 to 125.				
BENZO(A)ANTHRACENE	4.85462	4.95	98.1	93.7 to 119.				
CHRYSENE	4.73773	4.95	95.7	88.9 to 118.				
BENZO(E)PYRENE	4.54223	4.9995	90.9	90.6 to 127.				
BENZO(B)FLUORANTHENE	4.81597	4.95	97.3	93.8 to 125.				
BENZO(K)FLUORANTHENE	4.74600	4.95	95.9	88.2 to 117.				
BENZO(A)PYRENE	4.50536	4.95	91	83.3 to 137.				
DIBENZ(A,H)ANTHRACENE	4.74130	4.95	95.8	85.0 to 120.				
NAPHTHALENE	4.66091	4.95	94.2	88.5 to 120.				
BENZO(G,H,I)PERYLENE	4.67236	4.95	94.4	88.6 to 123.				
INDENO-1,2,3-CD-PYRENE	4.95469	4.95	100	94.8 to 127.				
ACENAPHTHYLENE	4.71734	4.95	95.3	89.8 to 117.				
ACENAPHTHENE	4.85390	4.9995	97.1	87.1 to 119.				
FLUORENE	4.90570	4.9	100	92.7 to 123.				
PHENANTHRENE	4.82029	4.9	98.4	91.1 to 120.				
ANTHRACENE	5.55988	4.95	112	91.4 to 130.				

1180

5120 North Shore Drive
North Little Rock, AR 72118
Phone: (501) 801-8500
Fax: (501) 801-8501
Website: www.cteh.com

Center for Toxicology and Environmental Health L.L.C.

SAMPLE CHAIN OF CUSTODY AND ANALYSIS REQUEST FORM

Page ___ of ___

	Send Report To:	Send Invoice To:
Name	cconnolly@cteh.com;mberg@cteh.co	
Company	CTEH	CTEH
Address	5120 North Shore Drive North Little Rock, AR 72118	5120 North Shore Drive North Little Rock, AR 72118
Phone	(501)801-8500	(501)801-8500
Fax	(501)801-8501	(501)801-8501
e-mail	labresults@cteh.com	

CTEH Project #: 107907

Turnaround Requested:
Same Day __Next Day (24 hour) _X_ Normal
__Other (Specify) _____

Complete Data Packet Requested X Yes ☐No

Lab Contact Information:
Galson Laboratories
6601 Kirkville Road
E. Syracuse, NY 13057

Client Sample Identification	Other Sample Identification	Sample Size	Units (Check one) ___L ___cm^2 ___	Sample Date	Sample Time (for non-air samples)	Initials	NIOSH 5506 PNAH	Mod EPA IP-10A PM10								Matrix (A = air, B = bulk, S = soil, SW = wipe, T = tape, W = water)
HOTX0227PNAH001	AS12	975.2	L	02/27/16		PWW	X				pulled on 3/1/16	ORB043				A
HOTX0227PNAH002	AS07	969.5	L	02/27/16		PWW	X									A
HOTX0227PNAH003	AS16	952.9	L	02/27/16		PWW	X									A
HOTX0227PNAH004	BL	0	L	02/27/16		PWW	X				SK 3/1/16					A

775754982387
Date:03/01/16
Shipper:FEDEX
Initials:SK
Prep:UNKNOWN

Samples Received in Light Sensitve Material: Yes or No

RELINQUISHED BY	DATE/TIME	RECEIVED BY	DATE/TIME
Justin Langley	14:00 02/29/16	Fed Ex	
		M. Krause	3/1/16 0737

Rec'd intact & all accounted for? Yes or No SK
Rec'd w/custody seals intact? Yes or No NA
Rec'd in light sensitive packaging? Yes or No SK
Rec'd with ice pack? Yes or No SK
Rec'd temperature compliant? Yes or No SK

Sample: WG341528-5 **Spikelot:** IH614842
QC Type: BS **Raw File:**
Analysis date 03/14/16 18:39:22 **Approval Status:** YES
Instrument: LC6

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
BENZO(A)ANTHRACENE	4.13176	4.95	83.5		107	85.3 to 134		
CHRYSENE	3.97299	4.95	80.3		104	86.7 to 129		
BENZO(E)PYRENE	3.55273	4.9995	71.1		105	82.4 to 140		
BENZO(B)FLUORANTHENE	3.75918	4.95	75.9		105	85.0 to 142		
BENZO(K)FLUORANTHENE	3.56751	4.95	72.1		100	85.3 to 132		
BENZO(A)PYRENE	4.34439	4.95	87.8		133	76.5 to 154		
DIBENZ(A,H)ANTHRACENE	3.35391	4.95	67.8		94.1	79.8 to 127		
ACENAPHTHYLENE	4.68707	4.95	94.7		98.6	82.8 to 118		
BENZO(G,H,I)PERYLENE	3.15335	4.95	63.7		108	81.7 to 142		
INDENO-1,2,3-CD-PYRENE	3.17892	4.95	64.2		100	83.3 to 142		
ACENAPHTHENE	4.52705	4.9995	90.6		101	82.3 to 125		
FLUORENE	4.55388	4.9	92.9		103	90.7 to 128		
PHENANTHRENE	4.43458	4.9	90.5		105	87.8 to 128		
ANTHRACENE	5.54799	4.95	112		132	90.2 to 137		
FLUORANTHENE	4.32106	4.9	88.2		106	85.5 to 134		
1-NITROPYRENE	4.27318	4.95	86.3		103	82.7 to 131		

Sample: WG341528-6 **Spikelot:** IH614842
QC Type: BSD **Raw File:**
Analysis date 03/14/16 18:59:19 **Approval Status:** YES
Instrument: LC6

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
NAPHTHALENE	4.67906	4.95	94.5		103	85.2 to 125	0	-10 to 10.0
PYRENE	4.28048	4.95	86.5		105	89.7 to 134	1.89	-10.4 to 8.90
BENZO(A)ANTHRACENE	4.12558	4.95	83.3		107	85.3 to 134	0	-10 to 10.0
CHRYSENE	3.91487	4.95	79.1		103	86.7 to 129	.966	-10 to 10.0
BENZO(E)PYRENE	3.48163	4.9995	69.6		102	82.4 to 140	2.9	-10 to 10.0
BENZO(B)FLUORANTHENE	3.69276	4.95	74.6		104	85.0 to 142	.957	-10 to 10.0
BENZO(K)FLUORANTHENE	3.57031	4.95	72.1		100	85.3 to 132	0	-10 to 10.0
BENZO(A)PYRENE	4.29983	4.95	86.9		132	76.5 to 154	.755	-10 to 10.0
DIBENZ(A,H)ANTHRACENE	3.27948	4.95	66.3		92	79.8 to 127	2.26	-11.5 to 9.87
BENZO(G,H,I)PERYLENE	3.15684	4.95	63.8		108	81.7 to 142	0	-10 to 10.0
INDENO-1,2,3-CD-PYRENE	3.11829	4.95	63		98.4	83.3 to 142	1.61	-10 to 10.0
ACENAPHTHYLENE	4.68260	4.95	94.6		98.5	82.8 to 118	.101	-10 to 10.0
ACENAPHTHENE	4.51891	4.9995	90.4		100	82.3 to 125	.995	-10 to 10.0

Sample: WG341528-6 **Spikelot:** IH614842
QC Type: BSD **Raw File:**
Analysis date 03/14/16 18:59:19 **Approval Status:** YES
Instrument: LC6

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
FLUORENE	4.56678	4.9	93.2		104	90.7 to 128	-.966	-10 to 10.0
PHENANTHRENE	4.46449	4.9	91.1		106	87.8 to 128	-.948	-10 to 10.0
ANTHRACENE	5.37895	4.95	109		128	90.2 to 137	3.08	-10 to 10.0
FLUORANTHENE	4.22830	4.9	86.3		104	85.5 to 134	1.9	-10 to 10.0
1-NITROPYRENE	4.14295	4.95	83.7		99.6	82.7 to 131	3.36	-10 to 10.0

Sample: WG341535-3 **Spikelot:** IH610903-3
QC Type: CCV **Raw File:**
Analysis date 03/14/16 22:18:37 **Approval Status:** YES
Instrument: LC6

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
NAPHTHALENE	4.87497	4.95	98.5	88.5 to 120.				
PYRENE	5.18335	4.95	105	92.5 to 125.				
BENZO(A)ANTHRACENE	5.30376	4.95	107	93.7 to 119.				
CHRYSENE	5.07906	4.95	103	88.9 to 118.				
BENZO(E)PYRENE	5.22777	4.9995	105	90.6 to 127.				
BENZO(B)FLUORANTHENE	5.19459	4.95	105	93.8 to 125.				
BENZO(K)FLUORANTHENE	5.01694	4.95	101	88.2 to 117.				
BENZO(A)PYRENE	6.56276	4.95	133	83.3 to 137.				
ACENAPHTHYLENE	4.98865	4.95	101	89.8 to 117.				
DIBENZ(A,H)ANTHRACENE	5.10059	4.95	103	85.0 to 120.				
BENZO(G,H,I)PERYLENE	5.43000	4.95	110	88.6 to 123.				
INDENO-1,2,3-CD-PYRENE	5.17655	4.95	105	94.8 to 127.				
ACENAPHTHENE	4.94876	4.9995	99	87.1 to 119.				
FLUORENE	4.99000	4.9	102	92.7 to 123.				
PHENANTHRENE	5.10516	4.9	104	91.1 to 120.				
ANTHRACENE	6.09641	4.95	123	91.4 to 130.				
FLUORANTHENE	5.07884	4.9	104	92.0 to 120.				
1-NITROPYRENE	4.91588	4.95	99.3	86.8 to 123.				

Sample: WG341535-6 **Spikelot:** IH610903-4
QC Type: DLS **Raw File:**
Analysis date 03/15/16 16:03:19 **Approval Status:** YES
Instrument: LC6

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits

Sample: WG341535-6 **Spikelot:** IH610903-4
QC Type: DLS **Raw File:**
Analysis date 03/15/16 16:03:19 **Approval Status:** YES
Instrument: LC6

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
NAPHTHALENE	.087993	.099	88.9	70.0 to 130.				
BENZO(A)ANTHRACENE	.100823	.099	102	70.0 to 130.				
CHRYSENE	.096315	.099	97.3	70.0 to 130.				
BENZO(E)PYRENE	.101543	.1	102	70.0 to 130.				
BENZO(B)FLUORANTHENE	.106760	.099	108	70.0 to 130.				
BENZO(K)FLUORANTHENE	.087666	.099	88.6	70.0 to 130.				
BENZO(A)PYRENE	.117950	.099	119	70.0 to 130.				
DIBENZ(A,H)ANTHRACENE	.083717	.099	84.6	70.0 to 130.				
BENZO(G,H,I)PERYLENE	.115991	.099	117	70.0 to 130.				
ACENAPHTHYLENE	.071370	.099	72.1	70.0 to 130.				
INDENO-1,2,3-CD-PYRENE	.108302	.099	109	70.0 to 130.				
ACENAPHTHENE	.090414	.1	90.4	70.0 to 130.				
FLUORENE	.104362	.098	106	70.0 to 130.				
PHENANTHRENE	.097409	.098	99.4	70.0 to 130.				
ANTHRACENE	.123753	.099	125	70.0 to 130.				
FLUORANTHENE	.092883	.098	94.8	70.0 to 130.				
1-NITROPYRENE	.076559	.099	77.3	70.0 to 130.				
PYRENE	.104820	.099	106	70.0 to 130.				

Sample: WG341535-7 **Spikelot:** IH610903-3
QC Type: CCV **Raw File:**
Analysis date 03/15/16 16:23:14 **Approval Status:** YES
Instrument: LC6

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
NAPHTHALENE	4.88085	4.95	98.6	88.5 to 120.				
PYRENE	5.18704	4.95	105	92.5 to 125.				
BENZO(A)ANTHRACENE	5.33171	4.95	108	93.7 to 119.				
CHRYSENE	5.08398	4.95	103	88.9 to 118.				
BENZO(E)PYRENE	5.26866	4.9995	105	90.6 to 127.				
BENZO(B)FLUORANTHENE	5.23449	4.95	106	93.8 to 125.				
BENZO(K)FLUORANTHENE	5.02280	4.95	101	88.2 to 117.				
BENZO(A)PYRENE	6.49669	4.95	131	83.3 to 137.				
ACENAPHTHYLENE	5.01410	4.95	101	89.8 to 117.				
DIBENZ(A,H)ANTHRACENE	5.14300	4.95	104	85.0 to 120.				
BENZO(G,H,I)PERYLENE	5.43155	4.95	110	88.6 to 123.				

Sample: WG341535-7 **Spikelot:** IH610903-3
QC Type: CCV **Raw File:**
Analysis date 03/15/16 16:23:14 **Approval Status:** YES
Instrument: LC6

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
INDENO-1,2,3-CD-PYRENE	5.22247	4.95	106	94.8 to 127.				
ACENAPHTHENE	4.96288	4.9995	99.3	87.1 to 119.				
FLUORENE	5.00690	4.9	102	92.7 to 123.				
PHENANTHRENE	5.10727	4.9	104	91.1 to 120.				
ANTHRACENE	6.14256	4.95	124	91.4 to 130.				
FLUORANTHENE	5.12217	4.9	105	92.0 to 120.				
1-NITROPYRENE	4.94096	4.95	99.8	86.8 to 123.				

Sample: WG341535-4 **Spikelot:** IH610903-3
QC Type: CCV **Raw File:**
Analysis date 03/15/16 22:42:04 **Approval Status:** YES
Instrument: LC6

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
NAPHTHALENE	4.90388	4.95	99.1	88.5 to 120.				
1-NITROPYRENE	4.95320	4.95	100	86.8 to 123.				
PYRENE	5.22432	4.95	106	92.5 to 125.				
BENZO(A)ANTHRACENE	5.36684	4.95	108	93.7 to 119.				
CHRYSENE	5.10575	4.95	103	88.9 to 118.				
BENZO(E)PYRENE	5.30597	4.9995	106	90.6 to 127.				
BENZO(B)FLUORANTHENE	5.25694	4.95	106	93.8 to 125.				
BENZO(K)FLUORANTHENE	5.04084	4.95	102	88.2 to 117.				
BENZO(A)PYRENE	6.57368	4.95	133	83.3 to 137.				
ACENAPHTHYLENE	5.04157	4.95	102	89.8 to 117.				
DIBENZ(A,H)ANTHRACENE	5.13451	4.95	104	85.0 to 120.				
BENZO(G,H,I)PERYLENE	5.48235	4.95	111	88.6 to 123.				
INDENO-1,2,3-CD-PYRENE	5.24254	4.95	106	94.8 to 127.				
ACENAPHTHENE	4.99419	4.9995	99.9	87.1 to 119.				
FLUORENE	5.00335	4.9	102	92.7 to 123.				
PHENANTHRENE	5.15507	4.9	105	91.1 to 120.				
ANTHRACENE	6.16592	4.95	125	91.4 to 130.				
FLUORANTHENE	5.13785	4.9	105	92.0 to 120.				

Sample: WG341534-2 **Spikelot:** NA
QC Type: MBLANK **Raw File:**
Analysis date 03/15/16 23:02:02 **Approval Status:** YES
Instrument: LC6

Sample: WG341534-2 **Spikelot:** NA
QC Type: MBLANK **Raw File:**
Analysis date 03/15/16 23:02:02 **Approval Status:** YES
Instrument: LC6

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
ANTHRACENE(RAW)	0	<0.3						
BENZO(A)PYRENE(RAW)	0	<0.3						
CHRYSENE(RAW)	0	<0.3						
PHENANTHRENE(RAW)	0	<0.3						
PYRENE(RAW)	0	<0.3						

Sample: WG341534-3 **Spikelot:** IH614842
QC Type: BS **Raw File:**
Analysis date 03/15/16 23:21:59 **Approval Status:** YES
Instrument: LC6

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
PYRENE	5.28882	4.95	107		110	86.3 to 130		
CHRYSENE	5.07284	4.95	102		104	86.3 to 122		
BENZO(A)PYRENE	6.61642	4.95	134		136	87.7 to 133		
PHENANTHRENE	5.12387	4.9	105		106	87.5 to 120		
ANTHRACENE	6.24258	4.95	126		129	95.7 to 128		

Sample: WG341534-4 **Spikelot:** IH614842
QC Type: BSD **Raw File:**
Analysis date 03/15/16 23:41:57 **Approval Status:** YES
Instrument: LC6

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
PYRENE	5.28817	4.95	107		110	86.3 to 130	0	-10 to 10.0
CHRYSENE	5.08464	4.95	103		104	86.3 to 122	0	-10 to 10.0
BENZO(A)PYRENE	6.65424	4.95	134		137	87.7 to 133	-.733	-10 to 10.0
PHENANTHRENE	5.13769	4.9	105		106	87.5 to 120	0	-10 to 10.0
ANTHRACENE	6.33688	4.95	128		131	95.7 to 128	-1.54	-10 to 10.0

Sample: WG341535-5 **Spikelot:** IH610903-3
QC Type: CCV **Raw File:**
Analysis date 03/16/16 00:21:46 **Approval Status:** YES
Instrument: LC6

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
NAPHTHALENE	4.92670	4.95	99.5	88.5 to 120.				
PYRENE	5.18800	4.95	105	92.5 to 125.				
BENZO(A)ANTHRACENE	5.39248	4.95	109	93.7 to 119.				

Sample: WG341535-5 **Spikelot:** IH610903-3

QC Type: CCV **Raw File:**

Analysis date 03/16/16 00:21:46 **Approval Status:** YES

Instrument: LC6

Parameter	Found	True	Rec.	Limits	DE Rec.	Limits	RPD	Limits
CHRYSENE	5.14479	4.95	104	88.9 to 118.				
BENZO(E)PYRENE	5.30413	4.9995	106	90.6 to 127.				
BENZO(B)FLUORANTHENE	5.26418	4.95	106	93.8 to 125.				
BENZO(K)FLUORANTHENE	5.06988	4.95	102	88.2 to 117.				
BENZO(A)PYRENE	6.68051	4.95	135	83.3 to 137.				
ACENAPHTHYLENE	5.03783	4.95	102	89.8 to 117.				
DIBENZ(A,H)ANTHRACENE	5.18199	4.95	105	85.0 to 120.				
BENZO(G,H,I)PERYLENE	5.52420	4.95	112	88.6 to 123.				
INDENO-1,2,3-CD-PYRENE	5.27257	4.95	107	94.8 to 127.				
ACENAPHTHENE	4.99807	4.9995	100	87.1 to 119.				
FLUORENE	5.04722	4.9	103	92.7 to 123.				
PHENANTHRENE	5.16273	4.9	105	91.1 to 120.				
ANTHRACENE	6.18178	4.95	125	91.4 to 130.				
FLUORANTHENE	5.11249	4.9	104	92.0 to 120.				
1-NITROPYRENE	4.83660	4.95	97.7	86.8 to 123.				

L369250

5120 North Shore Drive
North Little Rock, AR 72118
Phone: (501) 801-8500
Fax: (501) 801-8501
Website: www.cteh.com

Center for Toxicology and Environmental Health L.L.C.
SAMPLE CHAIN OF CUSTODY AND ANALYSIS REQUEST FORM

107907 003/17/16 109

CTEH Project #:

	Send Report To:	Send Invoice To:
Name	Mike Berg, Charles Connolly	Accounts Payable
Company	CTEH	CTEH
Address	2000 Anders Lane Kemah, Texas 77565	5120 North Shore Drive North Little Rock, AR 72118
Phone	(281)535-2834	(501)801-8500
Fax	(281)535-0232	(501)801-8501
e-mail	labresults@cteh.com ; mberg@cteh.com cconnolly@cteh.com	lraccounting@cteh.com

Turnaround Requested:
Same Day __Next Day (24 hour) X Normal
__Other (Specify) _____

Complete Data Packet Requested X Yes ☐ No

Lab Contact Information:
Galson Laboratories
6601 Kirkville Road
E. Syracuse, NY 13057

Client Sample Identification	Other Sample Identification	Sample Size	Units (Check one) X L __cm²	Sample Date	Sample Time (for non-air samples)	Initials	PNAH									Matrix A = air B = bulk S = soil SW = wipe T = tape W = water
HOTX0308PNAH001	AS12	707.6	L	03/08/16	—	PS	X									A
HOTX0308PNAH002	AS07	691.2	L	03/08/16	—	PS	X									A
HOTX0308PNAH003	AS18	683.1	L	03/08/16	—	PS	X									A
HOTX0308PNAH004	BL	0	L	03/08/16	—	PS	X									A

Following PO#80043

SK 3/19/16

775835330884
Date:03/10/16
Shipper:FEDEX
Initials:SK
Prep:UNKNOWN

Samples Received in Light Sensitve Material: Yes or No

RELINQUISHED BY	DATE/TIME	RECEIVED BY	DATE/TIME
Justin Langley	3/9/16 16:00	Fed Ex	
		M. Kramer	3/10/16 0748

Rec'd intact & all accounted for? Yes or No SK
Rec'd w/custody seals intact? Yes or No NA
Rec'd in light sensitive packaging? Yes or No SK
Rec'd with ice pack? Yes or No SK
Rec'd temperature compliant? Yes or No SK

Attachment G

Level II Data Verification Reports

See Attached CD for
Laboratory Reports

CTEH

Data Verification Report (Level 2)

Project: 107907 - Houston Wood Preserving Works Site

Client: CTEH

Report #: L367095-rev1 Date: February 23, 2016

Environmental Data Professional, LLC
1432 Watkins St.• Lake Charles, LA 70601 • phone: 337-540-0036 • fax: 337-478-6061

Disclaimer:

The review performed and reported herein is based on specifications and procedures presented to eDATApro with the associated data package. Any qualifications or review not specified with package requirements was based on USEPA National Functional Guidelines for Inorganic and Organic Data Review.

Information contained in this report is based solely on the hardcopy and/or electronic deliverables that were submitted to eDATApro. eDATApro reserves the rights to modify or change the report if new information is presented or if this report is determined to be inaccurate or incomplete.

The following parameters were reviewed during the verification process:

Chain-of-Custody (COC): Completeness and sample custody

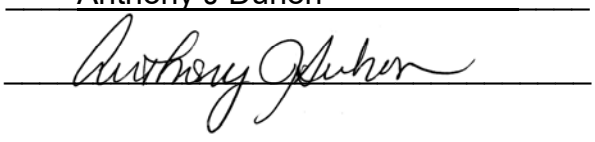
Holding time: Compare collection date versus preparation and/or analysis date

Blank Contamination: Laboratory and field blanks

Matrix/Precision/Recovery: Surrogates, Internal Standards, Duplicates, Blank spike and blank spike duplicate samples (when applicable)

Standards: Detection limit standard and continuing calibration verification (when applicable)

Reviewed by: Anthony J Duhon

Signature: 

INTRODUCTION:

Project Name: 107907 - Houston Wood Preserving Works Site
Laboratory: Galson Laboratories
Laboratory Package No.: L367095
Matrix: Air

Environmental Data Professional, LLC (eDATApro) received one electronic Level II data package containing the results for eleven field samples and four field blanks. Level II verification was performed on the data utilizing *USEPA National Functional Guidelines for Organic Data Review*, *USEPA National Functional Guidelines for Inorganic Data Review* and the analytical methods.

The following samples were reviewed:

Sample ID	Lab ID	Collection Date	Analyses
HOTX0210PM001	L367095-1	02/10/2016	[2]
HOTX0210PM002	L367095-2	02/10/2016	[2]
HOTX0210PM003	L367095-3	02/10/2016	[2]
HOTX0210PM004	L367095-4	02/10/2016	[2]
HOTX0210PNAH001	L367095-5	02/10/2016	[1]
HOTX0210PNAH003	L367095-6	02/10/2016	[1]
HOTX0210PNAH004	L367095-7	02/10/2016	[1]
HOTX0211PM001	L367095-8	02/11/2016	[2]
HOTX0211PM002	L367095-9	02/11/2016	[2]
HOTX0211PM003	L367095-10	02/11/2016	[2]
HOTX0211PM004	L367095-11	02/11/2016	[2]
HOTX0211PNAH001	L367095-12	02/11/2016	[1]
HOTX0211PNAH002	L367095-13	02/11/2016	[1]
HOTX0211PNAH003	L367095-14	02/11/2016	[1]
HOTX0211PNAH004	L367095-15	02/11/2016	[1]

Analyses Performed Codes:

[1] Semivolatile Organics; PAHs (mod. NIOSH 5506; HPLC/UV)
[2] Particulate Matter; PM10 (mod. EPA Method IP-10A; Gravimetric)

DATA REVIEW FINDINGS SUMMARY

I. General Package:

The data package was complete and no resubmissions were requested.

This data review report has been revised to correct clerical errors. This revised report replaces in its entirety any previous submission.

II. Semivolatile Organics; PAHs – mod. NIOSH 5506; HPLC/UV:

The laboratory reported the results in both ug and mg/m3 units.

Fluoranthene, Benzo(k)fluoranthene and Chrysene were present in method blank sample WG338941-2. These analytes were not detected in the associated field samples. No data qualifications were necessary.

Comparison between measurements of 1-Nitropyrene in the laboratory blank spikes (BS/BSD) WG338941-3 and WG338941-4 exceeded lower precision acceptance criteria. This analyte was not detected in the associated field samples. No data qualifications were necessary.

All other quality assurance and quality control (QA/QC) components presented by the laboratory satisfied method and data review acceptance criteria.

III. Particulate Matter; PM10 – mod. EPA Method IP-10A; Gravimetric:

The laboratory reported the results in both mg and mg/m3 units.

All quality assurance and quality control (QA/QC) components presented by the laboratory satisfied method and data review acceptance criteria; therefore, no data qualifications were necessary.

Appendix I
Form 1 Data (Qualified)

Form 1 Data Sheet - Semivolatiles

CTEH

Houston Wood Preserving Works Site

SDG: L367095

COC Sample ID: **HOTX0211PNAH001** | Sample Matrix : **Air** | Total/Dissolved: **T**

Location ID: **NA** | Sample Date: **02/11/2016** | Lab: **SGS-GALSON**

Lab Sample ID: **L367095-12** | Analysis Date: **02/15/2016 5:21**

Sample Type: **Site Sample**

Method: **mod. NIOSH 5506; HPLC/UV**

CAS	Parameter Name	DF	RL	Lab Result	Lab Qualifier	Verified Result	Verified Qualifier	Units
5522-43-0	1-NITROPYRENE	1	0.4	0.4	U	0.4	U	UG
5522-43-0	1-NITROPYRENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
83-32-9	ACENAPHTHENE	1	0.3	0.3	U	0.3	U	UG
83-32-9	ACENAPHTHENE	1	0.0003	0.0003	U	0.0003	U	MG/M3
208-96-8	ACENAPHTHYLENE	1	0.3	0.3	U	0.3	U	UG
208-96-8	ACENAPHTHYLENE	1	0.0003	0.0003	U	0.0003	U	MG/M3
120-12-7	ANTHRACENE	1	0.4	0.4	U	0.4	U	UG
120-12-7	ANTHRACENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
56-55-3	BENZO(A)ANTHRACENE	1	0.4	0.4	U	0.4	U	UG
56-55-3	BENZO(A)ANTHRACENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
50-32-8	BENZO(A)PYRENE	1	0.5	0.5	U	0.5	U	UG
50-32-8	BENZO(A)PYRENE	1	0.0005	0.0005	U	0.0005	U	MG/M3
205-99-2	BENZO(B)FLUORANTHENE	1	0.4	0.4	U	0.4	U	UG
205-99-2	BENZO(B)FLUORANTHENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
192-97-2	BENZO(E)PYRENE	1	0.4	0.4	U	0.4	U	UG
192-97-2	BENZO(E)PYRENE	1	0.0005	0.0005	U	0.0005	U	MG/M3
191-24-2	BENZO(G,H,I)PERYLENE	1	0.5	0.5	U	0.5	U	UG
191-24-2	BENZO(G,H,I)PERYLENE	1	0.0005	0.0005	U	0.0005	U	MG/M3
207-08-9	BENZO(K)FLUORANTHENE	1	0.4	0.4	U	0.4	U	UG
207-08-9	BENZO(K)FLUORANTHENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
218-01-9	CHRYSENE	1	0.4	0.4	U	0.4	U	UG
218-01-9	CHRYSENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
53-70-3	DIBENZ(A,H)ANTHRACENE	1	0.4	0.4	U	0.4	U	UG
53-70-3	DIBENZ(A,H)ANTHRACENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
206-44-0	FLUORANTHENE	1	0.4	0.4	U	0.4	U	UG
206-44-0	FLUORANTHENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
86-73-7	FLUORENE	1	0.3	0.3	U	0.3	U	UG
86-73-7	FLUORENE	1	0.0003	0.0003	U	0.0003	U	MG/M3
193-39-5	INDENO-1,2,3-CD-PYRENE	1	0.5	0.5	U	0.5	U	UG
193-39-5	INDENO-1,2,3-CD-PYRENE	1	0.0005	0.0005	U	0.0005	U	MG/M3
91-20-3	NAPHTHALENE	1	0.3	0.3	U	0.3	U	UG
91-20-3	NAPHTHALENE	1	0.0003	0.0003	U	0.0003	U	MG/M3
85-01-8	PHENANTHRENE	1	0.3	0.3	U	0.3	U	UG
85-01-8	PHENANTHRENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
129-00-0	PYRENE	1	0.4	0.4	U	0.4	U	UG
129-00-0	PYRENE	1	0.0004	0.0004	U	0.0004	U	MG/M3

DF = Dilution Factor RL = Reporting Limit

* = Modified by Validation

U = Non-Detect J = Estimated R = Rejected

eDATApro ENVIRONMENTAL DATA PROFESSIONAL, LLC

Form 1 Data Sheet - Semivolatiles

CTEH

Houston Wood Preserving Works Site

SDG: L367095

COC Sample ID: **HOTX0211PNAH002** | Sample Matrix : **Air** | Total/Dissolved: **T**

Location ID: **NA** | Sample Date: **02/11/2016** | Lab: **SGS-GALSON**

Lab Sample ID: **L367095-13** | Analysis Date: **02/15/2016 6:41**

Sample Type: **Site Sample**

Method: **mod. NIOSH 5506; HPLC/UV**

CAS	Parameter Name	DF	RL	Lab Result	Lab Qualifier	Verified Result	Verified Qualifier	Units
5522-43-0	1-NITROPYRENE	1	0.4	0.4	U	0.4	U	UG
5522-43-0	1-NITROPYRENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
83-32-9	ACENAPHTHENE	1	0.3	0.3	U	0.3	U	UG
83-32-9	ACENAPHTHENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
208-96-8	ACENAPHTHYLENE	1	0.3	0.3	U	0.3	U	UG
208-96-8	ACENAPHTHYLENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
120-12-7	ANTHRACENE	1	0.4	0.4	U	0.4	U	UG
120-12-7	ANTHRACENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
56-55-3	BENZO(A)ANTHRACENE	1	0.4	0.4	U	0.4	U	UG
56-55-3	BENZO(A)ANTHRACENE	1	0.0005	0.0005	U	0.0005	U	MG/M3
50-32-8	BENZO(A)PYRENE	1	0.5	0.5	U	0.5	U	UG
50-32-8	BENZO(A)PYRENE	1	0.0005	0.0005	U	0.0005	U	MG/M3
205-99-2	BENZO(B)FLUORANTHENE	1	0.4	0.4	U	0.4	U	UG
205-99-2	BENZO(B)FLUORANTHENE	1	0.0005	0.0005	U	0.0005	U	MG/M3
192-97-2	BENZO(E)PYRENE	1	0.4	0.4	U	0.4	U	UG
192-97-2	BENZO(E)PYRENE	1	0.0005	0.0005	U	0.0005	U	MG/M3
191-24-2	BENZO(G,H,I)PERYLENE	1	0.5	0.5	U	0.5	U	UG
191-24-2	BENZO(G,H,I)PERYLENE	1	0.0006	0.0006	U	0.0006	U	MG/M3
207-08-9	BENZO(K)FLUORANTHENE	1	0.4	0.4	U	0.4	U	UG
207-08-9	BENZO(K)FLUORANTHENE	1	0.0005	0.0005	U	0.0005	U	MG/M3
218-01-9	CHRYSENE	1	0.4	0.4	U	0.4	U	UG
218-01-9	CHRYSENE	1	0.0005	0.0005	U	0.0005	U	MG/M3
53-70-3	DIBENZ(A,H)ANTHRACENE	1	0.4	0.4	U	0.4	U	UG
53-70-3	DIBENZ(A,H)ANTHRACENE	1	0.0005	0.0005	U	0.0005	U	MG/M3
206-44-0	FLUORANTHENE	1	0.4	0.4	U	0.4	U	UG
206-44-0	FLUORANTHENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
86-73-7	FLUORENE	1	0.3	0.3	U	0.3	U	UG
86-73-7	FLUORENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
193-39-5	INDENO-1,2,3-CD-PYRENE	1	0.5	0.5	U	0.5	U	UG
193-39-5	INDENO-1,2,3-CD-PYRENE	1	0.0006	0.0006	U	0.0006	U	MG/M3
91-20-3	NAPHTHALENE	1	0.3	0.6		0.6		UG
91-20-3	NAPHTHALENE	1	0.0004	0.0007		0.0007		MG/M3
85-01-8	PHENANTHRENE	1	0.3	0.3	U	0.3	U	UG
85-01-8	PHENANTHRENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
129-00-0	PYRENE	1	0.4	0.4	U	0.4	U	UG
129-00-0	PYRENE	1	0.0004	0.0004	U	0.0004	U	MG/M3

DF = Dilution Factor RL = Reporting Limit

* = Modified by Validation

U = Non-Detect J = Estimated R = Rejected

Form 1 Data Sheet - Semivolatiles

CTEH

Houston Wood Preserving Works Site

SDG: L367095

COC Sample ID: **HOTX0211PNAH003** | Sample Matrix : **Air** | Total/Dissolved: **T**

Location ID: **NA** | Sample Date: **02/11/2016** | Lab: **SGS-GALSON**

Lab Sample ID: **L367095-14** | Analysis Date: **02/15/2016 7:41**

Sample Type: **Site Sample**

Method: **mod. NIOSH 5506; HPLC/UV**

CAS	Parameter Name	DF	RL	Lab Result	Lab Qualifier	Verified Result	Verified Qualifier	Units
5522-43-0	1-NITROPYRENE	1	0.4	0.4	U	0.4	U	UG
5522-43-0	1-NITROPYRENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
83-32-9	ACENAPHTHENE	1	0.3	0.3	U	0.3	U	UG
83-32-9	ACENAPHTHENE	1	0.0003	0.0003	U	0.0003	U	MG/M3
208-96-8	ACENAPHTHYLENE	1	0.3	0.3	U	0.3	U	UG
208-96-8	ACENAPHTHYLENE	1	0.0003	0.0003	U	0.0003	U	MG/M3
120-12-7	ANTHRACENE	1	0.4	0.4	U	0.4	U	UG
120-12-7	ANTHRACENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
56-55-3	BENZO(A)ANTHRACENE	1	0.4	0.4	U	0.4	U	UG
56-55-3	BENZO(A)ANTHRACENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
50-32-8	BENZO(A)PYRENE	1	0.5	0.5	U	0.5	U	UG
50-32-8	BENZO(A)PYRENE	1	0.0005	0.0005	U	0.0005	U	MG/M3
205-99-2	BENZO(B)FLUORANTHENE	1	0.4	0.4	U	0.4	U	UG
205-99-2	BENZO(B)FLUORANTHENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
192-97-2	BENZO(E)PYRENE	1	0.4	0.4	U	0.4	U	UG
192-97-2	BENZO(E)PYRENE	1	0.0005	0.0005	U	0.0005	U	MG/M3
191-24-2	BENZO(G,H,I)PERYLENE	1	0.5	0.5	U	0.5	U	UG
191-24-2	BENZO(G,H,I)PERYLENE	1	0.0005	0.0005	U	0.0005	U	MG/M3
207-08-9	BENZO(K)FLUORANTHENE	1	0.4	0.4	U	0.4	U	UG
207-08-9	BENZO(K)FLUORANTHENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
218-01-9	CHRYSENE	1	0.4	0.4	U	0.4	U	UG
218-01-9	CHRYSENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
53-70-3	DIBENZ(A,H)ANTHRACENE	1	0.4	0.4	U	0.4	U	UG
53-70-3	DIBENZ(A,H)ANTHRACENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
206-44-0	FLUORANTHENE	1	0.4	0.4	U	0.4	U	UG
206-44-0	FLUORANTHENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
86-73-7	FLUORENE	1	0.3	0.3	U	0.3	U	UG
86-73-7	FLUORENE	1	0.0003	0.0003	U	0.0003	U	MG/M3
193-39-5	INDENO-1,2,3-CD-PYRENE	1	0.5	0.5	U	0.5	U	UG
193-39-5	INDENO-1,2,3-CD-PYRENE	1	0.0005	0.0005	U	0.0005	U	MG/M3
91-20-3	NAPHTHALENE	1	0.3	0.3	U	0.3	U	UG
91-20-3	NAPHTHALENE	1	0.0003	0.0003	U	0.0003	U	MG/M3
85-01-8	PHENANTHRENE	1	0.3	0.3	U	0.3	U	UG
85-01-8	PHENANTHRENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
129-00-0	PYRENE	1	0.4	0.4	U	0.4	U	UG
129-00-0	PYRENE	1	0.0004	0.0004	U	0.0004	U	MG/M3

DF = Dilution Factor RL = Reporting Limit

* = Modified by Validation

U = Non-Detect J = Estimated R = Rejected

Form 1 Data Sheet - Semivolatiles

CTEH

Houston Wood Preserving Works Site

SDG: L367095

COC Sample ID: **HOTX0211PNAH004** Sample Matrix : **Air** Total/Dissolved: **T**

Location ID: **NA** Sample Date: **02/11/2016** Lab: **SGS-GALSON**

Lab Sample ID: **L367095-15** Analysis Date: **02/15/2016 8:41**

Sample Type: **Field Blank**

Method: **mod. NIOSH 5506; HPLC/UV**

CAS	Parameter Name	DF	RL	Lab Result	Lab Qualifier	Verified Result	Verified Qualifier	Units
5522-43-0	1-NITROPYRENE	1	0.4	0.4	U	0.4	U	UG
83-32-9	ACENAPHTHENE	1	0.3	0.3	U	0.3	U	UG
208-96-8	ACENAPHTHYLENE	1	0.3	0.3	U	0.3	U	UG
120-12-7	ANTHRACENE	1	0.4	0.4	U	0.4	U	UG
56-55-3	BENZO(A)ANTHRACENE	1	0.4	0.4	U	0.4	U	UG
50-32-8	BENZO(A)PYRENE	1	0.5	0.5	U	0.5	U	UG
205-99-2	BENZO(B)FLUORANTHENE	1	0.4	0.4	U	0.4	U	UG
192-97-2	BENZO(E)PYRENE	1	0.4	0.4	U	0.4	U	UG
191-24-2	BENZO(G,H,I)PERYLENE	1	0.5	0.5	U	0.5	U	UG
207-08-9	BENZO(K)FLUORANTHENE	1	0.4	0.4	U	0.4	U	UG
218-01-9	CHRYSENE	1	0.4	0.4	U	0.4	U	UG
53-70-3	DIBENZ(A,H)ANTHRACENE	1	0.4	0.4	U	0.4	U	UG
206-44-0	FLUORANTHENE	1	0.4	0.4	U	0.4	U	UG
86-73-7	FLUORENE	1	0.3	0.3	U	0.3	U	UG
193-39-5	INDENO-1,2,3-CD-PYRENE	1	0.5	0.5	U	0.5	U	UG
91-20-3	NAPHTHALENE	1	0.3	0.3	U	0.3	U	UG
85-01-8	PHENANTHRENE	1	0.3	0.3	U	0.3	U	UG
129-00-0	PYRENE	1	0.4	0.4	U	0.4	U	UG

DF = Dilution Factor RL = Reporting Limit

* = Modified by Validation

U = Non-Detect J = Estimated R = Rejected

eDATApro ENVIRONMENTAL DATA PROFESSIONAL, LLC

Form 1 Data Sheet - Semivolatiles

CTEH

Houston Wood Preserving Works Site

SDG: L367095

COC Sample ID: **HOTX0210PNAH001** | Sample Matrix : **Air** | Total/Dissolved: **T**

Location ID: **NA** | Sample Date: **02/10/2016** | Lab: **SGS-GALSON**

Lab Sample ID: **L367095-5** | Analysis Date: **02/15/2016 2:20**

Sample Type: **Site Sample**

Method: **mod. NIOSH 5506; HPLC/UV**

CAS	Parameter Name	DF	RL	Lab Result	Lab Qualifier	Verified Result	Verified Qualifier	Units
5522-43-0	1-NITROPYRENE	1	0.4	0.4	U	0.4	U	UG
5522-43-0	1-NITROPYRENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
83-32-9	ACENAPHTHENE	1	0.3	0.3	U	0.3	U	UG
83-32-9	ACENAPHTHENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
208-96-8	ACENAPHTHYLENE	1	0.3	0.3	U	0.3	U	UG
208-96-8	ACENAPHTHYLENE	1	0.0003	0.0003	U	0.0003	U	MG/M3
120-12-7	ANTHRACENE	1	0.4	0.4	U	0.4	U	UG
120-12-7	ANTHRACENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
56-55-3	BENZO(A)ANTHRACENE	1	0.4	0.4	U	0.4	U	UG
56-55-3	BENZO(A)ANTHRACENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
50-32-8	BENZO(A)PYRENE	1	0.5	0.5	U	0.5	U	UG
50-32-8	BENZO(A)PYRENE	1	0.0005	0.0005	U	0.0005	U	MG/M3
205-99-2	BENZO(B)FLUORANTHENE	1	0.4	0.4	U	0.4	U	UG
205-99-2	BENZO(B)FLUORANTHENE	1	0.0005	0.0005	U	0.0005	U	MG/M3
192-97-2	BENZO(E)PYRENE	1	0.4	0.4	U	0.4	U	UG
192-97-2	BENZO(E)PYRENE	1	0.0005	0.0005	U	0.0005	U	MG/M3
191-24-2	BENZO(G,H,I)PERYLENE	1	0.5	0.5	U	0.5	U	UG
191-24-2	BENZO(G,H,I)PERYLENE	1	0.0006	0.0006	U	0.0006	U	MG/M3
207-08-9	BENZO(K)FLUORANTHENE	1	0.4	0.4	U	0.4	U	UG
207-08-9	BENZO(K)FLUORANTHENE	1	0.0005	0.0005	U	0.0005	U	MG/M3
218-01-9	CHRYSENE	1	0.4	0.4	U	0.4	U	UG
218-01-9	CHRYSENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
53-70-3	DIBENZ(A,H)ANTHRACENE	1	0.4	0.4	U	0.4	U	UG
53-70-3	DIBENZ(A,H)ANTHRACENE	1	0.0005	0.0005	U	0.0005	U	MG/M3
206-44-0	FLUORANTHENE	1	0.4	0.4	U	0.4	U	UG
206-44-0	FLUORANTHENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
86-73-7	FLUORENE	1	0.3	0.3	U	0.3	U	UG
86-73-7	FLUORENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
193-39-5	INDENO-1,2,3-CD-PYRENE	1	0.5	0.5	U	0.5	U	UG
193-39-5	INDENO-1,2,3-CD-PYRENE	1	0.0005	0.0005	U	0.0005	U	MG/M3
91-20-3	NAPHTHALENE	1	0.3	0.4		0.4		UG
91-20-3	NAPHTHALENE	1	0.0004	0.0004		0.0004		MG/M3
85-01-8	PHENANTHRENE	1	0.3	0.3	U	0.3	U	UG
85-01-8	PHENANTHRENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
129-00-0	PYRENE	1	0.4	0.4	U	0.4	U	UG
129-00-0	PYRENE	1	0.0004	0.0004	U	0.0004	U	MG/M3

DF = Dilution Factor RL = Reporting Limit

* = Modified by Validation

U = Non-Detect J = Estimated R = Rejected

Form 1 Data Sheet - Semivolatiles

CTEH

Houston Wood Preserving Works Site

SDG: L367095

COC Sample ID: **HOTX0210PNAH003** | Sample Matrix : **Air** | Total/Dissolved: **T**

Location ID: **NA** | Sample Date: **02/10/2016** | Lab: **SGS-GALSON**

Lab Sample ID: **L367095-6** | Analysis Date: **02/15/2016 3:20**

Sample Type: **Site Sample**

Method: **mod. NIOSH 5506; HPLC/UV**

CAS	Parameter Name	DF	RL	Lab Result	Lab Qualifier	Verified Result	Verified Qualifier	Units
5522-43-0	1-NITROPYRENE	1	0.4	0.4	U	0.4	U	UG
5522-43-0	1-NITROPYRENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
83-32-9	ACENAPHTHENE	1	0.3	0.3	U	0.3	U	UG
83-32-9	ACENAPHTHENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
208-96-8	ACENAPHTHYLENE	1	0.3	0.3	U	0.3	U	UG
208-96-8	ACENAPHTHYLENE	1	0.0003	0.0003	U	0.0003	U	MG/M3
120-12-7	ANTHRACENE	1	0.4	0.4	U	0.4	U	UG
120-12-7	ANTHRACENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
56-55-3	BENZO(A)ANTHRACENE	1	0.4	0.4	U	0.4	U	UG
56-55-3	BENZO(A)ANTHRACENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
50-32-8	BENZO(A)PYRENE	1	0.5	0.5	U	0.5	U	UG
50-32-8	BENZO(A)PYRENE	1	0.0005	0.0005	U	0.0005	U	MG/M3
205-99-2	BENZO(B)FLUORANTHENE	1	0.4	0.4	U	0.4	U	UG
205-99-2	BENZO(B)FLUORANTHENE	1	0.0005	0.0005	U	0.0005	U	MG/M3
192-97-2	BENZO(E)PYRENE	1	0.4	0.4	U	0.4	U	UG
192-97-2	BENZO(E)PYRENE	1	0.0005	0.0005	U	0.0005	U	MG/M3
191-24-2	BENZO(G,H,I)PERYLENE	1	0.5	0.5	U	0.5	U	UG
191-24-2	BENZO(G,H,I)PERYLENE	1	0.0006	0.0006	U	0.0006	U	MG/M3
207-08-9	BENZO(K)FLUORANTHENE	1	0.4	0.4	U	0.4	U	UG
207-08-9	BENZO(K)FLUORANTHENE	1	0.0005	0.0005	U	0.0005	U	MG/M3
218-01-9	CHRYSENE	1	0.4	0.4	U	0.4	U	UG
218-01-9	CHRYSENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
53-70-3	DIBENZ(A,H)ANTHRACENE	1	0.4	0.4	U	0.4	U	UG
53-70-3	DIBENZ(A,H)ANTHRACENE	1	0.0005	0.0005	U	0.0005	U	MG/M3
206-44-0	FLUORANTHENE	1	0.4	0.4	U	0.4	U	UG
206-44-0	FLUORANTHENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
86-73-7	FLUORENE	1	0.3	0.3	U	0.3	U	UG
86-73-7	FLUORENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
193-39-5	INDENO-1,2,3-CD-PYRENE	1	0.5	0.5	U	0.5	U	UG
193-39-5	INDENO-1,2,3-CD-PYRENE	1	0.0005	0.0005	U	0.0005	U	MG/M3
91-20-3	NAPHTHALENE	1	0.3	0.3	U	0.3	U	UG
91-20-3	NAPHTHALENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
85-01-8	PHENANTHRENE	1	0.3	0.3	U	0.3	U	UG
85-01-8	PHENANTHRENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
129-00-0	PYRENE	1	0.4	0.4	U	0.4	U	UG
129-00-0	PYRENE	1	0.0004	0.0004	U	0.0004	U	MG/M3

DF = Dilution Factor RL = Reporting Limit

* = Modified by Validation

U = Non-Detect J = Estimated R = Rejected

Form 1 Data Sheet - Semivolatiles

CTEH

Houston Wood Preserving Works Site

SDG: L367095

COC Sample ID: **HOTX0210PNAH004** | Sample Matrix : **Air** | Total/Dissolved: **T**

Location ID: **NA** | Sample Date: **02/10/2016** | Lab: **SGS-GALSON**

Lab Sample ID: **L367095-7** | Analysis Date: **02/15/2016 4:21**

Sample Type: **Field Blank**

Method: **mod. NIOSH 5506; HPLC/UV**

CAS	Parameter Name	DF	RL	Lab Result	Lab Qualifier	Verified Result	Verified Qualifier	Units
5522-43-0	1-NITROPYRENE	1	0.4	0.4	U	0.4	U	UG
83-32-9	ACENAPHTHENE	1	0.3	0.3	U	0.3	U	UG
208-96-8	ACENAPHTHYLENE	1	0.3	0.3	U	0.3	U	UG
120-12-7	ANTHRACENE	1	0.4	0.4	U	0.4	U	UG
56-55-3	BENZO(A)ANTHRACENE	1	0.4	0.4	U	0.4	U	UG
50-32-8	BENZO(A)PYRENE	1	0.5	0.5	U	0.5	U	UG
205-99-2	BENZO(B)FLUORANTHENE	1	0.4	0.4	U	0.4	U	UG
192-97-2	BENZO(E)PYRENE	1	0.4	0.4	U	0.4	U	UG
191-24-2	BENZO(G,H,I)PERYLENE	1	0.5	0.5	U	0.5	U	UG
207-08-9	BENZO(K)FLUORANTHENE	1	0.4	0.4	U	0.4	U	UG
218-01-9	CHRYSENE	1	0.4	0.4	U	0.4	U	UG
53-70-3	DIBENZ(A,H)ANTHRACENE	1	0.4	0.4	U	0.4	U	UG
206-44-0	FLUORANTHENE	1	0.4	0.4	U	0.4	U	UG
86-73-7	FLUORENE	1	0.3	0.3	U	0.3	U	UG
193-39-5	INDENO-1,2,3-CD-PYRENE	1	0.5	0.5	U	0.5	U	UG
91-20-3	NAPHTHALENE	1	0.3	0.3	U	0.3	U	UG
85-01-8	PHENANTHRENE	1	0.3	0.3	U	0.3	U	UG
129-00-0	PYRENE	1	0.4	0.4	U	0.4	U	UG

DF = Dilution Factor RL = Reporting Limit

* = Modified by Validation

U = Non-Detect J = Estimated R = Rejected

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Form 1 Data Sheet - Conventionals

CTEH

Houston Wood Preserving Works Site

SDG: L367095

COC Sample ID: **HOTX0210PM001** Sample Matrix : **Air**

Location ID: **NA**

Lab Sample ID: **L367095-1** Lab Code: **GALSON**

Sample Type: **Site Sample**

Parameter Name	Collection Date	Analysis Date	DF	RL	Lab Result	Lab Qualifier	Verified Result	Verified Qualifier	Units
Method: mod. EPA Method IP-10A; Gravimetric									
PARTICULATE MATTER/PM10	02/10/2016	02/16/2016 10:38	1	0.05	0.084		0.084		MG/M3
PARTICULATE MATTER/PM10	02/10/2016	02/16/2016 10:38	1	0.05	0.084		0.084		MG

DF = Dilution Factor RL = Reporting Limit

* = Modified by Validation

U = Non-Detect J = Estimated R = Rejected

Form 1 Data Sheet - Conventionals

CTEH

Houston Wood Preserving Works Site

SDG: L367095

COC Sample ID: **HOTX0211PM003** Sample Matrix : **Air**

Location ID: **NA**

Lab Sample ID: **L367095-10** Lab Code: **GALSON**

Sample Type: **Site Sample**

Parameter Name	Collection Date	Analysis Date	DF	RL	Lab Result	Lab Qualifier	Verified Result	Verified Qualifier	Units
Method: mod. EPA Method IP-10A; Gravimetric									
PARTICULATE MATTER/PM10	02/11/2016	02/16/2016 10:47	1	0.052	0.052	U	0.052	U	MG/M3
PARTICULATE MATTER/PM10	02/11/2016	02/16/2016 10:47	1	0.05	0.05	U	0.05	U	MG

DF = Dilution Factor RL = Reporting Limit

* = Modified by Validation

U = Non-Detect J = Estimated R = Rejected

eDATApro

Form 1 Data Sheet - Conventionals

CTEH

Houston Wood Preserving Works Site

SDG: L367095

COC Sample ID: **HOTX0211PM004** Sample Matrix : **Air**

Location ID: **NA**

Lab Sample ID: **L367095-11** Lab Code: **GALSON**

Sample Type: **Field Blank**

Parameter Name	Collection Date	Analysis Date	DF	RL	Lab Result	Lab Qualifier	Verified Result	Verified Qualifier	Units
Method: mod. EPA Method IP-10A; Gravimetric									
PARTICULATE MATTER/PM10	02/11/2016	02/16/2016 10:49	1	0.05	0.05	U	0.05	U	MG

DF = Dilution Factor RL = Reporting Limit

* = Modified by Validation

U = Non-Detect J = Estimated R = Rejected

Form 1 Data Sheet - Conventionals

CTEH

Houston Wood Preserving Works Site

SDG: L367095

COC Sample ID: **HOTX0210PM002** Sample Matrix : **Air**

Location ID: **NA**

Lab Sample ID: **L367095-2** Lab Code: **GALSON**

Sample Type: **Site Sample**

Parameter Name	Collection Date	Analysis Date	DF	RL	Lab Result	Lab Qualifier	Verified Result	Verified Qualifier	Units
Method: mod. EPA Method IP-10A; Gravimetric									
PARTICULATE MATTER/PM10	02/10/2016	02/16/2016 10:44	1	0.05	0.17		0.17		MG/M3
PARTICULATE MATTER/PM10	02/10/2016	02/16/2016 10:44	1	0.05	0.17		0.17		MG

DF = Dilution Factor RL = Reporting Limit

* = Modified by Validation

U = Non-Detect J = Estimated R = Rejected

Form 1 Data Sheet - Conventionals

CTEH

Houston Wood Preserving Works Site

SDG: L367095

COC Sample ID: **HOTX0210PM003** Sample Matrix : **Air**

Location ID: **NA**

Lab Sample ID: **L367095-3** Lab Code: **GALSON**

Sample Type: **Site Sample**

Parameter Name	Collection Date	Analysis Date	DF	RL	Lab Result	Lab Qualifier	Verified Result	Verified Qualifier	Units
Method: mod. EPA Method IP-10A; Gravimetric									
PARTICULATE MATTER/PM10	02/10/2016	02/16/2016 10:44	1	0.05	0.05	U	0.05	U	MG/M3
PARTICULATE MATTER/PM10	02/10/2016	02/16/2016 10:44	1	0.05	0.05	U	0.05	U	MG

DF = Dilution Factor RL = Reporting Limit

* = Modified by Validation

U = Non-Detect J = Estimated R = Rejected

Form 1 Data Sheet - Conventionals

CTEH

Houston Wood Preserving Works Site

SDG: L367095

COC Sample ID: **HOTX0210PM004** Sample Matrix : **Air**

Location ID: **NA**

Lab Sample ID: **L367095-4** Lab Code: **GALSON**

Sample Type: **Field Blank**

Parameter Name	Collection Date	Analysis Date	DF	RL	Lab Result	Lab Qualifier	Verified Result	Verified Qualifier	Units
Method: mod. EPA Method IP-10A; Gravimetric									
PARTICULATE MATTER/PM10	02/10/2016	02/16/2016 10:45	1	0.05	0.05	U	0.05	U	MG

DF = Dilution Factor RL = Reporting Limit

* = Modified by Validation

U = Non-Detect J = Estimated R = Rejected

Form 1 Data Sheet - Conventionals

CTEH

Houston Wood Preserving Works Site

SDG: L367095

COC Sample ID: **HOTX0211PM001** Sample Matrix : **Air**

Location ID: **NA**

Lab Sample ID: **L367095-8** Lab Code: **GALSON**

Sample Type: **Site Sample**

Parameter Name	Collection Date	Analysis Date	DF	RL	Lab Result	Lab Qualifier	Verified Result	Verified Qualifier	Units
Method: mod. EPA Method IP-10A; Gravimetric									
PARTICULATE MATTER/PM10	02/11/2016	02/16/2016 10:46	1	0.049	0.051		0.051		MG/M3
PARTICULATE MATTER/PM10	02/11/2016	02/16/2016 10:46	1	0.05	0.052		0.052		MG

DF = Dilution Factor RL = Reporting Limit

* = Modified by Validation

U = Non-Detect J = Estimated R = Rejected

Form 1 Data Sheet - Conventionals

CTEH

Houston Wood Preserving Works Site

SDG: L367095

COC Sample ID: **HOTX0211PM002** Sample Matrix : **Air**

Location ID: **NA**

Lab Sample ID: **L367095-9** Lab Code: **GALSON**

Sample Type: **Site Sample**

Parameter Name	Collection Date	Analysis Date	DF	RL	Lab Result	Lab Qualifier	Verified Result	Verified Qualifier	Units
Method: mod. EPA Method IP-10A; Gravimetric									
PARTICULATE MATTER/PM10	02/11/2016	02/16/2016 10:46	1	0.052	0.052	U	0.052	U	MG/M3
PARTICULATE MATTER/PM10	02/11/2016	02/16/2016 10:46	1	0.05	0.05	U	0.05	U	MG

DF = Dilution Factor RL = Reporting Limit

* = Modified by Validation

U = Non-Detect J = Estimated R = Rejected

eDATApro

Appendix II
Chain of Custody

5120 North Shore Drive
North Little Rock, AR 72118
Phone: (501) 801-8500
Fax: (501) 801-8501
Website: www.cteh.com

Center for Toxicology and Environmental Health L.L.C.
SAMPLE CHAIN OF CUSTODY AND ANALYSIS REQUEST FORM

Q 61

	Send Report To:	Send Invoice To:
Name	Charles Connolly cconnolly@cteh.com	Accounts Payable
Company	CTEH Mike Berg mberg@cteh.com	CTEH
Address	2000 Anders Lane Kemah, Texas 77565	5120 North Shore Drive North Little Rock, AR 72118
Phone	(281)535-2834	(501)801-8500
Fax	(281)535-0232	(501)801-8501
e-mail	labresults@cteh.com	lraccounting@cteh.com

CTEH Project #: 107907

Turnaround Requested:
Same Day ___Next Day (24 hour) ___Normal
X Other (Specify) 2-Day (Report on 2/15)

Complete Data Packet Requested X Yes ☐ No

775640081218
Date:02/15/16
Shipper:FEDEX
Initials:JB
Prep:UNKNOWN

Client Sample Identification	Other Sample Identification	Sample Size	Units (Check one) X L ___cm²	Sample Date	Sample Time (for non-air samples)	Initials	Mod. EPA IP-10A PM10	NIOSH 5506 PNAH								Matrix A = air B = bulk S = soil SW = wipe T = tape W = water
HOTX0210PM001	—	1001.1	L	2-10-16	—	CC	X									A
HOTX0210PM002	—	1006.6	L	2-10-16	—	CC	X									A
HOTX0210PM003	—	1001.3	L	2-10-16	—	CC	X									A
HOTX0210PM004	—	Blank	L	2-10-16	—	CC	X									A
HOTX0210PNAH001	—	907.2	L	2-10-16	—	CC		X								A
~~HOTX0210PNAH002~~ CC	—	~~[illegible]~~	L	—	—	—	—	—	—	—	—	—	—	—	—	—
HOTX0210PNAH003	—	897.6	L	2-10-16	—	CC		X								A
HOTX0210PNAH004	—	Blank	L	2-10-16	—	CC		X								A
HOTX0211PM001	—	1013.2	L	2-11-16	—	CC	X									A
HOTX0211PM002	—	968.3	L	2-11-16	—	CC	X									A
HOTX0211PM003	—	969.8	L	2-11-16	—	CC	X									A
HOTX0211PM004	—	Blank	L	2-11-16	—	CC	X									A

RELINQUISHED BY	DATE/TIME	RECEIVED BY	DATE/TIME
[signature]	2-12-16 1600	FedEx	
		Zach King [signature]	2/15/16 9:05

COMMENTS

Rec'd intact & all accounted for? Yes or No ZK
Rec'd w/custody seals intact? Yes or No N/A ZK
Rec'd in light sensitive packaging? Yes or No ZK
Rec'd with ice pack? Yes or No N/A ZK
Rec'd temperature compliant? Yes or No N/A ZK

5120 North Shore Drive
North Little Rock, AR 72118
Phone: (501) 801-8500
Fax: (501) 801-8501
Website: www.cteh.com

Center for Toxicology and Environmental Health L.L.C.
SAMPLE CHAIN OF CUSTODY AND ANALYSIS REQUEST FORM

Page 2 of 2

	Send Report To:	Send Invoice To:
Name	Charles Connolly cconnolly@cteh.com	Accounts Payable
Company	CTEH Mike Berg mberg@cteh.com	CTEH
Address	2000 Anders Lane Kemah, Texas 77565	5120 North Shore Drive North Little Rock, AR 72118
Phone	(281)535-2834	(501)801-8500
Fax	(281)535-0232	(501)801-8501
e-mail	labresults@cteh.com	lraccounting@cteh.com

CTEH Project #: 107967

Turnaround Requested:
Same Day ___Next Day (24 hour) ___Normal
X Other (Specify) 2-Day (Report on 2/15)

Complete Data Packet Requested ☒ Yes ☐ No

Lab Contact Information:
Galson Laboratories
6601 Kirkville Road
E. Syracuse, NY 13057

Client Sample Identification	Other Sample Identification	Sample Size	Units (Check one) X L / ___ cm^2	Sample Date	Sample Time (for non-air samples)	Initials	NIOSH 5506 PNAH	Matrix (A = air, B = bulk, S = soil, SW = wipe, T = tape, W = water)
HOTX0211PNAH001	–	953.3	L	2-11-16	–	CC	X	A
HOTX0211PNAH002	–	836.6	L	2-11-16	–	CC	X	A
HOTX0211PNAH003	–	954.8	L	2-11-16	–	CC	X	A
HOTX0211PNAH004	–	Blank	–	2-11-16	–	CC	X	A

Rec'd intact & all accounted for? Yes or No ZK
Rec'd w/custody seals intact? Yes or No N/A ZK
Rec'd in light sensitive packaging? Yes or No ZK
Rec'd with ice pack? Yes or No N/A ZK
Rec'd temperature compliant? Yes or No N/A ZK

RELINQUISHED BY	DATE/TIME	RECEIVED BY	DATE/TIME	COMMENTS
	2-12-16 1600	Fed Ex		Samples Received in Light Sensitve Material: Yes or No
		Zach King	2/15/16 9:05	

Data Verification Report (Level 2)

Project: 107907 - Houston Wood Preserving Works Site

Client: CTEH

Report #: L367100-rev1 Date: February 23, 2016

Environmental Data Professional, LLC
1432 Watkins St.• Lake Charles, LA 70601 • phone: 337-540-0036 • fax: 337-478-6061

Disclaimer:

The review performed and reported herein is based on specifications and procedures presented to eDATApro with the associated data package. Any qualifications or review not specified with package requirements was based on USEPA National Functional Guidelines for Inorganic and Organic Data Review.

Information contained in this report is based solely on the hardcopy and/or electronic deliverables that were submitted to eDATApro. eDATApro reserves the rights to modify or change the report if new information is presented or if this report is determined to be inaccurate or incomplete.

The following parameters were reviewed during the verification process:

Chain-of-Custody (COC): Completeness and sample custody

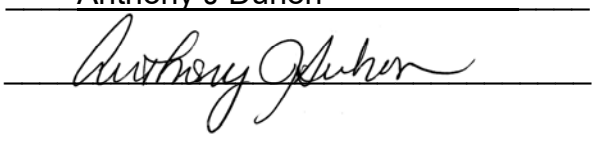
Holding time: Compare collection date versus preparation and/or analysis date

Blank Contamination: Laboratory and field blanks

Matrix/Precision/Recovery: Surrogates, Internal Standards, Duplicates, Blank spike and blank spike duplicate samples (when applicable)

Standards: Detection limit standard and continuing calibration verification (when applicable)

Reviewed by: Anthony J Duhon

Signature: 

INTRODUCTION:

Project Name: 107907 - Houston Wood Preserving Works Site
Laboratory: Galson Laboratories
Laboratory Package No.: L367100
Matrix: Air

Environmental Data Professional, LLC (eDATApro) received one electronic Level II data package containing the results for six field samples and two field blanks. Level II verification was performed on the data utilizing *USEPA National Functional Guidelines for Organic Data Review*, *USEPA National Functional Guidelines for Inorganic Data Review* and the analytical methods.

The following samples were reviewed:

Sample ID	Lab ID	Collection Date	Analyses
HOTX0212PM001	L367100-1	02/12/2016	[2]
HOTX0212PM002	L367100-2	02/12/2016	[2]
HOTX0212PM003	L367100-3	02/12/2016	[2]
HOTX0212PNAH001	L367100-4	02/12/2016	[1]
HOTX0212PNAH002	L367100-5	02/12/2016	[1]
HOTX0212PNAH003	L367100-6	02/12/2016	[1]
HOTX0212PM004	L367100-7	02/12/2016	[2]
HOTX0212PNAH004	L367100-8	02/12/2016	[1]

Analyses Performed Codes:

[1] Semivolatile Organics; PAHs (mod. NIOSH 5506; HPLC/UV)
[2] Particulate Matter; PM10 (mod. EPA Method IP-10A; Gravimetric)

DATA REVIEW FINDINGS SUMMARY

I. General Package:

A data package was received on February 16, 2016. A resubmission was necessary to correct the sample volumes applied to the samples. The revised data package was received on February 17, 2016.

This data review report has been revised to correct clerical errors. This revised report replaces in its entirety any previous submission.

II. Semivolatile Organics; PAHs – mod. NIOSH 5506; HPLC/UV:

The laboratory reported the results in both ug and mg/m3 units.

Fluoranthene, Benzo(k)fluoranthene and Chrysene were present in method blank sample WG338941-2. These analytes were not detected in the associated field samples. No data qualifications were necessary.

Comparison between measurements of 1-Nitropyrene in the laboratory blank spikes (BS/BSD) WG338941-3 and WG338941-4 exceeded lower precision acceptance criteria. This analyte was not detected in the associated field samples. No data qualifications were necessary.

All other quality assurance and quality control (QA/QC) components presented by the laboratory satisfied method and data review acceptance criteria.

III. Particulate Matter; PM10 – mod. EPA Method IP-10A; Gravimetric:

The laboratory reported the results in both mg and mg/m3 units.

The laboratory noted for sample HOTX0212PM003, “Filter was received torn. Reported result may be biased low.” Verification of this information is outside the scope of Level II data review. No data qualifications were applied based on this comment.

All quality assurance and quality control (QA/QC) components presented by the laboratory satisfied method and data review acceptance criteria; therefore, no data qualifications were necessary.

Appendix I
Form 1 Data (Qualified)

Form 1 Data Sheet - Semivolatiles

CTEH

Houston Wood Preserving Works Site

SDG: L367100

COC Sample ID: **HOTX0212PNAH001** | Sample Matrix : **Air** | Total/Dissolved: **T**

Location ID: **NA** | Sample Date: **02/12/2016** | Lab: **SGS-GALSON**

Lab Sample ID: **L367100-4** | Analysis Date: **02/15/2016 10:01**

Sample Type: **Site Sample**

Method: **mod. NIOSH 5506; HPLC/UV**

CAS	Parameter Name	DF	RL	Lab Result	Lab Qualifier	Verified Result	Verified Qualifier	Units
5522-43-0	1-NITROPYRENE	1	0.4	0.4	U	0.4	U	UG
5522-43-0	1-NITROPYRENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
83-32-9	ACENAPHTHENE	1	0.3	0.3	U	0.3	U	UG
83-32-9	ACENAPHTHENE	1	0.0003	0.0003	U	0.0003	U	MG/M3
208-96-8	ACENAPHTHYLENE	1	0.3	0.3	U	0.3	U	UG
208-96-8	ACENAPHTHYLENE	1	0.0003	0.0003	U	0.0003	U	MG/M3
120-12-7	ANTHRACENE	1	0.4	0.4	U	0.4	U	UG
120-12-7	ANTHRACENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
56-55-3	BENZO(A)ANTHRACENE	1	0.4	0.4	U	0.4	U	UG
56-55-3	BENZO(A)ANTHRACENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
50-32-8	BENZO(A)PYRENE	1	0.5	0.5	U	0.5	U	UG
50-32-8	BENZO(A)PYRENE	1	0.0005	0.0005	U	0.0005	U	MG/M3
205-99-2	BENZO(B)FLUORANTHENE	1	0.4	0.4	U	0.4	U	UG
205-99-2	BENZO(B)FLUORANTHENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
192-97-2	BENZO(E)PYRENE	1	0.4	0.4	U	0.4	U	UG
192-97-2	BENZO(E)PYRENE	1	0.0005	0.0005	U	0.0005	U	MG/M3
191-24-2	BENZO(G,H,I)PERYLENE	1	0.5	0.5	U	0.5	U	UG
191-24-2	BENZO(G,H,I)PERYLENE	1	0.0005	0.0005	U	0.0005	U	MG/M3
207-08-9	BENZO(K)FLUORANTHENE	1	0.4	0.4	U	0.4	U	UG
207-08-9	BENZO(K)FLUORANTHENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
218-01-9	CHRYSENE	1	0.4	0.4	U	0.4	U	UG
218-01-9	CHRYSENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
53-70-3	DIBENZ(A,H)ANTHRACENE	1	0.4	0.4	U	0.4	U	UG
53-70-3	DIBENZ(A,H)ANTHRACENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
206-44-0	FLUORANTHENE	1	0.4	0.4	U	0.4	U	UG
206-44-0	FLUORANTHENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
86-73-7	FLUORENE	1	0.3	0.3	U	0.3	U	UG
86-73-7	FLUORENE	1	0.0003	0.0003	U	0.0003	U	MG/M3
193-39-5	INDENO-1,2,3-CD-PYRENE	1	0.5	0.5	U	0.5	U	UG
193-39-5	INDENO-1,2,3-CD-PYRENE	1	0.0005	0.0005	U	0.0005	U	MG/M3
91-20-3	NAPHTHALENE	1	0.3	0.3	U	0.3	U	UG
91-20-3	NAPHTHALENE	1	0.0003	0.0003	U	0.0003	U	MG/M3
85-01-8	PHENANTHRENE	1	0.3	0.3	U	0.3	U	UG
85-01-8	PHENANTHRENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
129-00-0	PYRENE	1	0.4	0.4	U	0.4	U	UG
129-00-0	PYRENE	1	0.0004	0.0004	U	0.0004	U	MG/M3

DF = Dilution Factor RL = Reporting Limit

* = Modified by Validation

U = Non-Detect J = Estimated R = Rejected

eDATApro ENVIRONMENTAL DATA PROFESSIONAL, LLC

Form 1 Data Sheet - Semivolatiles

CTEH

Houston Wood Preserving Works Site

SDG: L367100

COC Sample ID: **HOTX0212PNAH002** | Sample Matrix : **Air** | Total/Dissolved: **T**

Location ID: **NA** | Sample Date: **02/12/2016** | Lab: **SGS-GALSON**

Lab Sample ID: **L367100-5** | Analysis Date: **02/15/2016 11:01**

Sample Type: **Site Sample**

Method: **mod. NIOSH 5506; HPLC/UV**

CAS	Parameter Name	DF	RL	Lab Result	Lab Qualifier	Verified Result	Verified Qualifier	Units
5522-43-0	1-NITROPYRENE	1	0.4	0.4	U	0.4	U	UG
5522-43-0	1-NITROPYRENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
83-32-9	ACENAPHTHENE	1	0.3	0.3	U	0.3	U	UG
83-32-9	ACENAPHTHENE	1	0.0003	0.0003	U	0.0003	U	MG/M3
208-96-8	ACENAPHTHYLENE	1	0.3	0.3	U	0.3	U	UG
208-96-8	ACENAPHTHYLENE	1	0.0003	0.0003	U	0.0003	U	MG/M3
120-12-7	ANTHRACENE	1	0.4	0.4	U	0.4	U	UG
120-12-7	ANTHRACENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
56-55-3	BENZO(A)ANTHRACENE	1	0.4	0.4	U	0.4	U	UG
56-55-3	BENZO(A)ANTHRACENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
50-32-8	BENZO(A)PYRENE	1	0.5	0.5	U	0.5	U	UG
50-32-8	BENZO(A)PYRENE	1	0.0005	0.0005	U	0.0005	U	MG/M3
205-99-2	BENZO(B)FLUORANTHENE	1	0.4	0.4	U	0.4	U	UG
205-99-2	BENZO(B)FLUORANTHENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
192-97-2	BENZO(E)PYRENE	1	0.4	0.4	U	0.4	U	UG
192-97-2	BENZO(E)PYRENE	1	0.0005	0.0005	U	0.0005	U	MG/M3
191-24-2	BENZO(G,H,I)PERYLENE	1	0.5	0.5	U	0.5	U	UG
191-24-2	BENZO(G,H,I)PERYLENE	1	0.0005	0.0005	U	0.0005	U	MG/M3
207-08-9	BENZO(K)FLUORANTHENE	1	0.4	0.4	U	0.4	U	UG
207-08-9	BENZO(K)FLUORANTHENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
218-01-9	CHRYSENE	1	0.4	0.4	U	0.4	U	UG
218-01-9	CHRYSENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
53-70-3	DIBENZ(A,H)ANTHRACENE	1	0.4	0.4	U	0.4	U	UG
53-70-3	DIBENZ(A,H)ANTHRACENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
206-44-0	FLUORANTHENE	1	0.4	0.4	U	0.4	U	UG
206-44-0	FLUORANTHENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
86-73-7	FLUORENE	1	0.3	0.3	U	0.3	U	UG
86-73-7	FLUORENE	1	0.0003	0.0003	U	0.0003	U	MG/M3
193-39-5	INDENO-1,2,3-CD-PYRENE	1	0.5	0.5	U	0.5	U	UG
193-39-5	INDENO-1,2,3-CD-PYRENE	1	0.0005	0.0005	U	0.0005	U	MG/M3
91-20-3	NAPHTHALENE	1	0.3	0.3	U	0.3	U	UG
91-20-3	NAPHTHALENE	1	0.0003	0.0003	U	0.0003	U	MG/M3
85-01-8	PHENANTHRENE	1	0.3	0.3	U	0.3	U	UG
85-01-8	PHENANTHRENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
129-00-0	PYRENE	1	0.4	0.4	U	0.4	U	UG
129-00-0	PYRENE	1	0.0004	0.0004	U	0.0004	U	MG/M3

DF = Dilution Factor RL = Reporting Limit

* = Modified by Validation

U = Non-Detect J = Estimated R = Rejected

eDATApro ENVIRONMENTAL DATA PROFESSIONAL, LLC

Form 1 Data Sheet - Semivolatiles

CTEH

Houston Wood Preserving Works Site

SDG: L367100

COC Sample ID: **HOTX0212PNAH003** | Sample Matrix : **Air** | Total/Dissolved: **T**

Location ID: **NA** | Sample Date: **02/12/2016** | Lab: **SGS-GALSON**

Lab Sample ID: **L367100-6** | Analysis Date: **02/16/2016 12:01**

Sample Type: **Site Sample**

Method: **mod. NIOSH 5506; HPLC/UV**

CAS	Parameter Name	DF	RL	Lab Result	Lab Qualifier	Verified Result	Verified Qualifier	Units
5522-43-0	1-NITROPYRENE	1	0.4	0.4	U	0.4	U	UG
5522-43-0	1-NITROPYRENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
83-32-9	ACENAPHTHENE	1	0.3	0.3	U	0.3	U	UG
83-32-9	ACENAPHTHENE	1	0.0003	0.0003	U	0.0003	U	MG/M3
208-96-8	ACENAPHTHYLENE	1	0.3	0.3	U	0.3	U	UG
208-96-8	ACENAPHTHYLENE	1	0.0003	0.0003	U	0.0003	U	MG/M3
120-12-7	ANTHRACENE	1	0.4	0.4	U	0.4	U	UG
120-12-7	ANTHRACENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
56-55-3	BENZO(A)ANTHRACENE	1	0.4	0.4	U	0.4	U	UG
56-55-3	BENZO(A)ANTHRACENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
50-32-8	BENZO(A)PYRENE	1	0.5	0.5	U	0.5	U	UG
50-32-8	BENZO(A)PYRENE	1	0.0005	0.0005	U	0.0005	U	MG/M3
205-99-2	BENZO(B)FLUORANTHENE	1	0.4	0.4	U	0.4	U	UG
205-99-2	BENZO(B)FLUORANTHENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
192-97-2	BENZO(E)PYRENE	1	0.4	0.4	U	0.4	U	UG
192-97-2	BENZO(E)PYRENE	1	0.0005	0.0005	U	0.0005	U	MG/M3
191-24-2	BENZO(G,H,I)PERYLENE	1	0.5	0.5	U	0.5	U	UG
191-24-2	BENZO(G,H,I)PERYLENE	1	0.0005	0.0005	U	0.0005	U	MG/M3
207-08-9	BENZO(K)FLUORANTHENE	1	0.4	0.4	U	0.4	U	UG
207-08-9	BENZO(K)FLUORANTHENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
218-01-9	CHRYSENE	1	0.4	0.4	U	0.4	U	UG
218-01-9	CHRYSENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
53-70-3	DIBENZ(A,H)ANTHRACENE	1	0.4	0.4	U	0.4	U	UG
53-70-3	DIBENZ(A,H)ANTHRACENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
206-44-0	FLUORANTHENE	1	0.4	0.4	U	0.4	U	UG
206-44-0	FLUORANTHENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
86-73-7	FLUORENE	1	0.3	0.3	U	0.3	U	UG
86-73-7	FLUORENE	1	0.0003	0.0003	U	0.0003	U	MG/M3
193-39-5	INDENO-1,2,3-CD-PYRENE	1	0.5	0.5	U	0.5	U	UG
193-39-5	INDENO-1,2,3-CD-PYRENE	1	0.0005	0.0005	U	0.0005	U	MG/M3
91-20-3	NAPHTHALENE	1	0.3	0.5		0.5		UG
91-20-3	NAPHTHALENE	1	0.0003	0.0005		0.0005		MG/M3
85-01-8	PHENANTHRENE	1	0.3	0.3	U	0.3	U	UG
85-01-8	PHENANTHRENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
129-00-0	PYRENE	1	0.4	0.4	U	0.4	U	UG
129-00-0	PYRENE	1	0.0004	0.0004	U	0.0004	U	MG/M3

DF = Dilution Factor RL = Reporting Limit

* = Modified by Validation

U = Non-Detect J = Estimated R = Rejected

Form 1 Data Sheet - Semivolatiles

CTEH

Houston Wood Preserving Works Site

SDG: L367100

COC Sample ID: **HOTX0212PNAH004**
Location ID: **NA**
Lab Sample ID: **L367100-8**
Sample Type: **Field Blank**
Method: **mod. NIOSH 5506; HPLC/UV**

Sample Matrix : **Air**
Sample Date: **02/12/2016**
Analysis Date: **02/16/2016 9:29**

Total/Dissolved: **T**
Lab: **SGS-GALSON**

CAS	Parameter Name	DF	RL	Lab Result	Lab Qualifier	Verified Result	Verified Qualifier	Units
5522-43-0	1-NITROPYRENE	1	0.4	0.4	U	0.4	U	UG
83-32-9	ACENAPHTHENE	1	0.3	0.3	U	0.3	U	UG
208-96-8	ACENAPHTHYLENE	1	0.3	0.3	U	0.3	U	UG
120-12-7	ANTHRACENE	1	0.4	0.4	U	0.4	U	UG
56-55-3	BENZO(A)ANTHRACENE	1	0.4	0.4	U	0.4	U	UG
50-32-8	BENZO(A)PYRENE	1	0.5	0.5	U	0.5	U	UG
205-99-2	BENZO(B)FLUORANTHENE	1	0.4	0.4	U	0.4	U	UG
192-97-2	BENZO(E)PYRENE	1	0.4	0.4	U	0.4	U	UG
191-24-2	BENZO(G,H,I)PERYLENE	1	0.5	0.5	U	0.5	U	UG
207-08-9	BENZO(K)FLUORANTHENE	1	0.4	0.4	U	0.4	U	UG
218-01-9	CHRYSENE	1	0.4	0.4	U	0.4	U	UG
53-70-3	DIBENZ(A,H)ANTHRACENE	1	0.4	0.4	U	0.4	U	UG
206-44-0	FLUORANTHENE	1	0.4	0.4	U	0.4	U	UG
86-73-7	FLUORENE	1	0.3	0.3	U	0.3	U	UG
193-39-5	INDENO-1,2,3-CD-PYRENE	1	0.5	0.5	U	0.5	U	UG
91-20-3	NAPHTHALENE	1	0.3	0.3	U	0.3	U	UG
85-01-8	PHENANTHRENE	1	0.3	0.3	U	0.3	U	UG
129-00-0	PYRENE	1	0.4	0.4	U	0.4	U	UG

DF = Dilution Factor RL = Reporting Limit
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Form 1 Data Sheet - Conventionals

CTEH

Houston Wood Preserving Works Site

SDG: L367100

COC Sample ID: **HOTX0212PM001** Sample Matrix : **Air**

Location ID: **NA**

Lab Sample ID: **L367100-1** Lab Code: **GALSON**

Sample Type: **Site Sample**

Parameter Name	Collection Date	Analysis Date	DF	RL	Lab Result	Lab Qualifier	Verified Result	Verified Qualifier	Units
Method: mod. EPA Method IP-10A; Gravimetric									
PARTICULATE MATTER/PM10	02/12/2016	02/16/2016 1:20	1	0.033	0.17		0.17		MG/M3
PARTICULATE MATTER/PM10	02/12/2016	02/16/2016 1:20	1	0.05	0.26		0.26		MG

DF = Dilution Factor RL = Reporting Limit

* = Modified by Validation

U = Non-Detect J = Estimated R = Rejected

Form 1 Data Sheet - Conventionals

CTEH

Houston Wood Preserving Works Site

SDG: L367100

COC Sample ID: **HOTX0212PM002** Sample Matrix : **Air**

Location ID: **NA**

Lab Sample ID: **L367100-2** Lab Code: **GALSON**

Sample Type: **Site Sample**

Parameter Name	Collection Date	Analysis Date	DF	RL	Lab Result	Lab Qualifier	Verified Result	Verified Qualifier	Units
Method: mod. EPA Method IP-10A; Gravimetric									
PARTICULATE MATTER/PM10	02/12/2016	02/16/2016 1:21	1	0.033	0.18		0.18		MG/M3
PARTICULATE MATTER/PM10	02/12/2016	02/16/2016 1:21	1	0.05	0.26		0.26		MG

DF = Dilution Factor RL = Reporting Limit

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Form 1 Data Sheet - Conventionals

CTEH

Houston Wood Preserving Works Site

SDG: L367100

COC Sample ID: **HOTX0212PM003** Sample Matrix : **Air**

Location ID: **NA**

Lab Sample ID: **L367100-3** Lab Code: **GALSON**

Sample Type: **Site Sample**

Parameter Name	Collection Date	Analysis Date	DF	RL	Lab Result	Lab Qualifier	Verified Result	Verified Qualifier	Units
Method: mod. EPA Method IP-10A; Gravimetric									
PARTICULATE MATTER/PM10	02/12/2016	02/16/2016 1:22	1	0.035	0.18		0.18		MG/M3
PARTICULATE MATTER/PM10	02/12/2016	02/16/2016 1:22	1	0.05	0.25		0.25		MG

DF = Dilution Factor RL = Reporting Limit

* = Modified by Validation

U = Non-Detect J = Estimated R = Rejected

Form 1 Data Sheet - Conventionals

CTEH

Houston Wood Preserving Works Site

SDG: L367100

COC Sample ID: **HOTX0212PM004** Sample Matrix : **Air**

Location ID: **NA**

Lab Sample ID: **L367100-7** Lab Code: **GALSON**

Sample Type: **Field Blank**

Parameter Name	Collection Date	Analysis Date	DF	RL	Lab Result	Lab Qualifier	Verified Result	Verified Qualifier	Units
Method: mod. EPA Method IP-10A; Gravimetric									
PARTICULATE MATTER/PM10	02/12/2016	02/16/2016 1:23	1	0.05	0.05	U	0.05	U	MG

DF = Dilution Factor RL = Reporting Limit

* = Modified by Validation

U = Non-Detect J = Estimated R = Rejected

Appendix II
Chain of Custody

5120 North Shore Drive
North Little Rock, AR 72118
Phone: (501) 801-8500
Fax: (501) 801-8501
Website: www.cteh.com

Center for Toxicology and Environmental Health L.L.C.

SAMPLE CHAIN OF CUSTODY AND ANALYSIS REQUEST FORM

R 11/4

	Send Report To:	Send Invoice To:
Name	CConnolly@Cteh.Com; mberg@Cteh.com	Accounts Payable
Company	CTEH	CTEH
Address	2000 Anders Lane Kemah, Texas 77565	5120 North Shore Drive North Little Rock, AR 72118
Phone	(281)535-2834	(501)801-8500
Fax	(281)535-0232	(501)801-8501
e-mail	labresults@cteh.com	lraccounting@cteh.com

CTEH Project #: 107907

Turnaround Requested:
Same Day __Next Day (24 hour) ___ Normal
X Other (Specify) 2 day (report results 2/16)

Complete Data Packet Requested ☒Yes ☐No

Lab Contact Information:
Galson Laboratories
6601 Kirkville Road
E. Syracuse, NY 13057

Client Sample Identification	Other Sample Identification	Sample Size	Units (Check one) X L ___ cm^2 ___	Sample Date	Sample Time (for non-air samples)	Initials	mod. EPA method IP-10A Pm10	NIOSH 5506 PNAH	Matrix A = air B = bulk S = soil SW = wipe T = tape W = water
HOTX0212PM0001	16-0030855	1529.42	L	02-12-16	576	RA			A
HOTX0212PM0002	16-0030854	1503.59	L	02-12-16	564	RA			A
HOTX0212PM0003	16-0030853	1445.6	L	02-12-16	542	RA			A
HOTX0212PNAH001	15-0034927	958.416	L	02-12-16	480	RA			A
HOTX0212PNAH002	15-8834926	955.824	L	02-12-16	480	RA			A
HOTX0212PNAH003	15-0034925	974.088	L	02-12-16	480	RA			A
HOTX0212PM0004		0	L	02-12-16	0	RA			A
HOTX0212PNAH004		0	L	02-12-16	0	RA			A

Rec'd intact & all accounted for? Yes or No SK
Rec'd w/custody seals intact? Yes or No NA
Rec'd in light sensitive packaging? Yes or No SK
Rec'd with ice pack? Yes or No SK
Rec'd temperature compliant? Yes or No SK

RELINQUISHED BY	DATE/TIME	RECEIVED BY	DATE/TIME	COMMENTS
[signature]	02/13/16/1000	FedEx	02/13/16/1000	**Samples Received in Light Sensitve Material: (Yes) or No**
		[signature]	2/15/16 0925	

Data Verification Report (Level 2)

Project: 107907 - Houston Wood Preserving Works Site

Client: CTEH

Report #: L367422 Date: February 23, 2016

Environmental Data Professional, LLC
1432 Watkins St.• Lake Charles, LA 70601 • phone: 337-540-0036 • fax: 337-478-6061

Disclaimer:

The review performed and reported herein is based on specifications and procedures presented to eDATApro with the associated data package. Any qualifications or review not specified with package requirements was based on USEPA National Functional Guidelines for Inorganic and Organic Data Review.

Information contained in this report is based solely on the hardcopy and/or electronic deliverables that were submitted to eDATApro. eDATApro reserves the rights to modify or change the report if new information is presented or if this report is determined to be inaccurate or incomplete.

The following parameters were reviewed during the verification process:

Chain-of-Custody (COC): Completeness and sample custody

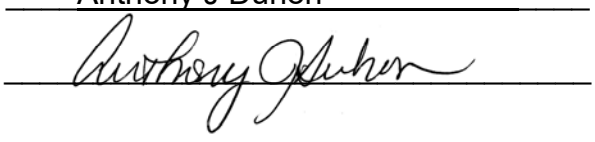
Holding time: Compare collection date versus preparation and/or analysis date

Blank Contamination: Laboratory and field blanks

Matrix/Precision/Recovery: Surrogates, Internal Standards, Duplicates, Blank spike and blank spike duplicate samples (when applicable)

Standards: Detection limit standard and continuing calibration verification (when applicable)

Reviewed by: Anthony J Duhon

Signature: 

INTRODUCTION:

Project Name: 107907 - Houston Wood Preserving Works Site
Laboratory: Galson Laboratories
Laboratory Package No.: L367422
Matrix: Air

Environmental Data Professional, LLC (eDATApro) received one electronic Level II data package containing the results for six field samples and two field blanks. Level II verification was performed on the data utilizing *USEPA National Functional Guidelines for Organic Data Review*, *USEPA National Functional Guidelines for Inorganic Data Review* and the analytical methods.

The following samples were reviewed:

Sample ID	Lab ID	Collection Date	Analyses
HOTX0216PNAH001	L367422-1	02/16/2016	[1]
HOTX0216PNAH002	L367422-2	02/16/2016	[1]
HOTX0216PNAH003	L367422-3	02/16/2016	[1]
HOTX0216PNAH004	L367422-4	02/16/2016	[1]
HOTX0216PM001	L367422-5	02/16/2016	[2]
HOTX0216PM002	L367422-6	02/16/2016	[2]
HOTX0216PM003	L367422-7	02/16/2016	[2]
HOTX0216PM004	L367422-8	02/16/2016	[2]

Analyses Performed Codes:

[1] Semivolatile Organics; PAHs (mod. NIOSH 5506; HPLC/UV)
[2] Particulate Matter; PM10 (mod. EPA Method IP-10A; Gravimetric)

DATA REVIEW FINDINGS SUMMARY

I. General Package:

The data package was complete and no resubmissions were requested.

II. Semivolatile Organics; PAHs – mod. NIOSH 5506; HPLC/UV:

The laboratory reported the results in both ug and mg/m3 units.

Fluoranthene was present in method blank sample WG339330-2. This analyte was not detected in the associated field samples. No data qualifications were necessary.

Recoveries of Anthracene in the continuing calibration verification (CCV) standards bracketing the analyses of samples from this SDG exceeded upper acceptance criteria. This analyte was not detected in the field samples. No data qualifications were necessary.

All other quality assurance and quality control (QA/QC) components presented by the laboratory satisfied method and data review acceptance criteria.

III. Particulate Matter; PM10 – mod. EPA Method IP-10A; Gravimetric:

The laboratory reported the results in both mg and mg/m3 units.

The laboratory noted for samples HOTX0216PM001, HOTX0216PM002 and HOTX0216PM003, “Filter(s) received torn at the laboratory, results may be biased low.” Verification of this information is outside the scope of Level II data review. No data qualifications were applied based on these comments.

All quality assurance and quality control (QA/QC) components presented by the laboratory satisfied method and data review acceptance criteria; therefore, no data qualifications were necessary.

Appendix I
Form 1 Data (Qualified)

Form 1 Data Sheet - Semivolatiles

CTEH

Houston Wood Preserving Works Site

SDG: L367422

COC Sample ID: **HOTX0216PNAH001** | Sample Matrix : **Air** | Total/Dissolved: **T**

Location ID: **NA** | Sample Date: **02/16/2016** | Lab: **SGS-GALSON**

Lab Sample ID: **L367422-1** | Analysis Date: **02/18/2016 4:30**

Sample Type: **Site Sample**

Method: **mod. NIOSH 5506; HPLC/UV**

CAS	Parameter Name	DF	RL	Lab Result	Lab Qualifier	Verified Result	Verified Qualifier	Units
5522-43-0	1-NITROPYRENE	1	0.4	0.4	U	0.4	U	UG
5522-43-0	1-NITROPYRENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
83-32-9	ACENAPHTHENE	1	0.3	0.3	U	0.3	U	UG
83-32-9	ACENAPHTHENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
208-96-8	ACENAPHTHYLENE	1	0.3	0.3	U	0.3	U	UG
208-96-8	ACENAPHTHYLENE	1	0.0003	0.0003	U	0.0003	U	MG/M3
120-12-7	ANTHRACENE	1	0.4	0.4	U	0.4	U	UG
120-12-7	ANTHRACENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
56-55-3	BENZO(A)ANTHRACENE	1	0.4	0.4	U	0.4	U	UG
56-55-3	BENZO(A)ANTHRACENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
50-32-8	BENZO(A)PYRENE	1	0.5	0.5	U	0.5	U	UG
50-32-8	BENZO(A)PYRENE	1	0.0005	0.0005	U	0.0005	U	MG/M3
205-99-2	BENZO(B)FLUORANTHENE	1	0.4	0.4	U	0.4	U	UG
205-99-2	BENZO(B)FLUORANTHENE	1	0.0005	0.0005	U	0.0005	U	MG/M3
192-97-2	BENZO(E)PYRENE	1	0.4	0.4	U	0.4	U	UG
192-97-2	BENZO(E)PYRENE	1	0.0005	0.0005	U	0.0005	U	MG/M3
191-24-2	BENZO(G,H,I)PERYLENE	1	0.5	0.5	U	0.5	U	UG
191-24-2	BENZO(G,H,I)PERYLENE	1	0.0006	0.0006	U	0.0006	U	MG/M3
207-08-9	BENZO(K)FLUORANTHENE	1	0.4	0.4	U	0.4	U	UG
207-08-9	BENZO(K)FLUORANTHENE	1	0.0005	0.0005	U	0.0005	U	MG/M3
218-01-9	CHRYSENE	1	0.4	0.4	U	0.4	U	UG
218-01-9	CHRYSENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
53-70-3	DIBENZ(A,H)ANTHRACENE	1	0.4	0.4	U	0.4	U	UG
53-70-3	DIBENZ(A,H)ANTHRACENE	1	0.0005	0.0005	U	0.0005	U	MG/M3
206-44-0	FLUORANTHENE	1	0.4	0.4	U	0.4	U	UG
206-44-0	FLUORANTHENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
86-73-7	FLUORENE	1	0.3	0.3	U	0.3	U	UG
86-73-7	FLUORENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
193-39-5	INDENO-1,2,3-CD-PYRENE	1	0.5	0.5	U	0.5	U	UG
193-39-5	INDENO-1,2,3-CD-PYRENE	1	0.0005	0.0005	U	0.0005	U	MG/M3
91-20-3	NAPHTHALENE	1	0.3	0.3	U	0.3	U	UG
91-20-3	NAPHTHALENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
85-01-8	PHENANTHRENE	1	0.3	0.3	U	0.3	U	UG
85-01-8	PHENANTHRENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
129-00-0	PYRENE	1	0.4	0.4	U	0.4	U	UG
129-00-0	PYRENE	1	0.0004	0.0004	U	0.0004	U	MG/M3

DF = Dilution Factor RL = Reporting Limit

* = Modified by Validation

U = Non-Detect J = Estimated R = Rejected

Form 1 Data Sheet - Semivolatiles

CTEH

Houston Wood Preserving Works Site

SDG: L367422

COC Sample ID: **HOTX0216PNAH002** | Sample Matrix : **Air** | Total/Dissolved: **T**

Location ID: **NA** | Sample Date: **02/16/2016** | Lab: **SGS-GALSON**

Lab Sample ID: **L367422-2** | Analysis Date: **02/18/2016 6:10**

Sample Type: **Site Sample**

Method: **mod. NIOSH 5506; HPLC/UV**

CAS	Parameter Name	DF	RL	Lab Result	Lab Qualifier	Verified Result	Verified Qualifier	Units
5522-43-0	1-NITROPYRENE	1	0.4	0.4	U	0.4	U	UG
5522-43-0	1-NITROPYRENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
83-32-9	ACENAPHTHENE	1	0.3	0.3	U	0.3	U	UG
83-32-9	ACENAPHTHENE	1	0.0003	0.0003	U	0.0003	U	MG/M3
208-96-8	ACENAPHTHYLENE	1	0.3	0.3	U	0.3	U	UG
208-96-8	ACENAPHTHYLENE	1	0.0003	0.0003	U	0.0003	U	MG/M3
120-12-7	ANTHRACENE	1	0.4	0.4	U	0.4	U	UG
120-12-7	ANTHRACENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
56-55-3	BENZO(A)ANTHRACENE	1	0.4	0.4	U	0.4	U	UG
56-55-3	BENZO(A)ANTHRACENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
50-32-8	BENZO(A)PYRENE	1	0.5	0.5	U	0.5	U	UG
50-32-8	BENZO(A)PYRENE	1	0.0005	0.0005	U	0.0005	U	MG/M3
205-99-2	BENZO(B)FLUORANTHENE	1	0.4	0.4	U	0.4	U	UG
205-99-2	BENZO(B)FLUORANTHENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
192-97-2	BENZO(E)PYRENE	1	0.4	0.4	U	0.4	U	UG
192-97-2	BENZO(E)PYRENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
191-24-2	BENZO(G,H,I)PERYLENE	1	0.5	0.5	U	0.5	U	UG
191-24-2	BENZO(G,H,I)PERYLENE	1	0.0005	0.0005	U	0.0005	U	MG/M3
207-08-9	BENZO(K)FLUORANTHENE	1	0.4	0.4	U	0.4	U	UG
207-08-9	BENZO(K)FLUORANTHENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
218-01-9	CHRYSENE	1	0.4	0.4	U	0.4	U	UG
218-01-9	CHRYSENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
53-70-3	DIBENZ(A,H)ANTHRACENE	1	0.4	0.4	U	0.4	U	UG
53-70-3	DIBENZ(A,H)ANTHRACENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
206-44-0	FLUORANTHENE	1	0.4	0.4	U	0.4	U	UG
206-44-0	FLUORANTHENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
86-73-7	FLUORENE	1	0.3	0.3	U	0.3	U	UG
86-73-7	FLUORENE	1	0.0003	0.0003	U	0.0003	U	MG/M3
193-39-5	INDENO-1,2,3-CD-PYRENE	1	0.5	0.5	U	0.5	U	UG
193-39-5	INDENO-1,2,3-CD-PYRENE	1	0.0005	0.0005	U	0.0005	U	MG/M3
91-20-3	NAPHTHALENE	1	0.3	0.3	U	0.3	U	UG
91-20-3	NAPHTHALENE	1	0.0003	0.0003	U	0.0003	U	MG/M3
85-01-8	PHENANTHRENE	1	0.3	0.3	U	0.3	U	UG
85-01-8	PHENANTHRENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
129-00-0	PYRENE	1	0.4	0.4	U	0.4	U	UG
129-00-0	PYRENE	1	0.0004	0.0004	U	0.0004	U	MG/M3

DF = Dilution Factor RL = Reporting Limit

* = Modified by Validation

U = Non-Detect J = Estimated R = Rejected

Form 1 Data Sheet - Semivolatiles

CTEH

Houston Wood Preserving Works Site

SDG: L367422

COC Sample ID: **HOTX0216PNAH003** Sample Matrix : **Air** Total/Dissolved: **T**

Location ID: **NA** Sample Date: **02/16/2016** Lab: **SGS-GALSON**

Lab Sample ID: **L367422-3** Analysis Date: **02/18/2016 7:10**

Sample Type: **Site Sample**

Method: **mod. NIOSH 5506; HPLC/UV**

CAS	Parameter Name	DF	RL	Lab Result	Lab Qualifier	Verified Result	Verified Qualifier	Units
5522-43-0	1-NITROPYRENE	1	0.4	0.4	U	0.4	U	UG
5522-43-0	1-NITROPYRENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
83-32-9	ACENAPHTHENE	1	0.3	0.3	U	0.3	U	UG
83-32-9	ACENAPHTHENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
208-96-8	ACENAPHTHYLENE	1	0.3	0.3	U	0.3	U	UG
208-96-8	ACENAPHTHYLENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
120-12-7	ANTHRACENE	1	0.4	0.4	U	0.4	U	UG
120-12-7	ANTHRACENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
56-55-3	BENZO(A)ANTHRACENE	1	0.4	0.4	U	0.4	U	UG
56-55-3	BENZO(A)ANTHRACENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
50-32-8	BENZO(A)PYRENE	1	0.5	0.5	U	0.5	U	UG
50-32-8	BENZO(A)PYRENE	1	0.0005	0.0005	U	0.0005	U	MG/M3
205-99-2	BENZO(B)FLUORANTHENE	1	0.4	0.4	U	0.4	U	UG
205-99-2	BENZO(B)FLUORANTHENE	1	0.0005	0.0005	U	0.0005	U	MG/M3
192-97-2	BENZO(E)PYRENE	1	0.4	0.4	U	0.4	U	UG
192-97-2	BENZO(E)PYRENE	1	0.0005	0.0005	U	0.0005	U	MG/M3
191-24-2	BENZO(G,H,I)PERYLENE	1	0.5	0.5	U	0.5	U	UG
191-24-2	BENZO(G,H,I)PERYLENE	1	0.0006	0.0006	U	0.0006	U	MG/M3
207-08-9	BENZO(K)FLUORANTHENE	1	0.4	0.4	U	0.4	U	UG
207-08-9	BENZO(K)FLUORANTHENE	1	0.0005	0.0005	U	0.0005	U	MG/M3
218-01-9	CHRYSENE	1	0.4	0.4	U	0.4	U	UG
218-01-9	CHRYSENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
53-70-3	DIBENZ(A,H)ANTHRACENE	1	0.4	0.4	U	0.4	U	UG
53-70-3	DIBENZ(A,H)ANTHRACENE	1	0.0005	0.0005	U	0.0005	U	MG/M3
206-44-0	FLUORANTHENE	1	0.4	0.4	U	0.4	U	UG
206-44-0	FLUORANTHENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
86-73-7	FLUORENE	1	0.3	0.3	U	0.3	U	UG
86-73-7	FLUORENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
193-39-5	INDENO-1,2,3-CD-PYRENE	1	0.5	0.5	U	0.5	U	UG
193-39-5	INDENO-1,2,3-CD-PYRENE	1	0.0005	0.0005	U	0.0005	U	MG/M3
91-20-3	NAPHTHALENE	1	0.3	0.3	U	0.3	U	UG
91-20-3	NAPHTHALENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
85-01-8	PHENANTHRENE	1	0.3	0.3	U	0.3	U	UG
85-01-8	PHENANTHRENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
129-00-0	PYRENE	1	0.4	0.4	U	0.4	U	UG
129-00-0	PYRENE	1	0.0004	0.0004	U	0.0004	U	MG/M3

DF = Dilution Factor RL = Reporting Limit

* = Modified by Validation

U = Non-Detect J = Estimated R = Rejected

Form 1 Data Sheet - Semivolatiles

CTEH

Houston Wood Preserving Works Site

SDG: L367422

COC Sample ID: **HOTX0216PNAH004** | Sample Matrix : **Air** | Total/Dissolved: **T**

Location ID: **NA** | Sample Date: **02/16/2016** | Lab: **SGS-GALSON**

Lab Sample ID: **L367422-4** | Analysis Date: **02/18/2016 8:10**

Sample Type: **Field Blank**

Method: **mod. NIOSH 5506; HPLC/UV**

CAS	Parameter Name	DF	RL	Lab Result	Lab Qualifier	Verified Result	Verified Qualifier	Units
5522-43-0	1-NITROPYRENE	1	0.4	0.4	U	0.4	U	UG
83-32-9	ACENAPHTHENE	1	0.3	0.3	U	0.3	U	UG
208-96-8	ACENAPHTHYLENE	1	0.3	0.3	U	0.3	U	UG
120-12-7	ANTHRACENE	1	0.4	0.4	U	0.4	U	UG
56-55-3	BENZO(A)ANTHRACENE	1	0.4	0.4	U	0.4	U	UG
50-32-8	BENZO(A)PYRENE	1	0.5	0.5	U	0.5	U	UG
205-99-2	BENZO(B)FLUORANTHENE	1	0.4	0.4	U	0.4	U	UG
192-97-2	BENZO(E)PYRENE	1	0.4	0.4	U	0.4	U	UG
191-24-2	BENZO(G,H,I)PERYLENE	1	0.5	0.5	U	0.5	U	UG
207-08-9	BENZO(K)FLUORANTHENE	1	0.4	0.4	U	0.4	U	UG
218-01-9	CHRYSENE	1	0.4	0.4	U	0.4	U	UG
53-70-3	DIBENZ(A,H)ANTHRACENE	1	0.4	0.4	U	0.4	U	UG
206-44-0	FLUORANTHENE	1	0.4	0.4	U	0.4	U	UG
86-73-7	FLUORENE	1	0.3	0.3	U	0.3	U	UG
193-39-5	INDENO-1,2,3-CD-PYRENE	1	0.5	0.5	U	0.5	U	UG
91-20-3	NAPHTHALENE	1	0.3	0.3	U	0.3	U	UG
85-01-8	PHENANTHRENE	1	0.3	0.3	U	0.3	U	UG
129-00-0	PYRENE	1	0.4	0.4	U	0.4	U	UG

DF = Dilution Factor RL = Reporting Limit

* = Modified by Validation

U = Non-Detect J = Estimated R = Rejected

eDATApro ENVIRONMENTAL DATA PROFESSIONAL, LLC

Form 1 Data Sheet - Conventionals

CTEH

Houston Wood Preserving Works Site

SDG: L367422

COC Sample ID: **HOTX0216PM001** Sample Matrix : **Air**

Location ID: **NA**

Lab Sample ID: **L367422-5** Lab Code: **GALSON**

Sample Type: **Site Sample**

Parameter Name	Collection Date	Analysis Date	DF	RL	Lab Result	Lab Qualifier	Verified Result	Verified Qualifier	Units
Method: mod. EPA Method IP-10A; Gravimetric									
PARTICULATE MATTER/PM10	02/16/2016	02/19/2016 11:03	1	0.041	0.16		0.16		MG/M3
PARTICULATE MATTER/PM10	02/16/2016	02/19/2016 11:03	1	0.05	0.2		0.2		MG

DF = Dilution Factor RL = Reporting Limit

* = Modified by Validation

U = Non-Detect J = Estimated R = Rejected

Form 1 Data Sheet - Conventionals

CTEH

Houston Wood Preserving Works Site

SDG: L367422

COC Sample ID: **HOTX0216PM002** Sample Matrix : **Air**

Location ID: **NA**

Lab Sample ID: **L367422-6** Lab Code: **GALSON**

Sample Type: **Site Sample**

Parameter Name	Collection Date	Analysis Date	DF	RL	Lab Result	Lab Qualifier	Verified Result	Verified Qualifier	Units
Method: mod. EPA Method IP-10A; Gravimetric									
PARTICULATE MATTER/PM10	02/16/2016	02/19/2016 11:04	1	0.044	0.23		0.23		MG/M3
PARTICULATE MATTER/PM10	02/16/2016	02/19/2016 11:04	1	0.05	0.26		0.26		MG

DF = Dilution Factor RL = Reporting Limit

* = Modified by Validation

U = Non-Detect J = Estimated R = Rejected

Form 1 Data Sheet - Conventionals

CTEH

Houston Wood Preserving Works Site

SDG: L367422

COC Sample ID: **HOTX0216PM003** Sample Matrix : **Air**

Location ID: **NA**

Lab Sample ID: **L367422-7** Lab Code: **GALSON**

Sample Type: **Site Sample**

Parameter Name	Collection Date	Analysis Date	DF	RL	Lab Result	Lab Qualifier	Verified Result	Verified Qualifier	Units
Method: mod. EPA Method IP-10A; Gravimetric									
PARTICULATE MATTER/PM10	02/16/2016	02/19/2016 11:05	1	0.057	0.096		0.096		MG/M3
PARTICULATE MATTER/PM10	02/16/2016	02/19/2016 11:05	1	0.05	0.084		0.084		MG

DF = Dilution Factor RL = Reporting Limit

* = Modified by Validation

U = Non-Detect J = Estimated R = Rejected

Form 1 Data Sheet - Conventionals

CTEH

Houston Wood Preserving Works Site

SDG: L367422

COC Sample ID: **HOTX0216PM004** Sample Matrix : **Air**

Location ID: **NA**

Lab Sample ID: **L367422-8** Lab Code: **GALSON**

Sample Type: **Field Blank**

Parameter Name	Collection Date	Analysis Date	DF	RL	Lab Result	Lab Qualifier	Verified Result	Verified Qualifier	Units
Method: mod. EPA Method IP-10A; Gravimetric									
PARTICULATE MATTER/PM10	02/16/2016	02/19/2016 11:09	1	0.05	0.05	U	0.05	U	MG

DF = Dilution Factor RL = Reporting Limit

* = Modified by Validation

U = Non-Detect J = Estimated R = Rejected

Appendix II
Chain of Custody

RS1

5120 North Shore Drive
North Little Rock, AR 72118
Phone: (501) 801-8500
Fax: (501) 801-8501
Website: www.cteh.com

Center for Toxicology and Environmental Health L.L.C.

SAMPLE CHAIN OF CUSTODY AND ANALYSIS REQUEST FORM

Page 1 of 1

	Send Report To:	Send Invoice To:
Name		Accounts Payable
Company	CTEH	CTEH
Address	2000 Anders Lane Kemah, Texas 77565	5120 North Shore Drive North Little Rock, AR 72118
Phone	(281)535-2834	(501)801-8500
Fax	(281)535-0232	(501)801-8501
e-mail	labresults@cteh.com	lraccounting@cteh.com

CTEH Project #: 107907

Turnaround Requested:
Same Day __Next Day (24 hour) ___ N
X Other (Specify) 2 day

Complete Data Packet Requested ☒Yes ☐No

775665035290
Date: 02/18/16
Shipper: FEDEX
Initials:
Prep: UNKNOWN

Lab Contact Information:
Galson Laboratories
6601 Kirkville Road
E. Syracuse, NY 13057

Client Sample Identification	Other Sample Identification	Sample Size	Units (Check one) X L ___cm²	Sample Date	Sample Time (for non-air samples)	Initials	NIOSH 5506 PNAH	mod. EPA IP-10A PM10	Matrix A = air B = bulk S = soil SW = wipe T = tape W = water
HOTX0216PNAH001	16-0037358	911.59	L	02-16-16	~~480~~ cc	RA	X		A
HOTX0216PNAH002	16-0037350	990.81	L	02-16-16	~~480~~ cc	RA	X		A
HOTX0216PNAH003	16-0037338	874.15	L	02-16-16	~~480~~ cc	RA	X		A
HOTX0216PNAH004	16-0037344	0	L	02-16-16	0	RA	X		A
HOTX0216PM001	16-0030840	1231.96	L	02-16-16	~~594~~ cc	RA		X	A
HOTX0216PM002	16-0030839	1132.46	L	02-16-16	~~565~~ cc	RA		X	A
HOTX0216PM003	16-0030838	873.82	L	02-16-16	~~494~~ cc	RA		X	A
HOTX0216PM004	16-0030837	0	L	02-16-16	0	RA		X	A

RELINQUISHED BY	DATE/TIME	RECEIVED BY	DATE/TIME
	2/17/16 1400	FedEx	
		Zach King	2/18/16 9:18

Rec'd intact & all accounted for? Yes or No ZK
Rec'd w/custody seals intact? Yes or No N/A ZK
Rec'd in light sensitive packaging? Yes or No ZK
Rec'd with ice pack? Yes or No N/A ZK
Rec'd temperature compliant? Yes or No N/A ZK

Data Verification Report (Level 2)

Project: 107907 - Houston Wood Preserving Works Site

Client: CTEH

Report #: L367643 Date: February 23, 2016

Environmental Data Professional, LLC
1432 Watkins St.• Lake Charles, LA 70601 • phone: 337-540-0036 • fax: 337-478-6061

Disclaimer:

The review performed and reported herein is based on specifications and procedures presented to eDATApro with the associated data package. Any qualifications or review not specified with package requirements was based on USEPA National Functional Guidelines for Inorganic and Organic Data Review.

Information contained in this report is based solely on the hardcopy and/or electronic deliverables that were submitted to eDATApro. eDATApro reserves the rights to modify or change the report if new information is presented or if this report is determined to be inaccurate or incomplete.

The following parameters were reviewed during the verification process:

Chain-of-Custody (COC): Completeness and sample custody

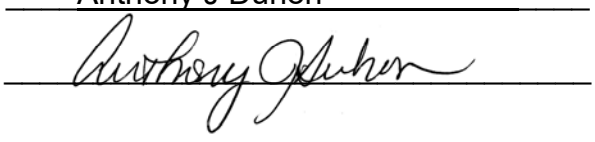
Holding time: Compare collection date versus preparation and/or analysis date

Blank Contamination: Laboratory and field blanks

Matrix/Precision/Recovery: Surrogates, Internal Standards, Duplicates, Blank spike and blank spike duplicate samples (when applicable)

Standards: Detection limit standard and continuing calibration verification (when applicable)

Reviewed by: Anthony J Duhon

Signature: 

INTRODUCTION:

Project Name: 107907 - Houston Wood Preserving Works Site
Laboratory: Galson Laboratories
Laboratory Package No.: L367643
Matrix: Air

Environmental Data Professional, LLC (eDATApro) received one electronic Level II data package containing the results for three field samples and one field blank. Level II verification was performed on the data utilizing *USEPA National Functional Guidelines for Inorganic Data Review* and the analytical method.

The following samples were reviewed:

Sample ID	Lab ID	Collection Date	Analyses
HOTX0218TD001	L367643-1	02/18/2016	[1]
HOTX0218TD002	L367643-2	02/18/2016	[1]
HOTX0218TD003	L367643-3	02/18/2016	[1]
HOTX0218TD004	L367643-4	02/18/2016	[1]

Analyses Performed Codes:

[1] Total Dust (mod. NIOSH 0500; Gravimetric)

DATA REVIEW FINDINGS SUMMARY

I. General Package:

The data package was complete and no resubmissions were requested.

II. Total Dust - mod. NIOSH 0500; Gravimetric:

The laboratory reported the results in both mg and mg/m3.

All quality assurance and quality control (QA/QC) components presented by the laboratory satisfied method and data review acceptance criteria; therefore, no data qualifications were necessary.

Appendix I
Form 1 Data (Qualified)

Form 1 Data Sheet - Conventionals

CTEH

Houston Wood Preserving Works Site

SDG: L367643

COC Sample ID: **HOTX0218TD001** Sample Matrix : **Air**

Location ID: **NA**

Lab Sample ID: **L367643-1** Lab Code: **GALSON**

Sample Type: **Site Sample**

Parameter Name	Collection Date	Analysis Date	DF	RL	Lab Result	Lab Qualifier	Verified Result	Verified Qualifier	Units
Method: mod. NIOSH 0500; Gravimetric									
TOTAL DUST	02/18/2016	02/22/2016 9:10	1	0.048	0.25		0.25		MG/M3
TOTAL DUST	02/18/2016	02/22/2016 9:10	1	0.05	0.26		0.26		MG

DF = Dilution Factor RL = Reporting Limit

* = Modified by Validation

U = Non-Detect J = Estimated R = Rejected

eDATApro

Form 1 Data Sheet - Conventionals

CTEH

Houston Wood Preserving Works Site

SDG: L367643

COC Sample ID: **HOTX0218TD002** Sample Matrix : **Air**

Location ID: **NA**

Lab Sample ID: **L367643-2** Lab Code: **GALSON**

Sample Type: **Site Sample**

Parameter Name	Collection Date	Analysis Date	DF	RL	Lab Result	Lab Qualifier	Verified Result	Verified Qualifier	Units
Method: mod. NIOSH 0500; Gravimetric									
TOTAL DUST	02/18/2016	02/22/2016 9:12	1	0.049	0.049	U	0.049	U	MG/M3
TOTAL DUST	02/18/2016	02/22/2016 9:12	1	0.05	0.05	U	0.05	U	MG

DF = Dilution Factor RL = Reporting Limit

* = Modified by Validation

U = Non-Detect J = Estimated R = Rejected

eDATApro

Form 1 Data Sheet - Conventionals

CTEH

Houston Wood Preserving Works Site

SDG: L367643

COC Sample ID: **HOTX0218TD003** Sample Matrix : **Air**

Location ID: **NA**

Lab Sample ID: **L367643-3** Lab Code: **GALSON**

Sample Type: **Site Sample**

Parameter Name	Collection Date	Analysis Date	DF	RL	Lab Result	Lab Qualifier	Verified Result	Verified Qualifier	Units
Method: mod. NIOSH 0500; Gravimetric									
TOTAL DUST	02/18/2016	02/22/2016 9:19	1	0.05	0.063		0.063		MG/M3
TOTAL DUST	02/18/2016	02/22/2016 9:19	1	0.05	0.063		0.063		MG

DF = Dilution Factor RL = Reporting Limit

* = Modified by Validation

U = Non-Detect J = Estimated R = Rejected

eDATApro

Form 1 Data Sheet - Conventionals

CTEH

Houston Wood Preserving Works Site

SDG: L367643

COC Sample ID: **HOTX0218TD004** Sample Matrix : **Air**

Location ID: **NA**

Lab Sample ID: **L367643-4** Lab Code: **GALSON**

Sample Type: **Field Blank**

Parameter Name	Collection Date	Analysis Date	DF	RL	Lab Result	Lab Qualifier	Verified Result	Verified Qualifier	Units
Method: mod. NIOSH 0500; Gravimetric									
TOTAL DUST	02/18/2016	02/22/2016 9:19	1	0.05	0.05	U	0.05	U	MG

DF = Dilution Factor RL = Reporting Limit

* = Modified by Validation

U = Non-Detect J = Estimated R = Rejected

eDATApro

Appendix II
Chain of Custody

L3e7643

R135

5120 North Shore Drive
North Little Rock, AR 72118
Phone: (501) 801-8500
Fax: (501) 801-8501
Website: www.cteh.com

Center for Toxicology and Environmental Health L.L.C.

SAMPLE CHAIN OF CUSTODY AND ANALYSIS REQUEST FORM

Page ___ of ___

	Send Report To:	Send Invoice To:
Name	M. Berg C. Connelly	Accounts Payable
Company	CTEH	CTEH
Address	2000 Anders Lane Kemah, Texas 77565	5120 North Shore Drive North Little Rock, AR 72118
Phone	(281)535-2834	(501)801-8500
Fax	(281)535-0232	(501)801-8501
e-mail	labresults@cteh.com MBerg@cteh.com CConnelly@cteh.com	draccounting@cteh.com

CTEH Project #: 107907

Turnaround Requested:
Same Day ___Next Day (24 hour) ___ Normal
___Other (Specify) 2 day TAT

Complete Data Packet Requested ☐Yes ☒No

Lab Contact Information:
Galson Laboratories
6601 Kirkville Road
E. Syracuse, NY 13057

Client Sample Identification	Other Sample Identification	Sample Size	Units (Check one) X L ___ cm^2	Sample Date	Sample Time (for non-air samples)	Initials	Total Dust NIOSH 0500	Matrix A = air, B = bulk, S = soil, SW = wipe, T = tape, W = water
HOTX0218TD001	AS08	1036.0	L	02-18-16		AS	X	A
HOTX0218TD002	AS09	1027.8	L	02-18-16		AS	X	A
HOTX0218TD003	AS05	1002.8	L	02-18-16		AS	X	A
HOTX0218TD004	Blank	0	L	02-18-16		AS	X	A

806684141171
Date: 02/20/16
Shipper: FEDEX
Initials: GMB
Prep: UNKNOWN

Rec'd intact & all accounted for? (Yes) or No GS
Rec'd w/custody seals intact? (Yes) or No GS
Rec'd in light sensitive packaging? Yes or (No) NA
Rec'd with ice pack? Yes or (No) NA
Rec'd temperature compliant? (Yes) or No GS

RELINQUISHED BY	DATE/TIME	RECEIVED BY	DATE/TIME	COMMENTS
A. Sanpon	2-19-16	FedEx	2/19/16	
		Gretchen B. GS	2/20/16 930	

Data Verification Report (Level 2)

Project: 107907 - Houston Wood Preserving Works Site

Client: CTEH

Report #: L367526 Date: February 24, 2016

Environmental Data Professional, LLC
1432 Watkins St.• Lake Charles, LA 70601 • phone: 337-540-0036 • fax: 337-478-6061

Disclaimer:

The review performed and reported herein is based on specifications and procedures presented to eDATApro with the associated data package. Any qualifications or review not specified with package requirements was based on USEPA National Functional Guidelines for Inorganic and Organic Data Review.

Information contained in this report is based solely on the hardcopy and/or electronic deliverables that were submitted to eDATApro. eDATApro reserves the rights to modify or change the report if new information is presented or if this report is determined to be inaccurate or incomplete.

The following parameters were reviewed during the verification process:

Chain-of-Custody (COC): Completeness and sample custody

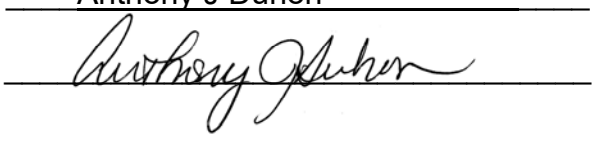
Holding time: Compare collection date versus preparation and/or analysis date

Blank Contamination: Laboratory and field blanks

Matrix/Precision/Recovery: Surrogates, Internal Standards, Duplicates, Blank spike and blank spike duplicate samples (when applicable)

Standards: Detection limit standard and continuing calibration verification (when applicable)

Reviewed by: Anthony J Duhon

Signature: 

INTRODUCTION:

Project Name: 107907 - Houston Wood Preserving Works Site
Laboratory: Galson Laboratories
Laboratory Package No.: L367526
Matrix: Air

Environmental Data Professional, LLC (eDATApro) received one electronic Level II data package containing the results for six field samples and two field blanks. Level II verification was performed on the data utilizing *USEPA National Functional Guidelines for Organic Data Review*, *USEPA National Functional Guidelines for Inorganic Data Review* and the analytical methods.

The following samples were reviewed:

Sample ID	Lab ID	Collection Date	Analyses
HOTX0217PNAH001	L367526-1	02/17/2016	[1]
HOTX0217PNAH002	L367526-2	02/17/2016	[1]
HOTX0217PNAH003	L367526-3	02/17/2016	[1]
HOTX0217PNAH004	L367526-4	02/17/2016	[1]
HOTX0217PM001	L367526-5	02/17/2016	[2]
HOTX0217PM002	L367526-6	02/17/2016	[2]
HOTX0217PM003	L367526-7	02/17/2016	[2]
HOTX0217PM004	L367526-8	02/17/2016	[2]

Analyses Performed Codes:

[1] Semivolatile Organics; PAHs (mod. NIOSH 5506; HPLC/UV)
[2] Particulate Matter; PM10 (mod. EPA Method IP-10A; Gravimetric)

DATA REVIEW FINDINGS SUMMARY

I. General Package:

The data package was complete and no resubmissions were requested.

II. Semivolatile Organics; PAHs – mod. NIOSH 5506; HPLC/UV:

The laboratory reported the results in both ug and mg/m3 units.

Fluoranthene was present in method blank sample WG339330-2. This analyte was not detected in the associated field samples. No data qualifications were necessary.

Recoveries of Anthracene in the continuing calibration verification (CCV) standards bracketing the analyses of samples from this SDG exceeded upper acceptance criteria. This analyte was not detected in the field samples. No data qualifications were necessary.

All other quality assurance and quality control (QA/QC) components presented by the laboratory satisfied method and data review acceptance criteria.

III. Particulate Matter; PM10 – mod. EPA Method IP-10A; Gravimetric:

The laboratory reported the results in both mg and mg/m3 units.

All quality assurance and quality control (QA/QC) components presented by the laboratory satisfied method and data review acceptance criteria; therefore, no data qualifications were necessary.

Appendix I
Form 1 Data (Qualified)

Form 1 Data Sheet - Semivolatiles

CTEH

Houston Wood Preserving Works Site

SDG: L367526

COC Sample ID: **HOTX0217PNAH001** | Sample Matrix : **Air** | Total/Dissolved: **T**

Location ID: **NA** | Sample Date: **02/17/2016** | Lab: **SGS-GALSON**

Lab Sample ID: **L367526-1** | Analysis Date: **02/19/2016 8:50**

Sample Type: **Site Sample**

Method: **mod. NIOSH 5506; HPLC/UV**

CAS	Parameter Name	DF	RL	Lab Result	Lab Qualifier	Verified Result	Verified Qualifier	Units
5522-43-0	1-NITROPYRENE	1	0.4	0.4	U	0.4	U	UG
5522-43-0	1-NITROPYRENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
83-32-9	ACENAPHTHENE	1	0.3	0.3	U	0.3	U	UG
83-32-9	ACENAPHTHENE	1	0.0003	0.0003	U	0.0003	U	MG/M3
208-96-8	ACENAPHTHYLENE	1	0.3	0.3	U	0.3	U	UG
208-96-8	ACENAPHTHYLENE	1	0.0003	0.0003	U	0.0003	U	MG/M3
120-12-7	ANTHRACENE	1	0.4	0.4	U	0.4	U	UG
120-12-7	ANTHRACENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
56-55-3	BENZO(A)ANTHRACENE	1	0.4	0.4	U	0.4	U	UG
56-55-3	BENZO(A)ANTHRACENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
50-32-8	BENZO(A)PYRENE	1	0.5	0.5	U	0.5	U	UG
50-32-8	BENZO(A)PYRENE	1	0.0005	0.0005	U	0.0005	U	MG/M3
205-99-2	BENZO(B)FLUORANTHENE	1	0.4	0.4	U	0.4	U	UG
205-99-2	BENZO(B)FLUORANTHENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
192-97-2	BENZO(E)PYRENE	1	0.4	0.4	U	0.4	U	UG
192-97-2	BENZO(E)PYRENE	1	0.0005	0.0005	U	0.0005	U	MG/M3
191-24-2	BENZO(G,H,I)PERYLENE	1	0.5	0.5	U	0.5	U	UG
191-24-2	BENZO(G,H,I)PERYLENE	1	0.0005	0.0005	U	0.0005	U	MG/M3
207-08-9	BENZO(K)FLUORANTHENE	1	0.4	0.4	U	0.4	U	UG
207-08-9	BENZO(K)FLUORANTHENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
218-01-9	CHRYSENE	1	0.4	0.4	U	0.4	U	UG
218-01-9	CHRYSENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
53-70-3	DIBENZ(A,H)ANTHRACENE	1	0.4	0.4	U	0.4	U	UG
53-70-3	DIBENZ(A,H)ANTHRACENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
206-44-0	FLUORANTHENE	1	0.4	0.4	U	0.4	U	UG
206-44-0	FLUORANTHENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
86-73-7	FLUORENE	1	0.3	0.3	U	0.3	U	UG
86-73-7	FLUORENE	1	0.0003	0.0003	U	0.0003	U	MG/M3
193-39-5	INDENO-1,2,3-CD-PYRENE	1	0.5	0.5	U	0.5	U	UG
193-39-5	INDENO-1,2,3-CD-PYRENE	1	0.0005	0.0005	U	0.0005	U	MG/M3
91-20-3	NAPHTHALENE	1	0.3	0.3	U	0.3	U	UG
91-20-3	NAPHTHALENE	1	0.0003	0.0003	U	0.0003	U	MG/M3
85-01-8	PHENANTHRENE	1	0.3	0.3	U	0.3	U	UG
85-01-8	PHENANTHRENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
129-00-0	PYRENE	1	0.4	0.4	U	0.4	U	UG
129-00-0	PYRENE	1	0.0004	0.0004	U	0.0004	U	MG/M3

DF = Dilution Factor RL = Reporting Limit

* = Modified by Validation

U = Non-Detect J = Estimated R = Rejected

Form 1 Data Sheet - Semivolatiles

CTEH

Houston Wood Preserving Works Site

SDG: L367526

COC Sample ID: **HOTX0217PNAH002** | Sample Matrix : **Air** | Total/Dissolved: **T**

Location ID: **NA** | Sample Date: **02/17/2016** | Lab: **SGS-GALSON**

Lab Sample ID: **L367526-2** | Analysis Date: **02/19/2016 9:50**

Sample Type: **Site Sample**

Method: **mod. NIOSH 5506; HPLC/UV**

CAS	Parameter Name	DF	RL	Lab Result	Lab Qualifier	Verified Result	Verified Qualifier	Units
5522-43-0	1-NITROPYRENE	1	0.4	0.4	U	0.4	U	UG
5522-43-0	1-NITROPYRENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
83-32-9	ACENAPHTHENE	1	0.3	0.3	U	0.3	U	UG
83-32-9	ACENAPHTHENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
208-96-8	ACENAPHTHYLENE	1	0.3	0.3	U	0.3	U	UG
208-96-8	ACENAPHTHYLENE	1	0.0003	0.0003	U	0.0003	U	MG/M3
120-12-7	ANTHRACENE	1	0.4	0.4	U	0.4	U	UG
120-12-7	ANTHRACENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
56-55-3	BENZO(A)ANTHRACENE	1	0.4	0.4	U	0.4	U	UG
56-55-3	BENZO(A)ANTHRACENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
50-32-8	BENZO(A)PYRENE	1	0.5	0.5	U	0.5	U	UG
50-32-8	BENZO(A)PYRENE	1	0.0005	0.0005	U	0.0005	U	MG/M3
205-99-2	BENZO(B)FLUORANTHENE	1	0.4	0.4	U	0.4	U	UG
205-99-2	BENZO(B)FLUORANTHENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
192-97-2	BENZO(E)PYRENE	1	0.4	0.4	U	0.4	U	UG
192-97-2	BENZO(E)PYRENE	1	0.0005	0.0005	U	0.0005	U	MG/M3
191-24-2	BENZO(G,H,I)PERYLENE	1	0.5	0.5	U	0.5	U	UG
191-24-2	BENZO(G,H,I)PERYLENE	1	0.0005	0.0005	U	0.0005	U	MG/M3
207-08-9	BENZO(K)FLUORANTHENE	1	0.4	0.4	U	0.4	U	UG
207-08-9	BENZO(K)FLUORANTHENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
218-01-9	CHRYSENE	1	0.4	0.4	U	0.4	U	UG
218-01-9	CHRYSENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
53-70-3	DIBENZ(A,H)ANTHRACENE	1	0.4	0.4	U	0.4	U	UG
53-70-3	DIBENZ(A,H)ANTHRACENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
206-44-0	FLUORANTHENE	1	0.4	0.4	U	0.4	U	UG
206-44-0	FLUORANTHENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
86-73-7	FLUORENE	1	0.3	0.3	U	0.3	U	UG
86-73-7	FLUORENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
193-39-5	INDENO-1,2,3-CD-PYRENE	1	0.5	0.5	U	0.5	U	UG
193-39-5	INDENO-1,2,3-CD-PYRENE	1	0.0005	0.0005	U	0.0005	U	MG/M3
91-20-3	NAPHTHALENE	1	0.3	0.3	U	0.3	U	UG
91-20-3	NAPHTHALENE	1	0.0003	0.0003	U	0.0003	U	MG/M3
85-01-8	PHENANTHRENE	1	0.3	0.3	U	0.3	U	UG
85-01-8	PHENANTHRENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
129-00-0	PYRENE	1	0.4	0.4	U	0.4	U	UG
129-00-0	PYRENE	1	0.0004	0.0004	U	0.0004	U	MG/M3

DF = Dilution Factor RL = Reporting Limit

* = Modified by Validation

U = Non-Detect J = Estimated R = Rejected

Form 1 Data Sheet - Semivolatiles

CTEH

Houston Wood Preserving Works Site

SDG: L367526

COC Sample ID: **HOTX0217PNAH003** | Sample Matrix : **Air** | Total/Dissolved: **T**

Location ID: **NA** | Sample Date: **02/17/2016** | Lab: **SGS-GALSON**

Lab Sample ID: **L367526-3** | Analysis Date: **02/19/2016 10:50**

Sample Type: **Site Sample**

Method: **mod. NIOSH 5506; HPLC/UV**

CAS	Parameter Name	DF	RL	Lab Result	Lab Qualifier	Verified Result	Verified Qualifier	Units
5522-43-0	1-NITROPYRENE	1	0.4	0.4	U	0.4	U	UG
5522-43-0	1-NITROPYRENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
83-32-9	ACENAPHTHENE	1	0.3	0.3	U	0.3	U	UG
83-32-9	ACENAPHTHENE	1	0.0003	0.0003	U	0.0003	U	MG/M3
208-96-8	ACENAPHTHYLENE	1	0.3	0.3	U	0.3	U	UG
208-96-8	ACENAPHTHYLENE	1	0.0003	0.0003	U	0.0003	U	MG/M3
120-12-7	ANTHRACENE	1	0.4	0.4	U	0.4	U	UG
120-12-7	ANTHRACENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
56-55-3	BENZO(A)ANTHRACENE	1	0.4	0.4	U	0.4	U	UG
56-55-3	BENZO(A)ANTHRACENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
50-32-8	BENZO(A)PYRENE	1	0.5	0.5	U	0.5	U	UG
50-32-8	BENZO(A)PYRENE	1	0.0005	0.0005	U	0.0005	U	MG/M3
205-99-2	BENZO(B)FLUORANTHENE	1	0.4	0.4	U	0.4	U	UG
205-99-2	BENZO(B)FLUORANTHENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
192-97-2	BENZO(E)PYRENE	1	0.4	0.4	U	0.4	U	UG
192-97-2	BENZO(E)PYRENE	1	0.0005	0.0005	U	0.0005	U	MG/M3
191-24-2	BENZO(G,H,I)PERYLENE	1	0.5	0.5	U	0.5	U	UG
191-24-2	BENZO(G,H,I)PERYLENE	1	0.0005	0.0005	U	0.0005	U	MG/M3
207-08-9	BENZO(K)FLUORANTHENE	1	0.4	0.4	U	0.4	U	UG
207-08-9	BENZO(K)FLUORANTHENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
218-01-9	CHRYSENE	1	0.4	0.4	U	0.4	U	UG
218-01-9	CHRYSENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
53-70-3	DIBENZ(A,H)ANTHRACENE	1	0.4	0.4	U	0.4	U	UG
53-70-3	DIBENZ(A,H)ANTHRACENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
206-44-0	FLUORANTHENE	1	0.4	0.4	U	0.4	U	UG
206-44-0	FLUORANTHENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
86-73-7	FLUORENE	1	0.3	0.3	U	0.3	U	UG
86-73-7	FLUORENE	1	0.0003	0.0003	U	0.0003	U	MG/M3
193-39-5	INDENO-1,2,3-CD-PYRENE	1	0.5	0.5	U	0.5	U	UG
193-39-5	INDENO-1,2,3-CD-PYRENE	1	0.0005	0.0005	U	0.0005	U	MG/M3
91-20-3	NAPHTHALENE	1	0.3	0.3	U	0.3	U	UG
91-20-3	NAPHTHALENE	1	0.0003	0.0003	U	0.0003	U	MG/M3
85-01-8	PHENANTHRENE	1	0.3	0.3	U	0.3	U	UG
85-01-8	PHENANTHRENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
129-00-0	PYRENE	1	0.4	0.4	U	0.4	U	UG
129-00-0	PYRENE	1	0.0004	0.0004	U	0.0004	U	MG/M3

DF = Dilution Factor RL = Reporting Limit

* = Modified by Validation

U = Non-Detect J = Estimated R = Rejected

Form 1 Data Sheet - Semivolatiles

CTEH

Houston Wood Preserving Works Site

SDG: L367526

COC Sample ID: **HOTX0217PNAH004**
Location ID: **NA**
Lab Sample ID: **L367526-4**
Sample Type: **Field Blank**
Method: **mod. NIOSH 5506; HPLC/UV**

Sample Matrix : **Air**
Sample Date: **02/17/2016**
Analysis Date: **02/19/2016 11:49**

Total/Dissolved: **T**
Lab: **SGS-GALSON**

CAS	Parameter Name	DF	RL	Lab Result	Lab Qualifier	Verified Result	Verified Qualifier	Units
5522-43-0	1-NITROPYRENE	1	0.4	0.4	U	0.4	U	UG
83-32-9	ACENAPHTHENE	1	0.3	0.3	U	0.3	U	UG
208-96-8	ACENAPHTHYLENE	1	0.3	0.3	U	0.3	U	UG
120-12-7	ANTHRACENE	1	0.4	0.4	U	0.4	U	UG
56-55-3	BENZO(A)ANTHRACENE	1	0.4	0.4	U	0.4	U	UG
50-32-8	BENZO(A)PYRENE	1	0.5	0.5	U	0.5	U	UG
205-99-2	BENZO(B)FLUORANTHENE	1	0.4	0.4	U	0.4	U	UG
192-97-2	BENZO(E)PYRENE	1	0.4	0.4	U	0.4	U	UG
191-24-2	BENZO(G,H,I)PERYLENE	1	0.5	0.5	U	0.5	U	UG
207-08-9	BENZO(K)FLUORANTHENE	1	0.4	0.4	U	0.4	U	UG
218-01-9	CHRYSENE	1	0.4	0.4	U	0.4	U	UG
53-70-3	DIBENZ(A,H)ANTHRACENE	1	0.4	0.4	U	0.4	U	UG
206-44-0	FLUORANTHENE	1	0.4	0.4	U	0.4	U	UG
86-73-7	FLUORENE	1	0.3	0.3	U	0.3	U	UG
193-39-5	INDENO-1,2,3-CD-PYRENE	1	0.5	0.5	U	0.5	U	UG
91-20-3	NAPHTHALENE	1	0.3	0.3	U	0.3	U	UG
85-01-8	PHENANTHRENE	1	0.3	0.3	U	0.3	U	UG
129-00-0	PYRENE	1	0.4	0.4	U	0.4	U	UG

DF = Dilution Factor RL = Reporting Limit
* = Modified by Validation
U = Non-Detect J = Estimated R = Rejected

eDATApro
ENVIRONMENTAL DATA PROFESSIONAL, LLC

Form 1 Data Sheet - Conventionals

CTEH

Houston Wood Preserving Works Site

SDG: L367526

COC Sample ID: **HOTX0217PM001** Sample Matrix : **Air**

Location ID: **NA**

Lab Sample ID: **L367526-5** Lab Code: **GALSON**

Sample Type: **Site Sample**

Parameter Name	Collection Date	Analysis Date	DF	RL	Lab Result	Lab Qualifier	Verified Result	Verified Qualifier	Units
Method: mod. EPA Method IP-10A; Gravimetric									
PARTICULATE MATTER/PM10	02/17/2016	02/22/2016 7:59	1	0.048	0.5		0.5		MG/M3
PARTICULATE MATTER/PM10	02/17/2016	02/22/2016 7:59	1	0.05	0.52		0.52		MG

DF = Dilution Factor RL = Reporting Limit

* = Modified by Validation

U = Non-Detect J = Estimated R = Rejected

Form 1 Data Sheet - Conventionals

CTEH

Houston Wood Preserving Works Site

SDG: L367526

COC Sample ID: **HOTX0217PM002** Sample Matrix : **Air**

Location ID: **NA**

Lab Sample ID: **L367526-6** Lab Code: **GALSON**

Sample Type: **Site Sample**

Parameter Name	Collection Date	Analysis Date	DF	RL	Lab Result	Lab Qualifier	Verified Result	Verified Qualifier	Units
Method: mod. EPA Method IP-10A; Gravimetric									
PARTICULATE MATTER/PM10	02/17/2016	02/22/2016 8:01	1	0.046	0.36		0.36		MG/M3
PARTICULATE MATTER/PM10	02/17/2016	02/22/2016 8:01	1	0.05	0.39		0.39		MG

DF = Dilution Factor RL = Reporting Limit

* = Modified by Validation

U = Non-Detect J = Estimated R = Rejected

Form 1 Data Sheet - Conventionals

CTEH

Houston Wood Preserving Works Site

SDG: L367526

COC Sample ID: **HOTX0217PM003** Sample Matrix : **Air**

Location ID: **NA**

Lab Sample ID: **L367526-7** Lab Code: **GALSON**

Sample Type: **Site Sample**

Parameter Name	Collection Date	Analysis Date	DF	RL	Lab Result	Lab Qualifier	Verified Result	Verified Qualifier	Units
Method: mod. EPA Method IP-10A; Gravimetric									
PARTICULATE MATTER/PM10	02/17/2016	02/22/2016 8:01	1	0.045	0.12		0.12		MG/M3
PARTICULATE MATTER/PM10	02/17/2016	02/22/2016 8:01	1	0.05	0.14		0.14		MG

DF = Dilution Factor RL = Reporting Limit

* = Modified by Validation

U = Non-Detect J = Estimated R = Rejected

Form 1 Data Sheet - Conventionals

CTEH

Houston Wood Preserving Works Site

SDG: L367526

COC Sample ID: **HOTX0217PM004** Sample Matrix : **Air**

Location ID: **NA**

Lab Sample ID: **L367526-8** Lab Code: **GALSON**

Sample Type: **Field Blank**

Parameter Name	Collection Date	Analysis Date	DF	RL	Lab Result	Lab Qualifier	Verified Result	Verified Qualifier	Units
Method: mod. EPA Method IP-10A; Gravimetric									
PARTICULATE MATTER/PM10	02/17/2016	02/22/2016 8:02	1	0.05	0.05	U	0.05	U	MG

DF = Dilution Factor RL = Reporting Limit

* = Modified by Validation

U = Non-Detect J = Estimated R = Rejected

Appendix II
Chain of Custody

L367526

(R62)

5120 North Shore Drive
North Little Rock, AR 72118
Phone: (501) 801-8500
Fax: (501) 801-8501
Website: www.cteh.com

Center for Toxicology and Environmental Health L.L.C.

SAMPLE CHAIN OF CUSTODY AND ANALYSIS REQUEST FORM

Page ___ of ___

	Send Report To:	Send Invoice To:
Name	CCONNOLLY@CTEH.com; MBERG@CTEH.com	Accounts Payable
Company	CTEH	CTEH
Address	2000 Anders Lane Kemah, Texas 77565	5120 North Shore Drive North Little Rock, AR 72118
Phone	(281)535-2834	(501)801-8500
Fax	(281)535-0232	(501)801-8501
e-mail	labresults@cteh.com	lraccounting@cteh.com

CTEH Project #: 107907

Turnaround Requested:
Same Day ___Next Day (24 hour) ___ Normal
X Other (Specify) 2 day

Complete Data Packet Requested ☒Yes ☐No

Lab Contact Information:
Galson Laboratories
6601 Kirkville Road
E. Syracuse, NY 13057

Client Sample Identification	Other Sample Identification	Sample Size	Units (Check one) X L ___ cm^2 ___	Sample Date	Sample Time (for non-air samples)	Initials	NIOSH 5506 PNAH	mod. EPA IP-10A PM10	Matrix A = air B = bulk S = soil SW = wipe T = tape W = water
HOTX0217PNAH001	16-0037337	969.17	L	02.17.16	NA	LA	X		A
HOTX0217PNAH002	16-0037333	947.33	L	02.17.16	NA	LA	X		A
HOTX0217PNAH003	16-0037363	972.05	L	02-17-16	NA	LA	X		A
HOTX0217PNAH004	16-0037345	0	L	02-17-16	NA	LA	X		A
HOTX0217PM001	16-0030836	1031.37	L	02.17.16	NA	LA		X	A
HOTX0217PM002	16-0030835	1083.54	L	02-17-16	NA	LA		X	A
HOTX0217PM003	16-0030834	1114.64	L	02-17-16	NA	LA		X	A
HOTX0217PM004	16-0030833	0	L	02-17-16	NA	LA		X	A

775675397573
Date:02/19/16
Shipper:FEDEX
Initials:
Prep:UNKNOWN

RELINQUISHED BY	DATE/TIME	RECEIVED BY	DATE/TIME
		Zach King	2/19/16 9:03

Rec'd intact & all accounted for? Yes or No ZK
Rec'd w/custody seals intact? Yes or No N/A ZK
Rec'd in light sensitive packaging? Yes or No ZK
Rec'd with ice pack? Yes or No ZK
Rec'd temperature compliant? Yes or No N/A ZK

Data Verification Report (Level 2)

Project: 107907 - Houston Wood Preserving Works Site

Client: CTEH

Report #: L367644 Date: February 24, 2016

Environmental Data Professional, LLC
1432 Watkins St.• Lake Charles, LA 70601 • phone: 337-540-0036 • fax: 337-478-6061

Disclaimer:

The review performed and reported herein is based on specifications and procedures presented to eDATApro with the associated data package. Any qualifications or review not specified with package requirements was based on USEPA National Functional Guidelines for Inorganic and Organic Data Review.

Information contained in this report is based solely on the hardcopy and/or electronic deliverables that were submitted to eDATApro. eDATApro reserves the rights to modify or change the report if new information is presented or if this report is determined to be inaccurate or incomplete.

The following parameters were reviewed during the verification process:

Chain-of-Custody (COC): Completeness and sample custody

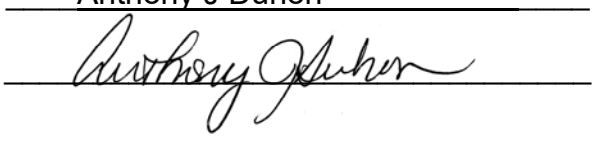
Holding time: Compare collection date versus preparation and/or analysis date

Blank Contamination: Laboratory and field blanks

Matrix/Precision/Recovery: Surrogates, Internal Standards, Duplicates, Blank spike and blank spike duplicate samples (when applicable)

Standards: Detection limit standard and continuing calibration verification (when applicable)

Reviewed by: Anthony J Duhon

Signature: 

INTRODUCTION:

Project Name: 107907 - Houston Wood Preserving Works Site
Laboratory: Galson Laboratories
Laboratory Package No.: L367644
Matrix: Air

Environmental Data Professional, LLC (eDATApro) received one electronic Level II data package containing the results for three field samples and one field blank. Level II verification was performed on the data utilizing *USEPA National Functional Guidelines for Organic Data Review*, *USEPA National Functional Guidelines for Inorganic Data Review* and the analytical methods.

The following samples were reviewed:

Sample ID	Lab ID	Collection Date	Analyses
HOTX0218PM001	L367644-1	02/18/2016	[1]
HOTX0218PM002	L367644-2	02/18/2016	[1]
HOTX0218PM003	L367644-3	02/18/2016	[1]
HOTX0218PM004	L367644-4	02/18/2016	[1]

Analyses Performed Codes:

[1] Particulate Matter; PM10 (mod. EPA Method IP-10A; Gravimetric)

DATA REVIEW FINDINGS SUMMARY

I. General Package:

The data package was complete and no resubmissions were requested.

II. Particulate Matter; PM10 – mod. EPA Method IP-10A; Gravimetric:

The laboratory reported the results in both mg and mg/m3 units.

All quality assurance and quality control (QA/QC) components presented by the laboratory satisfied method and data review acceptance criteria; therefore, no data qualifications were necessary.

Appendix I
Form 1 Data (Qualified)

Form 1 Data Sheet - Conventionals

CTEH

Houston Wood Preserving Works Site

SDG: L367644

COC Sample ID: **HOTX0218PM001** Sample Matrix : **Air**

Location ID: **NA**

Lab Sample ID: **L367644-1** Lab Code: **GALSON**

Sample Type: **Site Sample**

Parameter Name	Collection Date	Analysis Date	DF	RL	Lab Result	Lab Qualifier	Verified Result	Verified Qualifier	Units
Method: mod. EPA Method IP-10A; Gravimetric									
PARTICULATE MATTER/PM10	02/18/2016	02/23/2016 7:14	1	0.05	1		1		MG/M3
PARTICULATE MATTER/PM10	02/18/2016	02/23/2016 7:14	1	0.05	1		1		MG

DF = Dilution Factor RL = Reporting Limit

* = Modified by Validation

U = Non-Detect J = Estimated R = Rejected

eDATApro

Form 1 Data Sheet - Conventionals

CTEH

Houston Wood Preserving Works Site

SDG: L367644

COC Sample ID: **HOTX0218PM002** Sample Matrix : **Air**

Location ID: **NA**

Lab Sample ID: **L367644-2** Lab Code: **GALSON**

Sample Type: **Site Sample**

Parameter Name	Collection Date	Analysis Date	DF	RL	Lab Result	Lab Qualifier	Verified Result	Verified Qualifier	Units
Method: mod. EPA Method IP-10A; Gravimetric									
PARTICULATE MATTER/PM10	02/18/2016	02/23/2016 7:15	1	0.049	1.1		1.1		MG/M3
PARTICULATE MATTER/PM10	02/18/2016	02/23/2016 7:15	1	0.05	1.1		1.1		MG

DF = Dilution Factor RL = Reporting Limit

* = Modified by Validation

U = Non-Detect J = Estimated R = Rejected

eDATApro

Form 1 Data Sheet - Conventionals

CTEH

Houston Wood Preserving Works Site

SDG: L367644

COC Sample ID: **HOTX0218PM003** Sample Matrix : **Air**

Location ID: **NA**

Lab Sample ID: **L367644-3** Lab Code: **GALSON**

Sample Type: **Site Sample**

Parameter Name	Collection Date	Analysis Date	DF	RL	Lab Result	Lab Qualifier	Verified Result	Verified Qualifier	Units
Method: mod. EPA Method IP-10A; Gravimetric									
PARTICULATE MATTER/PM10	02/18/2016	02/23/2016 7:16	1	0.055	0.39		0.39		MG/M3
PARTICULATE MATTER/PM10	02/18/2016	02/23/2016 7:16	1	0.05	0.35		0.35		MG

DF = Dilution Factor RL = Reporting Limit

* = Modified by Validation

U = Non-Detect J = Estimated R = Rejected

Form 1 Data Sheet - Conventionals

CTEH

Houston Wood Preserving Works Site

SDG: L367644

COC Sample ID: **HOTX0218PM004** Sample Matrix : **Air**

Location ID: **NA**

Lab Sample ID: **L367644-4** Lab Code: **GALSON**

Sample Type: **Field Blank**

Parameter Name	Collection Date	Analysis Date	DF	RL	Lab Result	Lab Qualifier	Verified Result	Verified Qualifier	Units
Method: mod. EPA Method IP-10A; Gravimetric									
PARTICULATE MATTER/PM10	02/18/2016	02/23/2016 7:16	1	0.05	0.05	U	0.05	U	MG

DF = Dilution Factor RL = Reporting Limit

* = Modified by Validation

U = Non-Detect J = Estimated R = Rejected

Appendix II
Chain of Custody

L3676644

5120 North Shore Drive
North Little Rock, AR 72118
Phone: (501) 801-8500
Fax: (501) 801-8501
Website: www.cteh.com

Center for Toxicology and Environmental Health L.L.C.

SAMPLE CHAIN OF CUSTODY AND ANALYSIS REQUEST FORM

R13e

Page __ of __

	Send Report To:	Send Invoice To:
Name	Mike Berg / Charles Connolly	Accounts Payable
Company	CTEH	CTEH
Address	5120 North Shore Drive North Little Rock, AR 72118	5120 North Shore Drive North Little Rock, AR 72118
Phone	(501)801-8500	(501)801-8500
Fax	(501)801-8501	(501)801-8501
e-mail	labresults@cteh.com mberg@cteh.com cconnolly@cteh.com	lraccounting@cteh.com

CTEH Project #: 107907

Turnaround Requested:
Same Day __Next Day (24 hour) __ Normal
__Other (Specify) 2 day TAT

Complete Data Packet Requested ☐Yes ☒No

Lab Contact Information:
Galson Laboratories
6601 Kirkville Road
E. Syracuse, NY 13057

Client Sample Identification	Other Sample Identification	Sample Size	Units (Check one) X L __cm² MIN	Sample Date	Sample Time (for non-air samples)	Initials	PM10 method EPA IP-10A	
HOTX0218PM0001	AS08	995.6	L	2·18·16		JA	X	A
HOTX0218PM0002	AS09	1024.2	L	2·18·16		"	X	A
HOTX0218PM0003	AS05	907.04	L	2·18·16		"	X	A
HOTX0218PM0004	Blank	0	L	2·18·16		"	X	A

Matrix
A = air
B = bulk
S = soil
SW = wipe
T = tape
W = water

Rec'd intact & all accounted for? (Yes) or No
Rec'd w/custody seals intact? (Yes) or No
Rec'd in light sensitive packaging? Yes or (No) NA
Rec'd with ice pack? Yes or (No) NA
Rec'd temperature compliant? (Yes) or No

RELINQUISHED BY	DATE/TIME	RECEIVED BY	DATE/TIME	COMMENTS
Derek Kliethermes	2/19/16	Fed Ex	2/19/16	
		Gretchen B	2/20/16 930	

Data Verification Report (Level 2)

Project: 107907 - Houston Wood Preserving Works Site

Client: CTEH

Report #: L367645 Date: February 24, 2016

Environmental Data Professional, LLC
1432 Watkins St.• Lake Charles, LA 70601 • phone: 337-540-0036 • fax: 337-478-6061

Disclaimer:

The review performed and reported herein is based on specifications and procedures presented to eDATApro with the associated data package. Any qualifications or review not specified with package requirements was based on USEPA National Functional Guidelines for Inorganic and Organic Data Review.

Information contained in this report is based solely on the hardcopy and/or electronic deliverables that were submitted to eDATApro. eDATApro reserves the rights to modify or change the report if new information is presented or if this report is determined to be inaccurate or incomplete.

The following parameters were reviewed during the verification process:

Chain-of-Custody (COC): Completeness and sample custody

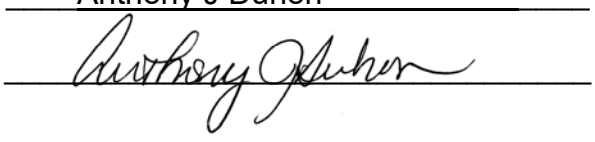
Holding time: Compare collection date versus preparation and/or analysis date

Blank Contamination: Laboratory and field blanks

Matrix/Precision/Recovery: Surrogates, Internal Standards, Duplicates, Blank spike and blank spike duplicate samples (when applicable)

Standards: Detection limit standard and continuing calibration verification (when applicable)

Reviewed by: Anthony J Duhon

Signature: 

INTRODUCTION:

Project Name: 107907 - Houston Wood Preserving Works Site
Laboratory: Galson Laboratories
Laboratory Package No.: L367645
Matrix: Air

Environmental Data Professional, LLC (eDATApro) received one electronic Level II data package containing the results for three field samples and one field blank. Level II verification was performed on the data utilizing *USEPA National Functional Guidelines for Organic Data Review* and the analytical method.

The following samples were reviewed:

Sample ID	Lab ID	Collection Date	Analyses
HOTX0218PNAH001	L367645-1	02/18/2016	[1]
HOTX0218PNAH002	L367645-2	02/18/2016	[1]
HOTX0218PNAH003	L367645-3	02/18/2016	[1]
HOTX0218PNAH004	L367645-4	02/18/2016	[1]

Analyses Performed Codes:

[1] Semivolatile Organics; PAHs (mod. NIOSH 5506; HPLC/UV)

DATA REVIEW FINDINGS SUMMARY

I. General Package:

The data package was complete and no resubmissions were requested.

II. Semivolatile Organics; PAHs – mod. NIOSH 5506; HPLC/UV:

The laboratory reported the results in both ug and mg/m3 units.

Recoveries of Anthracene in the blank spike analyses (BS/BSD) associated with the samples from this SDG exceeded upper acceptance criteria. This analyte was not detected in the field samples. No data qualifications were necessary.

All other quality assurance and quality control (QA/QC) components presented by the laboratory satisfied method and data review acceptance criteria.

Appendix I
Form 1 Data (Qualified)

Form 1 Data Sheet - Semivolatiles

CTEH

Houston Wood Preserving Works Site

SDG: L367645

COC Sample ID: **HOTX0218PNAH001** | Sample Matrix : **Air** | Total/Dissolved: **T**

Location ID: **NA** | Sample Date: **02/18/2016** | Lab: **SGS-GALSON**

Lab Sample ID: **L367645-1** | Analysis Date: **02/22/2016 4:48**

Sample Type: **Site Sample**

Method: **mod. NIOSH 5506; HPLC/UV**

CAS	Parameter Name	DF	RL	Lab Result	Lab Qualifier	Verified Result	Verified Qualifier	Units
5522-43-0	1-NITROPYRENE	1	0.4	0.4	U	0.4	U	UG
5522-43-0	1-NITROPYRENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
83-32-9	ACENAPHTHENE	1	0.3	0.3	U	0.3	U	UG
83-32-9	ACENAPHTHENE	1	0.0003	0.0003	U	0.0003	U	MG/M3
208-96-8	ACENAPHTHYLENE	1	0.3	0.3	U	0.3	U	UG
208-96-8	ACENAPHTHYLENE	1	0.0003	0.0003	U	0.0003	U	MG/M3
120-12-7	ANTHRACENE	1	0.4	0.4	U	0.4	U	UG
120-12-7	ANTHRACENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
56-55-3	BENZO(A)ANTHRACENE	1	0.4	0.4	U	0.4	U	UG
56-55-3	BENZO(A)ANTHRACENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
50-32-8	BENZO(A)PYRENE	1	0.5	0.5	U	0.5	U	UG
50-32-8	BENZO(A)PYRENE	1	0.0005	0.0005	U	0.0005	U	MG/M3
205-99-2	BENZO(B)FLUORANTHENE	1	0.4	0.4	U	0.4	U	UG
205-99-2	BENZO(B)FLUORANTHENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
192-97-2	BENZO(E)PYRENE	1	0.4	0.4	U	0.4	U	UG
192-97-2	BENZO(E)PYRENE	1	0.0005	0.0005	U	0.0005	U	MG/M3
191-24-2	BENZO(G,H,I)PERYLENE	1	0.5	0.5	U	0.5	U	UG
191-24-2	BENZO(G,H,I)PERYLENE	1	0.0005	0.0005	U	0.0005	U	MG/M3
207-08-9	BENZO(K)FLUORANTHENE	1	0.4	0.4	U	0.4	U	UG
207-08-9	BENZO(K)FLUORANTHENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
218-01-9	CHRYSENE	1	0.4	0.4	U	0.4	U	UG
218-01-9	CHRYSENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
53-70-3	DIBENZ(A,H)ANTHRACENE	1	0.4	0.4	U	0.4	U	UG
53-70-3	DIBENZ(A,H)ANTHRACENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
206-44-0	FLUORANTHENE	1	0.4	0.4	U	0.4	U	UG
206-44-0	FLUORANTHENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
86-73-7	FLUORENE	1	0.3	0.3	U	0.3	U	UG
86-73-7	FLUORENE	1	0.0003	0.0003	U	0.0003	U	MG/M3
193-39-5	INDENO-1,2,3-CD-PYRENE	1	0.5	0.5	U	0.5	U	UG
193-39-5	INDENO-1,2,3-CD-PYRENE	1	0.0005	0.0005	U	0.0005	U	MG/M3
91-20-3	NAPHTHALENE	1	0.3	0.3	U	0.3	U	UG
91-20-3	NAPHTHALENE	1	0.0003	0.0003	U	0.0003	U	MG/M3
85-01-8	PHENANTHRENE	1	0.3	0.3	U	0.3	U	UG
85-01-8	PHENANTHRENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
129-00-0	PYRENE	1	0.4	0.4	U	0.4	U	UG
129-00-0	PYRENE	1	0.0004	0.0004	U	0.0004	U	MG/M3

DF = Dilution Factor RL = Reporting Limit

* = Modified by Validation

U = Non-Detect J = Estimated R = Rejected

Form 1 Data Sheet - Semivolatiles

CTEH

Houston Wood Preserving Works Site

SDG: L367645

COC Sample ID: **HOTX0218PNAH002** | Sample Matrix : **Air** | Total/Dissolved: **T**

Location ID: **NA** | Sample Date: **02/18/2016** | Lab: **SGS-GALSON**

Lab Sample ID: **L367645-2** | Analysis Date: **02/22/2016 5:48**

Sample Type: **Site Sample**

Method: **mod. NIOSH 5506; HPLC/UV**

CAS	Parameter Name	DF	RL	Lab Result	Lab Qualifier	Verified Result	Verified Qualifier	Units
5522-43-0	1-NITROPYRENE	1	0.4	0.4	U	0.4	U	UG
5522-43-0	1-NITROPYRENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
83-32-9	ACENAPHTHENE	1	0.3	0.3	U	0.3	U	UG
83-32-9	ACENAPHTHENE	1	0.0003	0.0003	U	0.0003	U	MG/M3
208-96-8	ACENAPHTHYLENE	1	0.3	0.3	U	0.3	U	UG
208-96-8	ACENAPHTHYLENE	1	0.0003	0.0003	U	0.0003	U	MG/M3
120-12-7	ANTHRACENE	1	0.4	0.4	U	0.4	U	UG
120-12-7	ANTHRACENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
56-55-3	BENZO(A)ANTHRACENE	1	0.4	0.4	U	0.4	U	UG
56-55-3	BENZO(A)ANTHRACENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
50-32-8	BENZO(A)PYRENE	1	0.5	0.5	U	0.5	U	UG
50-32-8	BENZO(A)PYRENE	1	0.0005	0.0005	U	0.0005	U	MG/M3
205-99-2	BENZO(B)FLUORANTHENE	1	0.4	0.4	U	0.4	U	UG
205-99-2	BENZO(B)FLUORANTHENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
192-97-2	BENZO(E)PYRENE	1	0.4	0.4	U	0.4	U	UG
192-97-2	BENZO(E)PYRENE	1	0.0005	0.0005	U	0.0005	U	MG/M3
191-24-2	BENZO(G,H,I)PERYLENE	1	0.5	0.5	U	0.5	U	UG
191-24-2	BENZO(G,H,I)PERYLENE	1	0.0005	0.0005	U	0.0005	U	MG/M3
207-08-9	BENZO(K)FLUORANTHENE	1	0.4	0.4	U	0.4	U	UG
207-08-9	BENZO(K)FLUORANTHENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
218-01-9	CHRYSENE	1	0.4	0.4	U	0.4	U	UG
218-01-9	CHRYSENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
53-70-3	DIBENZ(A,H)ANTHRACENE	1	0.4	0.4	U	0.4	U	UG
53-70-3	DIBENZ(A,H)ANTHRACENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
206-44-0	FLUORANTHENE	1	0.4	0.4	U	0.4	U	UG
206-44-0	FLUORANTHENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
86-73-7	FLUORENE	1	0.3	0.3	U	0.3	U	UG
86-73-7	FLUORENE	1	0.0003	0.0003	U	0.0003	U	MG/M3
193-39-5	INDENO-1,2,3-CD-PYRENE	1	0.5	0.5	U	0.5	U	UG
193-39-5	INDENO-1,2,3-CD-PYRENE	1	0.0005	0.0005	U	0.0005	U	MG/M3
91-20-3	NAPHTHALENE	1	0.3	0.3	U	0.3	U	UG
91-20-3	NAPHTHALENE	1	0.0003	0.0003	U	0.0003	U	MG/M3
85-01-8	PHENANTHRENE	1	0.3	0.3	U	0.3	U	UG
85-01-8	PHENANTHRENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
129-00-0	PYRENE	1	0.4	0.4	U	0.4	U	UG
129-00-0	PYRENE	1	0.0004	0.0004	U	0.0004	U	MG/M3

DF = Dilution Factor RL = Reporting Limit

* = Modified by Validation

U = Non-Detect J = Estimated R = Rejected

eDATApro ENVIRONMENTAL DATA PROFESSIONAL, LLC

Form 1 Data Sheet - Semivolatiles

CTEH

Houston Wood Preserving Works Site

SDG: L367645

COC Sample ID: **HOTX0218PNAH003** | Sample Matrix : **Air** | Total/Dissolved: **T**

Location ID: **NA** | Sample Date: **02/18/2016** | Lab: **SGS-GALSON**

Lab Sample ID: **L367645-3** | Analysis Date: **02/22/2016 6:48**

Sample Type: **Site Sample**

Method: **mod. NIOSH 5506; HPLC/UV**

CAS	Parameter Name	DF	RL	Lab Result	Lab Qualifier	Verified Result	Verified Qualifier	Units
5522-43-0	1-NITROPYRENE	1	0.4	0.4	U	0.4	U	UG
5522-43-0	1-NITROPYRENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
83-32-9	ACENAPHTHENE	1	0.3	0.3	U	0.3	U	UG
83-32-9	ACENAPHTHENE	1	0.0003	0.0003	U	0.0003	U	MG/M3
208-96-8	ACENAPHTHYLENE	1	0.3	0.3	U	0.3	U	UG
208-96-8	ACENAPHTHYLENE	1	0.0003	0.0003	U	0.0003	U	MG/M3
120-12-7	ANTHRACENE	1	0.4	0.4	U	0.4	U	UG
120-12-7	ANTHRACENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
56-55-3	BENZO(A)ANTHRACENE	1	0.4	0.4	U	0.4	U	UG
56-55-3	BENZO(A)ANTHRACENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
50-32-8	BENZO(A)PYRENE	1	0.5	0.5	U	0.5	U	UG
50-32-8	BENZO(A)PYRENE	1	0.0005	0.0005	U	0.0005	U	MG/M3
205-99-2	BENZO(B)FLUORANTHENE	1	0.4	0.4	U	0.4	U	UG
205-99-2	BENZO(B)FLUORANTHENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
192-97-2	BENZO(E)PYRENE	1	0.4	0.4	U	0.4	U	UG
192-97-2	BENZO(E)PYRENE	1	0.0005	0.0005	U	0.0005	U	MG/M3
191-24-2	BENZO(G,H,I)PERYLENE	1	0.5	0.5	U	0.5	U	UG
191-24-2	BENZO(G,H,I)PERYLENE	1	0.0005	0.0005	U	0.0005	U	MG/M3
207-08-9	BENZO(K)FLUORANTHENE	1	0.4	0.4	U	0.4	U	UG
207-08-9	BENZO(K)FLUORANTHENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
218-01-9	CHRYSENE	1	0.4	0.4	U	0.4	U	UG
218-01-9	CHRYSENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
53-70-3	DIBENZ(A,H)ANTHRACENE	1	0.4	0.4	U	0.4	U	UG
53-70-3	DIBENZ(A,H)ANTHRACENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
206-44-0	FLUORANTHENE	1	0.4	0.4	U	0.4	U	UG
206-44-0	FLUORANTHENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
86-73-7	FLUORENE	1	0.3	0.3	U	0.3	U	UG
86-73-7	FLUORENE	1	0.0003	0.0003	U	0.0003	U	MG/M3
193-39-5	INDENO-1,2,3-CD-PYRENE	1	0.5	0.5	U	0.5	U	UG
193-39-5	INDENO-1,2,3-CD-PYRENE	1	0.0005	0.0005	U	0.0005	U	MG/M3
91-20-3	NAPHTHALENE	1	0.3	0.3	U	0.3	U	UG
91-20-3	NAPHTHALENE	1	0.0003	0.0003	U	0.0003	U	MG/M3
85-01-8	PHENANTHRENE	1	0.3	0.3	U	0.3	U	UG
85-01-8	PHENANTHRENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
129-00-0	PYRENE	1	0.4	0.4	U	0.4	U	UG
129-00-0	PYRENE	1	0.0004	0.0004	U	0.0004	U	MG/M3

DF = Dilution Factor RL = Reporting Limit

* = Modified by Validation

U = Non-Detect J = Estimated R = Rejected

Form 1 Data Sheet - Semivolatiles

CTEH

Houston Wood Preserving Works Site

SDG: L367645

COC Sample ID: **HOTX0218PNAH004** | Sample Matrix : **Air** | Total/Dissolved: **T**

Location ID: **NA** | Sample Date: **02/18/2016** | Lab: **SGS-GALSON**

Lab Sample ID: **L367645-4** | Analysis Date: **02/22/2016 7:47**

Sample Type: **Field Blank**

Method: **mod. NIOSH 5506; HPLC/UV**

CAS	Parameter Name	DF	RL	Lab Result	Lab Qualifier	Verified Result	Verified Qualifier	Units
5522-43-0	1-NITROPYRENE	1	0.4	0.4	U	0.4	U	UG
83-32-9	ACENAPHTHENE	1	0.3	0.3	U	0.3	U	UG
208-96-8	ACENAPHTHYLENE	1	0.3	0.3	U	0.3	U	UG
120-12-7	ANTHRACENE	1	0.4	0.4	U	0.4	U	UG
56-55-3	BENZO(A)ANTHRACENE	1	0.4	0.4	U	0.4	U	UG
50-32-8	BENZO(A)PYRENE	1	0.5	0.5	U	0.5	U	UG
205-99-2	BENZO(B)FLUORANTHENE	1	0.4	0.4	U	0.4	U	UG
192-97-2	BENZO(E)PYRENE	1	0.4	0.4	U	0.4	U	UG
191-24-2	BENZO(G,H,I)PERYLENE	1	0.5	0.5	U	0.5	U	UG
207-08-9	BENZO(K)FLUORANTHENE	1	0.4	0.4	U	0.4	U	UG
218-01-9	CHRYSENE	1	0.4	0.4	U	0.4	U	UG
53-70-3	DIBENZ(A,H)ANTHRACENE	1	0.4	0.4	U	0.4	U	UG
206-44-0	FLUORANTHENE	1	0.4	0.4	U	0.4	U	UG
86-73-7	FLUORENE	1	0.3	0.3	U	0.3	U	UG
193-39-5	INDENO-1,2,3-CD-PYRENE	1	0.5	0.5	U	0.5	U	UG
91-20-3	NAPHTHALENE	1	0.3	0.3	U	0.3	U	UG
85-01-8	PHENANTHRENE	1	0.3	0.3	U	0.3	U	UG
129-00-0	PYRENE	1	0.4	0.4	U	0.4	U	UG

DF = Dilution Factor RL = Reporting Limit

* = Modified by Validation

U = Non-Detect J = Estimated R = Rejected

eDATApro ENVIRONMENTAL DATA PROFESSIONAL, LLC

Appendix II
Chain of Custody

L367645

R134

5120 North Shore Drive
North Little Rock, AR 72118
Phone: (501) 801-8500
Fax: (501) 801-8501
Website: www.cteh.com

Center for Toxicology and Environmental Health L.L.C.
SAMPLE CHAIN OF CUSTODY AND ANALYSIS REQUEST FORM

Page ___ of ___

CTEH Project #: 107907

	Send Report To:	Send Invoice To:
Name	MBorg. CConnelly	Accounts Payable
Company	CTEH	CTEH
Address	2000 Anders Lane Kemah, Texas 77565	5120 North Shore Drive North Little Rock, AR 72118
Phone	(281)535-2834	(501)801-8500
Fax	(281)535-0232	(501)801-8501
e-mail	labresults@cteh.com MBorg@cteh.com CConnelly@cteh.com	raccounting@cteh.com

Turnaround Requested:
Same Day __Next Day (24 hour) __ Normal
__Other (Specify) 2 day TAT

Complete Data Packet Requested ☐Yes ☒No

Lab Contact Information:
Galson Laboratories
6601 Kirkville Road
E. Syracuse, NY 13057

Client Sample Identification	Other Sample Identification	Sample Size	Units (Check one) X L / __cm²	Sample Date	Sample Time (for non-air samples)	Initials	ANALYSIS	Matrix
HOTX0218PNAH001	A508	967.4	L	2-18-16		JA	X	A
HOTX0218PNAH002	A509	959.3	L	2-18-16			X	
HOTX0218PNAH003	A505	960.7	L	2-18-16			X	
HOTX0218PNAH004	Blank	0	L	2-18-16				

Matrix
A = air
B = bulk
S = soil
SW = wipe
T = tape
W = water

Rec'd intact & all accounted for? Yes or No
Rec'd w/custody seals intact? Yes or No
Rec'd in light sensitive packaging? Yes or No
Rec'd with ice pack? Yes or No
Rec'd temperature compliant? Yes or No

806684141171
Date:02/20/16
Shipper:FEDEX
Initials:GMB
Prep:UNKNOWN

RELINQUISHED BY	DATE/TIME	RECEIVED BY	DATE/TIME	COMMENTS
A. Sonpon	2-19-16	Fed Ex	2/19/16	
		Gretchen B	2/20/16 930	

Data Verification Report (Level 2)

Project: 107907 - Houston Wood Preserving Works Site

Client: CTEH

Report #: L367328-rev2 Date: February 26, 2016

Environmental Data Professional, LLC
1432 Watkins St.• Lake Charles, LA 70601 • phone: 337-540-0036 • fax: 337-478-6061

Disclaimer:

The review performed and reported herein is based on specifications and procedures presented to eDATApro with the associated data package. Any qualifications or review not specified with package requirements was based on USEPA National Functional Guidelines for Inorganic and Organic Data Review.

Information contained in this report is based solely on the hardcopy and/or electronic deliverables that were submitted to eDATApro. eDATApro reserves the rights to modify or change the report if new information is presented or if this report is determined to be inaccurate or incomplete.

The following parameters were reviewed during the verification process:

Chain-of-Custody (COC): Completeness and sample custody

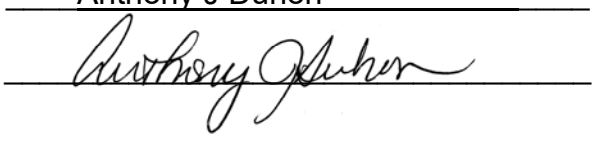
Holding time: Compare collection date versus preparation and/or analysis date

Blank Contamination: Laboratory and field blanks

Matrix/Precision/Recovery: Surrogates, Internal Standards, Duplicates, Blank spike and blank spike duplicate samples (when applicable)

Standards: Detection limit standard and continuing calibration verification (when applicable)

Reviewed by: Anthony J Duhon

Signature: 

INTRODUCTION:

Project Name: 107907 - Houston Wood Preserving Works Site
Laboratory: Galson Laboratories
Laboratory Package No.: L367328
Matrix: Air

Environmental Data Professional, LLC (eDATApro) received one electronic Level II data package containing the results for six field samples and two field blanks. Level II verification was performed on the data utilizing *USEPA National Functional Guidelines for Organic Data Review*, *USEPA National Functional Guidelines for Inorganic Data Review* and the analytical methods.

The following samples were reviewed:

Sample ID	Lab ID	Collection Date	Analyses
HOTX0215PNAH001	L367328-1	02/15/2016	[1]
HOTX0215PNAH002	L367328-2	02/15/2016	[1]
HOTX0215PNAH003	L367328-3	02/15/2016	[1]
HOTX0215PNAH004	L367328-4	02/15/2016	[1]
HOTX0215PM001	L367328-5	02/15/2016	[2]
HOTX0215PM002	L367328-6	02/15/2016	[2]
HOTX0215PM003	L367328-7	02/15/2016	[2]
HOTX0215PM004	L367328-8	02/15/2016	[2]

Analyses Performed Codes:

[1] Semivolatile Organics; PAHs (mod. NIOSH 5506; HPLC/UV)
[2] Particulate Matter; PM10 (mod. EPA Method IP-10A; Gravimetric)

DATA REVIEW FINDINGS SUMMARY

I. General Package:

The laboratory submitted a revised data package on February 26, 2016 for removal of a comment regarding the condition of sample HOTX0215PM002 at the time of receipt. This report replaces in its entirety any previous submission.

II. Semivolatile Organics; PAHs – mod. NIOSH 5506; HPLC/UV:

The laboratory reported the results in both ug and mg/m3 units.

Fluoranthene was present in method blank sample WG339225-2. This analyte was not detected in the associated field samples.

Recovery of Anthracene in a continuing calibration verification (CCV) standard bracketing the analyses of samples from this SDG exceeded upper acceptance criteria. This analyte was not detected in the field samples. No data qualifications were necessary.

All other quality assurance and quality control (QA/QC) components presented by the laboratory satisfied method and data review acceptance criteria.

III. Particulate Matter; PM10 – mod. EPA Method IP-10A; Gravimetric:

The laboratory reported the results in both mg and mg/m3 units.

The laboratory noted for sample HOTX0215PM001, “Filter(s) received torn at the laboratory, results may be biased low.” Verification of the impact of this information is outside the scope of Level II data review. No data qualifications were applied based on these comments.

All quality assurance and quality control (QA/QC) components presented by the laboratory satisfied method and data review acceptance criteria; therefore, no data qualifications were necessary.

Appendix I
Form 1 Data (Qualified)

Form 1 Data Sheet - Semivolatiles

CTEH

Houston Wood Preserving Works Site

SDG: L367328

COC Sample ID: **HOTX0215PNAH001** | Sample Matrix : **Air** | Total/Dissolved: **T**

Location ID: **NA** | Sample Date: **02/15/2016** | Lab: **SGS-GALSON**

Lab Sample ID: **L367328-1** | Analysis Date: **02/18/2016 12:29**

Sample Type: **Site Sample**

Method: **mod. NIOSH 5506; HPLC/UV**

CAS	Parameter Name	DF	RL	Lab Result	Lab Qualifier	Verified Result	Verified Qualifier	Units
5522-43-0	1-NITROPYRENE	1	0.4	0.4	U	0.4	U	UG
5522-43-0	1-NITROPYRENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
83-32-9	ACENAPHTHENE	1	0.3	0.3	U	0.3	U	UG
83-32-9	ACENAPHTHENE	1	0.0003	0.0003	U	0.0003	U	MG/M3
208-96-8	ACENAPHTHYLENE	1	0.3	0.3	U	0.3	U	UG
208-96-8	ACENAPHTHYLENE	1	0.0003	0.0003	U	0.0003	U	MG/M3
120-12-7	ANTHRACENE	1	0.4	0.4	U	0.4	U	UG
120-12-7	ANTHRACENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
56-55-3	BENZO(A)ANTHRACENE	1	0.4	0.4	U	0.4	U	UG
56-55-3	BENZO(A)ANTHRACENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
50-32-8	BENZO(A)PYRENE	1	0.5	0.5	U	0.5	U	UG
50-32-8	BENZO(A)PYRENE	1	0.0005	0.0005	U	0.0005	U	MG/M3
205-99-2	BENZO(B)FLUORANTHENE	1	0.4	0.4	U	0.4	U	UG
205-99-2	BENZO(B)FLUORANTHENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
192-97-2	BENZO(E)PYRENE	1	0.4	0.4	U	0.4	U	UG
192-97-2	BENZO(E)PYRENE	1	0.0005	0.0005	U	0.0005	U	MG/M3
191-24-2	BENZO(G,H,I)PERYLENE	1	0.5	0.5	U	0.5	U	UG
191-24-2	BENZO(G,H,I)PERYLENE	1	0.0005	0.0005	U	0.0005	U	MG/M3
207-08-9	BENZO(K)FLUORANTHENE	1	0.4	0.4	U	0.4	U	UG
207-08-9	BENZO(K)FLUORANTHENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
218-01-9	CHRYSENE	1	0.4	0.4	U	0.4	U	UG
218-01-9	CHRYSENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
53-70-3	DIBENZ(A,H)ANTHRACENE	1	0.4	0.4	U	0.4	U	UG
53-70-3	DIBENZ(A,H)ANTHRACENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
206-44-0	FLUORANTHENE	1	0.4	0.4	U	0.4	U	UG
206-44-0	FLUORANTHENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
86-73-7	FLUORENE	1	0.3	0.3	U	0.3	U	UG
86-73-7	FLUORENE	1	0.0003	0.0003	U	0.0003	U	MG/M3
193-39-5	INDENO-1,2,3-CD-PYRENE	1	0.5	0.5	U	0.5	U	UG
193-39-5	INDENO-1,2,3-CD-PYRENE	1	0.0005	0.0005	U	0.0005	U	MG/M3
91-20-3	NAPHTHALENE	1	0.3	0.3	U	0.3	U	UG
91-20-3	NAPHTHALENE	1	0.0003	0.0003	U	0.0003	U	MG/M3
85-01-8	PHENANTHRENE	1	0.3	0.3	U	0.3	U	UG
85-01-8	PHENANTHRENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
129-00-0	PYRENE	1	0.4	0.4	U	0.4	U	UG
129-00-0	PYRENE	1	0.0004	0.0004	U	0.0004	U	MG/M3

DF = Dilution Factor RL = Reporting Limit

* = Modified by Validation

U = Non-Detect J = Estimated R = Rejected

Form 1 Data Sheet - Semivolatiles

CTEH

Houston Wood Preserving Works Site

SDG: L367328

COC Sample ID: **HOTX0215PNAH002** | Sample Matrix : **Air** | Total/Dissolved: **T**

Location ID: **NA** | Sample Date: **02/15/2016** | Lab: **SGS-GALSON**

Lab Sample ID: **L367328-2** | Analysis Date: **02/18/2016 1:29**

Sample Type: **Site Sample**

Method: **mod. NIOSH 5506; HPLC/UV**

CAS	Parameter Name	DF	RL	Lab Result	Lab Qualifier	Verified Result	Verified Qualifier	Units
5522-43-0	1-NITROPYRENE	1	0.4	0.4	U	0.4	U	UG
5522-43-0	1-NITROPYRENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
83-32-9	ACENAPHTHENE	1	0.3	0.3	U	0.3	U	UG
83-32-9	ACENAPHTHENE	1	0.0003	0.0003	U	0.0003	U	MG/M3
208-96-8	ACENAPHTHYLENE	1	0.3	0.3	U	0.3	U	UG
208-96-8	ACENAPHTHYLENE	1	0.0003	0.0003	U	0.0003	U	MG/M3
120-12-7	ANTHRACENE	1	0.4	0.4	U	0.4	U	UG
120-12-7	ANTHRACENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
56-55-3	BENZO(A)ANTHRACENE	1	0.4	0.4	U	0.4	U	UG
56-55-3	BENZO(A)ANTHRACENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
50-32-8	BENZO(A)PYRENE	1	0.5	0.5	U	0.5	U	UG
50-32-8	BENZO(A)PYRENE	1	0.0005	0.0005	U	0.0005	U	MG/M3
205-99-2	BENZO(B)FLUORANTHENE	1	0.4	0.4	U	0.4	U	UG
205-99-2	BENZO(B)FLUORANTHENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
192-97-2	BENZO(E)PYRENE	1	0.4	0.4	U	0.4	U	UG
192-97-2	BENZO(E)PYRENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
191-24-2	BENZO(G,H,I)PERYLENE	1	0.5	0.5	U	0.5	U	UG
191-24-2	BENZO(G,H,I)PERYLENE	1	0.0005	0.0005	U	0.0005	U	MG/M3
207-08-9	BENZO(K)FLUORANTHENE	1	0.4	0.4	U	0.4	U	UG
207-08-9	BENZO(K)FLUORANTHENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
218-01-9	CHRYSENE	1	0.4	0.4	U	0.4	U	UG
218-01-9	CHRYSENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
53-70-3	DIBENZ(A,H)ANTHRACENE	1	0.4	0.4	U	0.4	U	UG
53-70-3	DIBENZ(A,H)ANTHRACENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
206-44-0	FLUORANTHENE	1	0.4	0.4	U	0.4	U	UG
206-44-0	FLUORANTHENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
86-73-7	FLUORENE	1	0.3	0.3	U	0.3	U	UG
86-73-7	FLUORENE	1	0.0003	0.0003	U	0.0003	U	MG/M3
193-39-5	INDENO-1,2,3-CD-PYRENE	1	0.5	0.5	U	0.5	U	UG
193-39-5	INDENO-1,2,3-CD-PYRENE	1	0.0005	0.0005	U	0.0005	U	MG/M3
91-20-3	NAPHTHALENE	1	0.3	0.3	U	0.3	U	UG
91-20-3	NAPHTHALENE	1	0.0003	0.0003	U	0.0003	U	MG/M3
85-01-8	PHENANTHRENE	1	0.3	0.3	U	0.3	U	UG
85-01-8	PHENANTHRENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
129-00-0	PYRENE	1	0.4	0.4	U	0.4	U	UG
129-00-0	PYRENE	1	0.0004	0.0004	U	0.0004	U	MG/M3

DF = Dilution Factor RL = Reporting Limit

* = Modified by Validation

U = Non-Detect J = Estimated R = Rejected

Form 1 Data Sheet - Semivolatiles

CTEH

Houston Wood Preserving Works Site

SDG: L367328

COC Sample ID: **HOTX0215PNAH003** | Sample Matrix : **Air** | Total/Dissolved: **T**

Location ID: **NA** | Sample Date: **02/15/2016** | Lab: **SGS-GALSON**

Lab Sample ID: **L367328-3** | Analysis Date: **02/18/2016 2:29**

Sample Type: **Site Sample**

Method: **mod. NIOSH 5506; HPLC/UV**

CAS	Parameter Name	DF	RL	Lab Result	Lab Qualifier	Verified Result	Verified Qualifier	Units
5522-43-0	1-NITROPYRENE	1	0.4	0.4	U	0.4	U	UG
5522-43-0	1-NITROPYRENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
83-32-9	ACENAPHTHENE	1	0.3	0.3	U	0.3	U	UG
83-32-9	ACENAPHTHENE	1	0.0003	0.0003	U	0.0003	U	MG/M3
208-96-8	ACENAPHTHYLENE	1	0.3	0.3	U	0.3	U	UG
208-96-8	ACENAPHTHYLENE	1	0.0003	0.0003	U	0.0003	U	MG/M3
120-12-7	ANTHRACENE	1	0.4	0.4	U	0.4	U	UG
120-12-7	ANTHRACENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
56-55-3	BENZO(A)ANTHRACENE	1	0.4	0.4	U	0.4	U	UG
56-55-3	BENZO(A)ANTHRACENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
50-32-8	BENZO(A)PYRENE	1	0.5	0.5	U	0.5	U	UG
50-32-8	BENZO(A)PYRENE	1	0.0005	0.0005	U	0.0005	U	MG/M3
205-99-2	BENZO(B)FLUORANTHENE	1	0.4	0.4	U	0.4	U	UG
205-99-2	BENZO(B)FLUORANTHENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
192-97-2	BENZO(E)PYRENE	1	0.4	0.4	U	0.4	U	UG
192-97-2	BENZO(E)PYRENE	1	0.0005	0.0005	U	0.0005	U	MG/M3
191-24-2	BENZO(G,H,I)PERYLENE	1	0.5	0.5	U	0.5	U	UG
191-24-2	BENZO(G,H,I)PERYLENE	1	0.0005	0.0005	U	0.0005	U	MG/M3
207-08-9	BENZO(K)FLUORANTHENE	1	0.4	0.4	U	0.4	U	UG
207-08-9	BENZO(K)FLUORANTHENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
218-01-9	CHRYSENE	1	0.4	0.4	U	0.4	U	UG
218-01-9	CHRYSENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
53-70-3	DIBENZ(A,H)ANTHRACENE	1	0.4	0.4	U	0.4	U	UG
53-70-3	DIBENZ(A,H)ANTHRACENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
206-44-0	FLUORANTHENE	1	0.4	0.4	U	0.4	U	UG
206-44-0	FLUORANTHENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
86-73-7	FLUORENE	1	0.3	0.3	U	0.3	U	UG
86-73-7	FLUORENE	1	0.0003	0.0003	U	0.0003	U	MG/M3
193-39-5	INDENO-1,2,3-CD-PYRENE	1	0.5	0.5	U	0.5	U	UG
193-39-5	INDENO-1,2,3-CD-PYRENE	1	0.0005	0.0005	U	0.0005	U	MG/M3
91-20-3	NAPHTHALENE	1	0.3	0.3	U	0.3	U	UG
91-20-3	NAPHTHALENE	1	0.0003	0.0003	U	0.0003	U	MG/M3
85-01-8	PHENANTHRENE	1	0.3	0.3	U	0.3	U	UG
85-01-8	PHENANTHRENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
129-00-0	PYRENE	1	0.4	0.4	U	0.4	U	UG
129-00-0	PYRENE	1	0.0004	0.0004	U	0.0004	U	MG/M3

DF = Dilution Factor RL = Reporting Limit

* = Modified by Validation

U = Non-Detect J = Estimated R = Rejected

eDATApro ENVIRONMENTAL DATA PROFESSIONAL, LLC

Form 1 Data Sheet - Semivolatiles

CTEH

Houston Wood Preserving Works Site

SDG: L367328

COC Sample ID: **HOTX0215PNAH004** | Sample Matrix : **Air** | Total/Dissolved: **T**

Location ID: **NA** | Sample Date: **02/15/2016** | Lab: **SGS-GALSON**

Lab Sample ID: **L367328-4** | Analysis Date: **02/18/2016 3:29**

Sample Type: **Field Blank**

Method: **mod. NIOSH 5506; HPLC/UV**

CAS	Parameter Name	DF	RL	Lab Result	Lab Qualifier	Verified Result	Verified Qualifier	Units
5522-43-0	1-NITROPYRENE	1	0.4	0.4	U	0.4	U	UG
83-32-9	ACENAPHTHENE	1	0.3	0.3	U	0.3	U	UG
208-96-8	ACENAPHTHYLENE	1	0.3	0.3	U	0.3	U	UG
120-12-7	ANTHRACENE	1	0.4	0.4	U	0.4	U	UG
56-55-3	BENZO(A)ANTHRACENE	1	0.4	0.4	U	0.4	U	UG
50-32-8	BENZO(A)PYRENE	1	0.5	0.5	U	0.5	U	UG
205-99-2	BENZO(B)FLUORANTHENE	1	0.4	0.4	U	0.4	U	UG
192-97-2	BENZO(E)PYRENE	1	0.4	0.4	U	0.4	U	UG
191-24-2	BENZO(G,H,I)PERYLENE	1	0.5	0.5	U	0.5	U	UG
207-08-9	BENZO(K)FLUORANTHENE	1	0.4	0.4	U	0.4	U	UG
218-01-9	CHRYSENE	1	0.4	0.4	U	0.4	U	UG
53-70-3	DIBENZ(A,H)ANTHRACENE	1	0.4	0.4	U	0.4	U	UG
206-44-0	FLUORANTHENE	1	0.4	0.4	U	0.4	U	UG
86-73-7	FLUORENE	1	0.3	0.3	U	0.3	U	UG
193-39-5	INDENO-1,2,3-CD-PYRENE	1	0.5	0.5	U	0.5	U	UG
91-20-3	NAPHTHALENE	1	0.3	0.3	U	0.3	U	UG
85-01-8	PHENANTHRENE	1	0.3	0.3	U	0.3	U	UG
129-00-0	PYRENE	1	0.4	0.4	U	0.4	U	UG

DF = Dilution Factor RL = Reporting Limit

* = Modified by Validation

U = Non-Detect J = Estimated R = Rejected

eDATApro ENVIRONMENTAL DATA PROFESSIONAL, LLC

Form 1 Data Sheet - Conventionals

CTEH

Houston Wood Preserving Works Site

SDG: L367328

COC Sample ID: **HOTX0215PM001** Sample Matrix : **Air**

Location ID: **NA**

Lab Sample ID: **L367328-5** Lab Code: **GALSON**

Sample Type: **Site Sample**

Parameter Name	Collection Date	Analysis Date	DF	RL	Lab Result	Lab Qualifier	Verified Result	Verified Qualifier	Units
Method: mod. EPA Method IP-10A; Gravimetric									
PARTICULATE MATTER/PM10	02/15/2016	02/18/2016 11:31	1	0.048	0.13		0.13		MG/M3
PARTICULATE MATTER/PM10	02/15/2016	02/18/2016 11:31	1	0.05	0.14		0.14		MG

DF = Dilution Factor RL = Reporting Limit

* = Modified by Validation

U = Non-Detect J = Estimated R = Rejected

Form 1 Data Sheet - Conventionals

CTEH

Houston Wood Preserving Works Site

SDG: L367328

COC Sample ID: **HOTX0215PM002** Sample Matrix : **Air**

Location ID: **NA**

Lab Sample ID: **L367328-6** Lab Code: **GALSON**

Sample Type: **Site Sample**

Parameter Name	Collection Date	Analysis Date	DF	RL	Lab Result	Lab Qualifier	Verified Result	Verified Qualifier	Units
Method: mod. EPA Method IP-10A; Gravimetric									
PARTICULATE MATTER/PM10	02/15/2016	02/18/2016 11:32	1	0.049	0.15		0.15		MG/M3
PARTICULATE MATTER/PM10	02/15/2016	02/18/2016 11:32	1	0.05	0.15		0.15		MG

DF = Dilution Factor RL = Reporting Limit

* = Modified by Validation

U = Non-Detect J = Estimated R = Rejected

Form 1 Data Sheet - Conventionals

CTEH

Houston Wood Preserving Works Site

SDG: L367328

COC Sample ID: **HOTX0215PM003** Sample Matrix : **Air**

Location ID: **NA**

Lab Sample ID: **L367328-7** Lab Code: **GALSON**

Sample Type: **Site Sample**

Parameter Name	Collection Date	Analysis Date	DF	RL	Lab Result	Lab Qualifier	Verified Result	Verified Qualifier	Units
Method: mod. EPA Method IP-10A; Gravimetric									
PARTICULATE MATTER/PM10	02/15/2016	02/18/2016 11:33	1	0.093	0.31		0.31		MG/M3
PARTICULATE MATTER/PM10	02/15/2016	02/18/2016 11:33	1	0.05	0.17		0.17		MG

DF = Dilution Factor RL = Reporting Limit

* = Modified by Validation

U = Non-Detect J = Estimated R = Rejected

Form 1 Data Sheet - Conventionals

CTEH

Houston Wood Preserving Works Site

SDG: L367328

COC Sample ID: **HOTX0215PM004** Sample Matrix : **Air**

Location ID: **NA**

Lab Sample ID: **L367328-8** Lab Code: **GALSON**

Sample Type: **Field Blank**

Parameter Name	Collection Date	Analysis Date	DF	RL	Lab Result	Lab Qualifier	Verified Result	Verified Qualifier	Units
Method: mod. EPA Method IP-10A; Gravimetric									
PARTICULATE MATTER/PM10	02/15/2016	02/18/2016 11:34	1	0.05	0.05	U	0.05	U	MG

DF = Dilution Factor RL = Reporting Limit

* = Modified by Validation

U = Non-Detect J = Estimated R = Rejected

Appendix II
Chain of Custody

R821

5120 North Shore Drive
North Little Rock, AR 72118
Phone: (501) 801-8500
Fax: (501) 801-8501
Website: www.cteh.com

Center for Toxicology and Environmental Health L.L.C.
SAMPLE CHAIN OF CUSTODY AND ANALYSIS REQUEST FORM

Page 1 of 1

	Send Report To:	Send Invoice To:
Name	CConnolly@Cteh.com; Mberg@Cteh.com	Accounts Payable
Company	CTEH	CTEH
Address	2000 Anders Lane Kemah, Texas 77565	5120 North Shore Drive North Little Rock, AR 72118
Phone	(281)535-2834	(501)801-8500
Fax	(281)535-0232	(501)801-8501
e-mail	labresults@cteh.com	lraccountingsvc@cteh.com

CTEH Project #: 107907

Turnaround Requested:
Same Day __Next Day (24 hour) ___ Normal
X Other (Specify) 2 Day

Complete Data Packet Requested ☒Yes ☐No

Lab Contact Information:
Galson Laboratories
6601 Kirkville Road
E. Syracuse, NY 13057

Samples Received in Light Sensitive Material: (Yes) or No

Client Sample Identification	Other Sample Identification	Sample Size	Units (Check one) X L / cm²	Sample Date	Sample Time (for non-air samples)	Initials	NIOSH 5506 PNAH	Mod. EPA IP-10A PM10	Matrix (A = air, B = bulk, S = soil, SW = wipe, T = tape, W = water)
HOTx0215PNAH001	15-0034923	965.74	L	02.15.16	480	RA	X		A
HOTx0215PNAH002	16-0037312	984.9	L	02.15.16	480	RA	X		A
HOTx0215PNAH003	16-0037321	960.38	L	02.15.16	480	RA	X		A
HOTx0215PNAH004	16-0037350	0	L	02.15.16	0	RA	X		A
HOTx0215PM001	16-0030844	1037.85	L	02.15.16	515	RA		X	A
HOTx0215PM002	16-0030843	1015.78	L	02.15.16	517	RA		X	A
HOTx0215PM003	16-0030842	536.36	L	02.15.16	307	RA		X	A
HOTx0215PM004	16-0030841	0	L	02.15.16	0	RA		X	A

RELINQUISHED BY	DATE/TIME	RECEIVED BY	DATE/TIME
ZK	2-16-16 1405	Fed Ex	
		Zach King	2/17/16 10:04

775656005844
Date: 02/17/16
Shipper: FEDEX
Initials: SK
Prep: UNKNOWN

Rec'd intact & all accounted for? Yes or No ZK
Rec'd w/custody seals intact? Yes or No N/A ZK
Rec'd in light sensitive packaging? Yes or No ZK
Rec'd with ice pack? Yes or No ZK
Rec'd temperature compliant? Yes or No N/A ZK

Data Verification Report (Level 2)

Project: 107907 - Houston Wood Preserving Works Site

Client: CTEH

Report #: L367329-rev2 Date: February 26, 2016

Environmental Data Professional, LLC
1432 Watkins St.• Lake Charles, LA 70601 • phone: 337-540-0036 • fax: 337-478-6061

Disclaimer:

The review performed and reported herein is based on specifications and procedures presented to eDATApro with the associated data package. Any qualifications or review not specified with package requirements was based on USEPA National Functional Guidelines for Inorganic and Organic Data Review.

Information contained in this report is based solely on the hardcopy and/or electronic deliverables that were submitted to eDATApro. eDATApro reserves the rights to modify or change the report if new information is presented or if this report is determined to be inaccurate or incomplete.

The following parameters were reviewed during the verification process:

Chain-of-Custody (COC): Completeness and sample custody

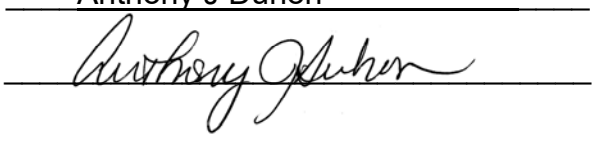
Holding time: Compare collection date versus preparation and/or analysis date

Blank Contamination: Laboratory and field blanks

Matrix/Precision/Recovery: Surrogates, Internal Standards, Duplicates, Blank spike and blank spike duplicate samples (when applicable)

Standards: Detection limit standard and continuing calibration verification (when applicable)

Reviewed by: Anthony J Duhon

Signature: 

INTRODUCTION:

Project Name: 107907 - Houston Wood Preserving Works Site
Laboratory: Galson Laboratories
Laboratory Package No.: L367329
Matrix: Air

Environmental Data Professional, LLC (eDATApro) received one electronic Level II data package containing the results for six field samples and two field blanks. Level II verification was performed on the data utilizing *USEPA National Functional Guidelines for Organic Data Review*, *USEPA National Functional Guidelines for Inorganic Data Review* and the analytical methods.

The following samples were reviewed:

Sample ID	Lab ID	Collection Date	Analyses
HOTX0213PNAH001	L367329-1	02/13/2016	[1]
HOTX0213PNAH002	L367329-2	02/13/2016	[1]
HOTX0213PNAH003	L367329-3	02/13/2016	[1]
HOTX0213PNAH004	L367329-4	02/13/2016	[1]
HOTX0213PM001	L367329-5	02/13/2016	[2]
HOTX0213PM002	L367329-6	02/13/2016	[2]
HOTX0213PM003	L367329-7	02/13/2016	[2]
HOTX0213PM004	L367329-8	02/13/2016	[2]

Analyses Performed Codes:

[1] Semivolatile Organics; PAHs (mod. NIOSH 5506; HPLC/UV)
[2] Particulate Matter; PM10 (mod. EPA Method IP-10A; Gravimetric)

DATA REVIEW FINDINGS SUMMARY

I. General Package:

The laboratory submitted a revised data package on February 26, 2016 with additional comments regarding the condition of sample HOTX0213PM002 at the time of receipt. This report replaces in its entirety any previous submission.

II. Semivolatile Organics; PAHs – mod. NIOSH 5506; HPLC/UV:

The laboratory reported the results in both ug and mg/m3 units.

Fluoranthene was present in method blank sample WG339225-2. This analyte was not detected in the associated field samples.

Recovery of Anthracene in a continuing calibration verification (CCV) standard bracketing the analyses of samples from this SDG exceeded upper acceptance criteria. This analyte was not detected in the field samples. No data qualifications were necessary.

All other quality assurance and quality control (QA/QC) components presented by the laboratory satisfied method and data review acceptance criteria.

III. Particulate Matter; PM10 – mod. EPA Method IP-10A; Gravimetric:

The laboratory reported the results in both mg and mg/m3 units.

The laboratory noted for sample HOTX0213PM002; “Metal mesh piece still attached to filter. Unknown impact on result.” Verification of the impact of this information is outside the scope of Level II data review. No data qualifications were applied based on these comments.

All quality assurance and quality control (QA/QC) components presented by the laboratory satisfied method and data review acceptance criteria; therefore, no data qualifications were necessary.

Appendix I
Form 1 Data (Qualified)

Form 1 Data Sheet - Semivolatiles

CTEH

Houston Wood Preserving Works Site

SDG: L367329

COC Sample ID: **HOTX0213PNAH001** | Sample Matrix : **Air** | Total/Dissolved: **T**

Location ID: **NA** | Sample Date: **02/13/2016** | Lab: **SGS-GALSON**

Lab Sample ID: **L367329-1** | Analysis Date: **02/18/2016 4:49**

Sample Type: **Site Sample**

Method: **mod. NIOSH 5506; HPLC/UV**

CAS	Parameter Name	DF	RL	Lab Result	Lab Qualifier	Verified Result	Verified Qualifier	Units
5522-43-0	1-NITROPYRENE	1	0.4	0.4	U	0.4	U	UG
5522-43-0	1-NITROPYRENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
83-32-9	ACENAPHTHENE	1	0.3	0.3	U	0.3	U	UG
83-32-9	ACENAPHTHENE	1	0.0003	0.0003	U	0.0003	U	MG/M3
208-96-8	ACENAPHTHYLENE	1	0.3	0.3	U	0.3	U	UG
208-96-8	ACENAPHTHYLENE	1	0.0003	0.0003	U	0.0003	U	MG/M3
120-12-7	ANTHRACENE	1	0.4	0.4	U	0.4	U	UG
120-12-7	ANTHRACENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
56-55-3	BENZO(A)ANTHRACENE	1	0.4	0.4	U	0.4	U	UG
56-55-3	BENZO(A)ANTHRACENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
50-32-8	BENZO(A)PYRENE	1	0.5	0.5	U	0.5	U	UG
50-32-8	BENZO(A)PYRENE	1	0.0005	0.0005	U	0.0005	U	MG/M3
205-99-2	BENZO(B)FLUORANTHENE	1	0.4	0.4	U	0.4	U	UG
205-99-2	BENZO(B)FLUORANTHENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
192-97-2	BENZO(E)PYRENE	1	0.4	0.4	U	0.4	U	UG
192-97-2	BENZO(E)PYRENE	1	0.0005	0.0005	U	0.0005	U	MG/M3
191-24-2	BENZO(G,H,I)PERYLENE	1	0.5	0.5	U	0.5	U	UG
191-24-2	BENZO(G,H,I)PERYLENE	1	0.0005	0.0005	U	0.0005	U	MG/M3
207-08-9	BENZO(K)FLUORANTHENE	1	0.4	0.4	U	0.4	U	UG
207-08-9	BENZO(K)FLUORANTHENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
218-01-9	CHRYSENE	1	0.4	0.4	U	0.4	U	UG
218-01-9	CHRYSENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
53-70-3	DIBENZ(A,H)ANTHRACENE	1	0.4	0.4	U	0.4	U	UG
53-70-3	DIBENZ(A,H)ANTHRACENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
206-44-0	FLUORANTHENE	1	0.4	0.4	U	0.4	U	UG
206-44-0	FLUORANTHENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
86-73-7	FLUORENE	1	0.3	0.3	U	0.3	U	UG
86-73-7	FLUORENE	1	0.0003	0.0003	U	0.0003	U	MG/M3
193-39-5	INDENO-1,2,3-CD-PYRENE	1	0.5	0.5	U	0.5	U	UG
193-39-5	INDENO-1,2,3-CD-PYRENE	1	0.0005	0.0005	U	0.0005	U	MG/M3
91-20-3	NAPHTHALENE	1	0.3	0.4		0.4		UG
91-20-3	NAPHTHALENE	1	0.0003	0.0004		0.0004		MG/M3
85-01-8	PHENANTHRENE	1	0.3	0.3	U	0.3	U	UG
85-01-8	PHENANTHRENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
129-00-0	PYRENE	1	0.4	0.4	U	0.4	U	UG
129-00-0	PYRENE	1	0.0004	0.0004	U	0.0004	U	MG/M3

DF = Dilution Factor RL = Reporting Limit

* = Modified by Validation

U = Non-Detect J = Estimated R = Rejected

eDATApro ENVIRONMENTAL DATA PROFESSIONAL, LLC

Form 1 Data Sheet - Semivolatiles

CTEH

Houston Wood Preserving Works Site

SDG: L367329

COC Sample ID: **HOTX0213PNAH002** | Sample Matrix : **Air** | Total/Dissolved: **T**

Location ID: **NA** | Sample Date: **02/13/2016** | Lab: **SGS-GALSON**

Lab Sample ID: **L367329-2** | Analysis Date: **02/18/2016 5:49**

Sample Type: **Site Sample**

Method: **mod. NIOSH 5506; HPLC/UV**

CAS	Parameter Name	DF	RL	Lab Result	Lab Qualifier	Verified Result	Verified Qualifier	Units
5522-43-0	1-NITROPYRENE	1	0.4	0.4	U	0.4	U	UG
5522-43-0	1-NITROPYRENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
83-32-9	ACENAPHTHENE	1	0.3	0.3	U	0.3	U	UG
83-32-9	ACENAPHTHENE	1	0.0003	0.0003	U	0.0003	U	MG/M3
208-96-8	ACENAPHTHYLENE	1	0.3	0.3	U	0.3	U	UG
208-96-8	ACENAPHTHYLENE	1	0.0003	0.0003	U	0.0003	U	MG/M3
120-12-7	ANTHRACENE	1	0.4	0.4	U	0.4	U	UG
120-12-7	ANTHRACENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
56-55-3	BENZO(A)ANTHRACENE	1	0.4	0.4	U	0.4	U	UG
56-55-3	BENZO(A)ANTHRACENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
50-32-8	BENZO(A)PYRENE	1	0.5	0.5	U	0.5	U	UG
50-32-8	BENZO(A)PYRENE	1	0.0005	0.0005	U	0.0005	U	MG/M3
205-99-2	BENZO(B)FLUORANTHENE	1	0.4	0.4	U	0.4	U	UG
205-99-2	BENZO(B)FLUORANTHENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
192-97-2	BENZO(E)PYRENE	1	0.4	0.4	U	0.4	U	UG
192-97-2	BENZO(E)PYRENE	1	0.0005	0.0005	U	0.0005	U	MG/M3
191-24-2	BENZO(G,H,I)PERYLENE	1	0.5	0.5	U	0.5	U	UG
191-24-2	BENZO(G,H,I)PERYLENE	1	0.0005	0.0005	U	0.0005	U	MG/M3
207-08-9	BENZO(K)FLUORANTHENE	1	0.4	0.4	U	0.4	U	UG
207-08-9	BENZO(K)FLUORANTHENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
218-01-9	CHRYSENE	1	0.4	0.4	U	0.4	U	UG
218-01-9	CHRYSENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
53-70-3	DIBENZ(A,H)ANTHRACENE	1	0.4	0.4	U	0.4	U	UG
53-70-3	DIBENZ(A,H)ANTHRACENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
206-44-0	FLUORANTHENE	1	0.4	0.4	U	0.4	U	UG
206-44-0	FLUORANTHENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
86-73-7	FLUORENE	1	0.3	0.3	U	0.3	U	UG
86-73-7	FLUORENE	1	0.0003	0.0003	U	0.0003	U	MG/M3
193-39-5	INDENO-1,2,3-CD-PYRENE	1	0.5	0.5	U	0.5	U	UG
193-39-5	INDENO-1,2,3-CD-PYRENE	1	0.0005	0.0005	U	0.0005	U	MG/M3
91-20-3	NAPHTHALENE	1	0.3	0.3	U	0.3	U	UG
91-20-3	NAPHTHALENE	1	0.0003	0.0003	U	0.0003	U	MG/M3
85-01-8	PHENANTHRENE	1	0.3	0.3	U	0.3	U	UG
85-01-8	PHENANTHRENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
129-00-0	PYRENE	1	0.4	0.4	U	0.4	U	UG
129-00-0	PYRENE	1	0.0004	0.0004	U	0.0004	U	MG/M3

DF = Dilution Factor RL = Reporting Limit

* = Modified by Validation

U = Non-Detect J = Estimated R = Rejected

Form 1 Data Sheet - Semivolatiles

CTEH

Houston Wood Preserving Works Site

SDG: L367329

COC Sample ID: **HOTX0213PNAH003** | Sample Matrix : **Air** | Total/Dissolved: **T**

Location ID: **NA** | Sample Date: **02/13/2016** | Lab: **SGS-GALSON**

Lab Sample ID: **L367329-3** | Analysis Date: **02/18/2016 6:49**

Sample Type: **Site Sample**

Method: **mod. NIOSH 5506; HPLC/UV**

CAS	Parameter Name	DF	RL	Lab Result	Lab Qualifier	Verified Result	Verified Qualifier	Units
5522-43-0	1-NITROPYRENE	1	0.4	0.4	U	0.4	U	UG
5522-43-0	1-NITROPYRENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
83-32-9	ACENAPHTHENE	1	0.3	0.3	U	0.3	U	UG
83-32-9	ACENAPHTHENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
208-96-8	ACENAPHTHYLENE	1	0.3	0.3	U	0.3	U	UG
208-96-8	ACENAPHTHYLENE	1	0.0003	0.0003	U	0.0003	U	MG/M3
120-12-7	ANTHRACENE	1	0.4	0.4	U	0.4	U	UG
120-12-7	ANTHRACENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
56-55-3	BENZO(A)ANTHRACENE	1	0.4	0.4	U	0.4	U	UG
56-55-3	BENZO(A)ANTHRACENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
50-32-8	BENZO(A)PYRENE	1	0.5	0.5	U	0.5	U	UG
50-32-8	BENZO(A)PYRENE	1	0.0005	0.0005	U	0.0005	U	MG/M3
205-99-2	BENZO(B)FLUORANTHENE	1	0.4	0.4	U	0.4	U	UG
205-99-2	BENZO(B)FLUORANTHENE	1	0.0005	0.0005	U	0.0005	U	MG/M3
192-97-2	BENZO(E)PYRENE	1	0.4	0.4	U	0.4	U	UG
192-97-2	BENZO(E)PYRENE	1	0.0005	0.0005	U	0.0005	U	MG/M3
191-24-2	BENZO(G,H,I)PERYLENE	1	0.5	0.5	U	0.5	U	UG
191-24-2	BENZO(G,H,I)PERYLENE	1	0.0006	0.0006	U	0.0006	U	MG/M3
207-08-9	BENZO(K)FLUORANTHENE	1	0.4	0.4	U	0.4	U	UG
207-08-9	BENZO(K)FLUORANTHENE	1	0.0005	0.0005	U	0.0005	U	MG/M3
218-01-9	CHRYSENE	1	0.4	0.4	U	0.4	U	UG
218-01-9	CHRYSENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
53-70-3	DIBENZ(A,H)ANTHRACENE	1	0.4	0.4	U	0.4	U	UG
53-70-3	DIBENZ(A,H)ANTHRACENE	1	0.0005	0.0005	U	0.0005	U	MG/M3
206-44-0	FLUORANTHENE	1	0.4	0.4	U	0.4	U	UG
206-44-0	FLUORANTHENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
86-73-7	FLUORENE	1	0.3	0.3	U	0.3	U	UG
86-73-7	FLUORENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
193-39-5	INDENO-1,2,3-CD-PYRENE	1	0.5	0.5	U	0.5	U	UG
193-39-5	INDENO-1,2,3-CD-PYRENE	1	0.0005	0.0005	U	0.0005	U	MG/M3
91-20-3	NAPHTHALENE	1	0.3	0.3	U	0.3	U	UG
91-20-3	NAPHTHALENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
85-01-8	PHENANTHRENE	1	0.3	0.3	U	0.3	U	UG
85-01-8	PHENANTHRENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
129-00-0	PYRENE	1	0.4	0.4	U	0.4	U	UG
129-00-0	PYRENE	1	0.0004	0.0004	U	0.0004	U	MG/M3

DF = Dilution Factor RL = Reporting Limit

* = Modified by Validation

U = Non-Detect J = Estimated R = Rejected

Form 1 Data Sheet - Semivolatiles

CTEH

Houston Wood Preserving Works Site

SDG: L367329

COC Sample ID: **HOTX0213PNAH004** | Sample Matrix : **Air** | Total/Dissolved: **T**

Location ID: **NA** | Sample Date: **02/13/2016** | Lab: **SGS-GALSON**

Lab Sample ID: **L367329-4** | Analysis Date: **02/18/2016 7:49**

Sample Type: **Field Blank**

Method: **mod. NIOSH 5506; HPLC/UV**

CAS	Parameter Name	DF	RL	Lab Result	Lab Qualifier	Verified Result	Verified Qualifier	Units
5522-43-0	1-NITROPYRENE	1	0.4	0.4	U	0.4	U	UG
83-32-9	ACENAPHTHENE	1	0.3	0.3	U	0.3	U	UG
208-96-8	ACENAPHTHYLENE	1	0.3	0.3	U	0.3	U	UG
120-12-7	ANTHRACENE	1	0.4	0.4	U	0.4	U	UG
56-55-3	BENZO(A)ANTHRACENE	1	0.4	0.4	U	0.4	U	UG
50-32-8	BENZO(A)PYRENE	1	0.5	0.5	U	0.5	U	UG
205-99-2	BENZO(B)FLUORANTHENE	1	0.4	0.4	U	0.4	U	UG
192-97-2	BENZO(E)PYRENE	1	0.4	0.4	U	0.4	U	UG
191-24-2	BENZO(G,H,I)PERYLENE	1	0.5	0.5	U	0.5	U	UG
207-08-9	BENZO(K)FLUORANTHENE	1	0.4	0.4	U	0.4	U	UG
218-01-9	CHRYSENE	1	0.4	0.4	U	0.4	U	UG
53-70-3	DIBENZ(A,H)ANTHRACENE	1	0.4	0.4	U	0.4	U	UG
206-44-0	FLUORANTHENE	1	0.4	0.4	U	0.4	U	UG
86-73-7	FLUORENE	1	0.3	0.3	U	0.3	U	UG
193-39-5	INDENO-1,2,3-CD-PYRENE	1	0.5	0.5	U	0.5	U	UG
91-20-3	NAPHTHALENE	1	0.3	0.3	U	0.3	U	UG
85-01-8	PHENANTHRENE	1	0.3	0.3	U	0.3	U	UG
129-00-0	PYRENE	1	0.4	0.4	U	0.4	U	UG

DF = Dilution Factor RL = Reporting Limit

* = Modified by Validation

U = Non-Detect J = Estimated R = Rejected

eDATApro ENVIRONMENTAL DATA PROFESSIONAL, LLC

Form 1 Data Sheet - Conventionals

CTEH

Houston Wood Preserving Works Site

SDG: L367329

COC Sample ID: **HOTX0213PM001** Sample Matrix : **Air**

Location ID: **NA**

Lab Sample ID: **L367329-5** Lab Code: **GALSON**

Sample Type: **Site Sample**

Parameter Name	Collection Date	Analysis Date	DF	RL	Lab Result	Lab Qualifier	Verified Result	Verified Qualifier	Units
Method: mod. EPA Method IP-10A; Gravimetric									
PARTICULATE MATTER/PM10	02/13/2016	02/18/2016 11:24	1	0.046	0.11		0.11		MG/M3
PARTICULATE MATTER/PM10	02/13/2016	02/18/2016 11:24	1	0.05	0.12		0.12		MG

DF = Dilution Factor RL = Reporting Limit

* = Modified by Validation

U = Non-Detect J = Estimated R = Rejected

Form 1 Data Sheet - Conventionals

CTEH

Houston Wood Preserving Works Site

SDG: L367329

COC Sample ID: **HOTX0213PM002** Sample Matrix : **Air**

Location ID: **NA**

Lab Sample ID: **L367329-6** Lab Code: **GALSON**

Sample Type: **Site Sample**

Parameter Name	Collection Date	Analysis Date	DF	RL	Lab Result	Lab Qualifier	Verified Result	Verified Qualifier	Units
Method: mod. EPA Method IP-10A; Gravimetric									
PARTICULATE MATTER/PM10	02/13/2016	02/18/2016 11:25	1	0.048	0.13		0.13		MG/M3
PARTICULATE MATTER/PM10	02/13/2016	02/18/2016 11:25	1	0.05	0.14		0.14		MG

DF = Dilution Factor RL = Reporting Limit

* = Modified by Validation

U = Non-Detect J = Estimated R = Rejected

eDATApro

Form 1 Data Sheet - Conventionals

CTEH

Houston Wood Preserving Works Site

SDG: L367329

COC Sample ID: **HOTX0213PM003** Sample Matrix : **Air**

Location ID: **NA**

Lab Sample ID: **L367329-7** Lab Code: **GALSON**

Sample Type: **Site Sample**

Parameter Name	Collection Date	Analysis Date	DF	RL	Lab Result	Lab Qualifier	Verified Result	Verified Qualifier	Units
Method: mod. EPA Method IP-10A; Gravimetric									
PARTICULATE MATTER/PM10	02/13/2016	02/18/2016 11:26	1	0.049	0.27		0.27		MG/M3
PARTICULATE MATTER/PM10	02/13/2016	02/18/2016 11:26	1	0.05	0.28		0.28		MG

DF = Dilution Factor RL = Reporting Limit

* = Modified by Validation

U = Non-Detect J = Estimated R = Rejected

eDATApro

Form 1 Data Sheet - Conventionals

CTEH

Houston Wood Preserving Works Site

SDG: L367329

COC Sample ID: **HOTX0213PM004** Sample Matrix : **Air**

Location ID: **NA**

Lab Sample ID: **L367329-8** Lab Code: **GALSON**

Sample Type: **Field Blank**

Parameter Name	Collection Date	Analysis Date	DF	RL	Lab Result	Lab Qualifier	Verified Result	Verified Qualifier	Units
Method: mod. EPA Method IP-10A; Gravimetric									
PARTICULATE MATTER/PM10	02/13/2016	02/18/2016 11:30	1	0.05	0.05	U	0.05	U	MG

DF = Dilution Factor RL = Reporting Limit

* = Modified by Validation

U = Non-Detect J = Estimated R = Rejected

Appendix II
Chain of Custody

5120 North Shore Drive
North Little Rock, AR 72118
Phone: (501) 801-8500
Fax: (501) 801-8501
Website: www.cteh.com

Center for Toxicology and Environmental Health L.L.C.

SAMPLE CHAIN OF CUSTODY AND ANALYSIS REQUEST FORM

R99

Page 1 of 1

	Send Report To:	Send Invoice To:
Name	CConnolly@Cteh.com; mbers@cteh.com	Accounts Payable
Company	CTEH	CTEH
Address	2000 Anders Lane Kemah, Texas 77565	5120 North Shore Drive North Little Rock, AR 72118
Phone	(281)535-2834	(501)801-8500
Fax	(281)535-0232	(501)801-8501
e-mail	labresults@cteh.com	lraccounting@cteh.com

CTEH Project #: 107907

Turnaround Requested:
Same Day ___Next Day (24 hour) ___ Normal
X Other (Specify) 2 day

Complete Data Packet Requested ☒Yes ☐No

Lab Contact Information:
Galson Laboratories
6601 Kirkville Road
E. Syracuse, NY 13057

Units (Check one) X L ___ cm^2

Client Sample Identification	Other Sample Identification	Sample Size	Units	Sample Date	Sample Time (for non-air samples)	Initials	N105H 5506 PNAH mod. EPA IP-10A PM10	Matrix
HOTX0213PNAH001	15-0034954	966.4	L	02.13.16	480	RA	X	A
HOTX0213PNAH002	16-0037336	954.79	L	02.13.16	480	RA	X	A
HOTX0213PNAH003	16-0037332	915.19	L	02.13.16	480	RA	X	A
HOTX0213PNAH004	16-0037329	0	L	02.13.16	0	RA	X	A
HOTX0213PM001	16-0030845	1081.92	L	02.13.16	537	RA		A
HOTX0213PM002	16-0030847	1039.75	L	02.13.16	522	RA		A
HOTX0213PM003	16-0030846	1027.96	L	02.13.16	513	RA		A
HOTX0213PM004	16-0030845	0	L	02.13.16	0	RA		A

Samples Received in Light Sensitive Material: Yes or No

RELINQUISHED BY	DATE/TIME	RECEIVED BY	DATE/TIME
Justin Langley	2/15/16 16:00	Fed Ex	
		M. Kramm	2/17/16 1021

COMMENTS

Rec'd intact & all accounted for? Yes or No SL
Rec'd w/custody seals intact? Yes or No NA
Rec'd in light sensitive packaging? Yes or No SL
Rec'd with ice pack? Yes or No SL
Rec'd temperature compliant? Yes or No SL

Data Verification Report (Level 2)

Project: 107907 - Houston Wood Preserving Works Site

Client: CTEH

Report #: L367642 Date: February 26, 2016

Environmental Data Professional, LLC
1432 Watkins St.• Lake Charles, LA 70601 • phone: 337-540-0036 • fax: 337-478-6061

Disclaimer:

The review performed and reported herein is based on specifications and procedures presented to eDATApro with the associated data package. Any qualifications or review not specified with package requirements was based on USEPA National Functional Guidelines for Inorganic and Organic Data Review.

Information contained in this report is based solely on the hardcopy and/or electronic deliverables that were submitted to eDATApro. eDATApro reserves the rights to modify or change the report if new information is presented or if this report is determined to be inaccurate or incomplete.

The following parameters were reviewed during the verification process:

Chain-of-Custody (COC): Completeness and sample custody

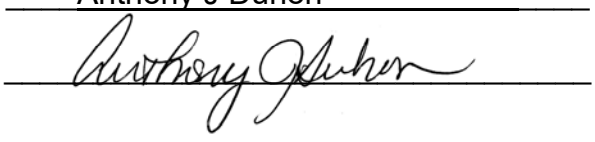
Holding time: Compare collection date versus preparation and/or analysis date

Blank Contamination: Laboratory and field blanks

Matrix/Precision/Recovery: Surrogates, Internal Standards, Duplicates, Blank spike and blank spike duplicate samples (when applicable)

Standards: Detection limit standard and continuing calibration verification (when applicable)

Reviewed by: Anthony J Duhon

Signature: 

INTRODUCTION:

Project Name: 107907 - Houston Wood Preserving Works Site
Laboratory: Galson Laboratories
Laboratory Package No.: L367642
Matrix: Air

Environmental Data Professional, LLC (eDATApro) received one electronic Level II data package containing the results for three field samples and one field blank. Level II verification was performed on the data utilizing *USEPA National Functional Guidelines for Inorganic Data Review* and the analytical method.

The following samples were reviewed:

Sample ID	Lab ID	Collection Date	Analyses
HOTX0218RD001	L367642-1	02/18/2016	[1]
HOTX0218RD002	L367642-2	02/18/2016	[1]
HOTX0218RD003	L367642-3	02/18/2016	[1]
HOTX0218RD004	L367642-4	02/18/2016	[1]

Analyses Performed Codes:

[1] Respirable Dust (mod. NIOSH 0600; Gravimetric)

DATA REVIEW FINDINGS SUMMARY

I. General Package:

The data package was complete and no resubmissions were requested.

The laboratory provided clarification of duplicate results on February 26, 2016.

II. Respirable Dust - mod. NIOSH 0600; Gravimetric:

The laboratory reported the results in both mg and mg/m3.

The absolute difference between the original and duplicate results of sample HOTX0218RD001 exceeded the control limit; however, both values were below the limit of qualification (LOQ). No data qualifications were necessary.

All other quality assurance and quality control (QA/QC) components presented by the laboratory satisfied method and data review acceptance criteria.

Appendix I
Form 1 Data (Qualified)

Form 1 Data Sheet - Conventionals

CTEH

Houston Wood Preserving Works Site

SDG: L367642

COC Sample ID: **HOTX0218RD001** Sample Matrix : **Air**

Location ID: **NA**

Lab Sample ID: **L367642-1** Lab Code: **GALSON**

Sample Type: **Site Sample**

Parameter Name	Collection Date	Analysis Date	DF	RL	Lab Result	Lab Qualifier	Verified Result	Verified Qualifier	Units
Method: mod. NIOSH 0600; Gravimetric									
RESPIRABLE DUST	02/18/2016	02/22/2016 9:04	1	0.039	0.039	U	0.039	U	MG/M3
RESPIRABLE DUST	02/18/2016	02/22/2016 9:04	1	0.05	0.05	U	0.05	U	MG

DF = Dilution Factor RL = Reporting Limit

* = Modified by Validation

U = Non-Detect J = Estimated R = Rejected

eDATApro

Form 1 Data Sheet - Conventionals

CTEH

Houston Wood Preserving Works Site

SDG: L367642

COC Sample ID: **HOTX0218RD002** Sample Matrix : **Air**

Location ID: **NA**

Lab Sample ID: **L367642-2** Lab Code: **GALSON**

Sample Type: **Site Sample**

Parameter Name	Collection Date	Analysis Date	DF	RL	Lab Result	Lab Qualifier	Verified Result	Verified Qualifier	Units
Method: mod. NIOSH 0600; Gravimetric									
RESPIRABLE DUST	02/18/2016	02/22/2016 9:06	1	0.039	0.039	U	0.039	U	MG/M3
RESPIRABLE DUST	02/18/2016	02/22/2016 9:06	1	0.05	0.05	U	0.05	U	MG

DF = Dilution Factor RL = Reporting Limit

* = Modified by Validation

U = Non-Detect J = Estimated R = Rejected

Form 1 Data Sheet - Conventionals

CTEH

Houston Wood Preserving Works Site

SDG: L367642

COC Sample ID: **HOTX0218RD003** Sample Matrix : **Air**

Location ID: **NA**

Lab Sample ID: **L367642-3** Lab Code: **GALSON**

Sample Type: **Site Sample**

Parameter Name	Collection Date	Analysis Date	DF	RL	Lab Result	Lab Qualifier	Verified Result	Verified Qualifier	Units
Method: mod. NIOSH 0600; Gravimetric									
RESPIRABLE DUST	02/18/2016	02/22/2016 9:08	1	0.039	0.039	U	0.039	U	MG/M3
RESPIRABLE DUST	02/18/2016	02/22/2016 9:08	1	0.05	0.05	U	0.05	U	MG

DF = Dilution Factor RL = Reporting Limit

* = Modified by Validation

U = Non-Detect J = Estimated R = Rejected

eDATApro

Form 1 Data Sheet - Conventionals

CTEH

Houston Wood Preserving Works Site

SDG: L367642

COC Sample ID: **HOTX0218RD004** Sample Matrix : **Air**

Location ID: **NA**

Lab Sample ID: **L367642-4** Lab Code: **GALSON**

Sample Type: **Field Blank**

Parameter Name	Collection Date	Analysis Date	DF	RL	Lab Result	Lab Qualifier	Verified Result	Verified Qualifier	Units
Method: mod. NIOSH 0600; Gravimetric									
RESPIRABLE DUST	02/18/2016	02/22/2016 9:09	1	0.05	0.05	U	0.05	U	MG

DF = Dilution Factor RL = Reporting Limit

* = Modified by Validation

U = Non-Detect J = Estimated R = Rejected

eDATApro

Appendix II
Chain of Custody

L3617642

R137

5120 North Shore Drive
North Little Rock, AR 72118
Phone: (501) 801-8500
Fax: (501) 801-8501
Website: www.cteh.com

Center for Toxicology and Environmental Health L.L.C.

SAMPLE CHAIN OF CUSTODY AND ANALYSIS REQUEST FORM

Page 1 of 1

	Send Report To:	Send Invoice To:
Name	Mike Berg Charles Connally	Accounts Payable
Company	CTEH	CTEH
Address	2000 Anders Lane Kemah, Texas 77565	5120 North Shore Drive North Little Rock, AR 72118
Phone	(281)535-2834	(501)801-8500
Fax	(281)535-0232	(501)801-8501
e-mail	labresults@cteh.com MBerg@cteh.com cconnally@cteh.com	raccounting@cteh.com

CTEH Project #: 107907

Turnaround Requested:
Same Day __Next Day (24 hour) __ Normal
__Other (Specify) 2day TAT

Complete Data Packet Requested ☐Yes ☒No

Lab Contact Information:
Galson Laboratories
6601 Kirkville Road
E. Syracuse, NY 13057

Client Sample Identification	Other Sample Identification	Sample Size	Units (Check one) X L / __cm²	Sample Date	Sample Time (for non-air samples)	Initials	Rush TAT Next Day 0900
HOTX0218RD001	AS08	1284.5	L	02-18-16		AS	X
HOTX0218RD002	AS09	1271.0	L	02-18-16			X
HOTX0218RD003	AS05	1280.0	L	02-18-16			X
HOTX0218RD004	Blank	0	L	02-18-16			X

Matrix
A = air
B = bulk
S = soil
SW = wipe
T = tape
W = water

806684141171
Date:02/20/16
Shipper:FEDEX
Initials:GMB
Prep:UNKNOWN

Rec'd intact & all accounted for? (Yes) or No GB
Rec'd w/custody seals intact? (Yes) or No GB
Rec'd in light sensitive packaging? Yes or (No) NA
Rec'd with ice pack? Yes or (No) NA
Rec'd temperature compliant? (Yes) or No GB

RELINQUISHED BY	DATE/TIME	RECEIVED BY	DATE/TIME	COMMENTS
A-Sorgen	2.19.16	Fed Ex	2/19/16	
		Gretchen B GB	2/20/16 930	

Data Verification Report (Level 2)

Project: 107907 - Houston Wood Preserving Works Site

Client: CTEH

Report #: L367778 Date: February 26, 2016

Environmental Data Professional, LLC
1432 Watkins St.• Lake Charles, LA 70601 • phone: 337-540-0036 • fax: 337-478-6061

Disclaimer:

The review performed and reported herein is based on specifications and procedures presented to eDATApro with the associated data package. Any qualifications or review not specified with package requirements was based on USEPA National Functional Guidelines for Inorganic and Organic Data Review.

Information contained in this report is based solely on the hardcopy and/or electronic deliverables that were submitted to eDATApro. eDATApro reserves the rights to modify or change the report if new information is presented or if this report is determined to be inaccurate or incomplete.

The following parameters were reviewed during the verification process:

Chain-of-Custody (COC): Completeness and sample custody

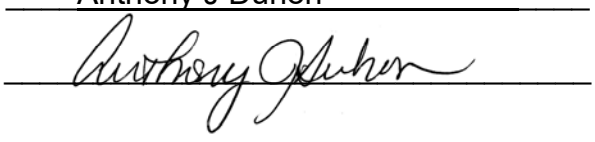
Holding time: Compare collection date versus preparation and/or analysis date

Blank Contamination: Laboratory and field blanks

Matrix/Precision/Recovery: Surrogates, Internal Standards, Duplicates, Blank spike and blank spike duplicate samples (when applicable)

Standards: Detection limit standard and continuing calibration verification (when applicable)

Reviewed by: Anthony J Duhon

Signature: 

INTRODUCTION:

Project Name: 107907 - Houston Wood Preserving Works Site
Laboratory: Galson Laboratories
Laboratory Package No.: L367778
Matrix: Air

Environmental Data Professional, LLC (eDATApro) received one electronic Level II data package containing the results for six field samples and two field blanks. Level II verification was performed on the data utilizing *USEPA National Functional Guidelines for Inorganic Data Review* and the analytical method.

The following samples were reviewed:

Sample ID	Lab ID	Collection Date	Analyses
HOTX0219RD001	L367778-1	02/19/2016	[1]
HOTX0219RD002	L367778-2	02/19/2016	[1]
HOTX0219RD003	L367778-3	02/19/2016	[1]
HOTX0219RD004	L367778-4	02/19/2016	[1]
HOTX0219TD001	L367778-5	02/19/2016	[2]
HOTX0219TD002	L367778-6	02/19/2016	[2]
HOTX0219TD003	L367778-7	02/19/2016	[2]
HOTX0219TD004	L367778-8	02/19/2016	[2]

Analyses Performed Codes:

[1] Respirable Dust (mod. NIOSH 0600; Gravimetric)
[2] Total Dust (mod. NIOSH 0500; Gravimetric)

DATA REVIEW FINDINGS SUMMARY

I. General Package:

The data package was complete and no resubmissions were requested.

II. Respirable Dust - mod. NIOSH 0600; Gravimetric:

The laboratory reported the results in both mg and mg/m3.

All quality assurance and quality control (QA/QC) components presented by the laboratory satisfied method and data review acceptance criteria; therefore, no data qualifications were necessary.

III. Total Dust - mod. NIOSH 0500; Gravimetric:

The laboratory reported the results in both mg and mg/m3.

All quality assurance and quality control (QA/QC) components presented by the laboratory satisfied method and data review acceptance criteria; therefore, no data qualifications were necessary.

Appendix I
Form 1 Data (Qualified)

Form 1 Data Sheet - Conventionals

CTEH

Houston Wood Preserving Works Site

SDG: L367778

COC Sample ID: **HOTX0219RD001** Sample Matrix : **Air**

Location ID: **NA**

Lab Sample ID: **L367778-1** Lab Code: **GALSON**

Sample Type: **Site Sample**

Parameter Name	Collection Date	Analysis Date	DF	RL	Lab Result	Lab Qualifier	Verified Result	Verified Qualifier	Units
Method: mod. NIOSH 0600; Gravimetric									
RESPIRABLE DUST	02/19/2016	02/23/2016 12:39	1	0.037	0.037	U	0.037	U	MG/M3
RESPIRABLE DUST	02/19/2016	02/23/2016 12:39	1	0.05	0.05	U	0.05	U	MG

DF = Dilution Factor RL = Reporting Limit

* = Modified by Validation

U = Non-Detect J = Estimated R = Rejected

eDATApro

Form 1 Data Sheet - Conventionals

CTEH

Houston Wood Preserving Works Site

SDG: L367778

COC Sample ID: **HOTX0219RD002** Sample Matrix : **Air**

Location ID: **NA**

Lab Sample ID: **L367778-2** Lab Code: **GALSON**

Sample Type: **Site Sample**

Parameter Name	Collection Date	Analysis Date	DF	RL	Lab Result	Lab Qualifier	Verified Result	Verified Qualifier	Units
Method: mod. NIOSH 0600; Gravimetric									
RESPIRABLE DUST	02/19/2016	02/23/2016 12:40	1	0.036	0.036	U	0.036	U	MG/M3
RESPIRABLE DUST	02/19/2016	02/23/2016 12:40	1	0.05	0.05	U	0.05	U	MG

DF = Dilution Factor RL = Reporting Limit

* = Modified by Validation

U = Non-Detect J = Estimated R = Rejected

eDATApro

Form 1 Data Sheet - Conventionals

CTEH

Houston Wood Preserving Works Site

SDG: L367778

COC Sample ID: **HOTX0219RD003** Sample Matrix : **Air**

Location ID: **NA**

Lab Sample ID: **L367778-3** Lab Code: **GALSON**

Sample Type: **Site Sample**

Parameter Name	Collection Date	Analysis Date	DF	RL	Lab Result	Lab Qualifier	Verified Result	Verified Qualifier	Units
Method: mod. NIOSH 0600; Gravimetric									
RESPIRABLE DUST	02/19/2016	02/23/2016 12:41	1	0.04	0.04	U	0.04	U	MG/M3
RESPIRABLE DUST	02/19/2016	02/23/2016 12:41	1	0.05	0.05	U	0.05	U	MG

DF = Dilution Factor RL = Reporting Limit

* = Modified by Validation

U = Non-Detect J = Estimated R = Rejected

eDATApro

Form 1 Data Sheet - Conventionals

CTEH

Houston Wood Preserving Works Site

SDG: L367778

COC Sample ID: **HOTX0219RD004** Sample Matrix : **Air**

Location ID: **NA**

Lab Sample ID: **L367778-4** Lab Code: **GALSON**

Sample Type: **Field Blank**

Parameter Name	Collection Date	Analysis Date	DF	RL	Lab Result	Lab Qualifier	Verified Result	Verified Qualifier	Units
Method: mod. NIOSH 0600; Gravimetric									
RESPIRABLE DUST	02/19/2016	02/23/2016 12:42	1	0.05	0.05	U	0.05	U	MG

DF = Dilution Factor RL = Reporting Limit

* = Modified by Validation

U = Non-Detect J = Estimated R = Rejected

eDATApro

Form 1 Data Sheet - Conventionals

CTEH

Houston Wood Preserving Works Site

SDG: L367778

COC Sample ID: **HOTX0219TD001** Sample Matrix : **Air**

Location ID: **NA**

Lab Sample ID: **L367778-5** Lab Code: **GALSON**

Sample Type: **Site Sample**

Parameter Name	Collection Date	Analysis Date	DF	RL	Lab Result	Lab Qualifier	Verified Result	Verified Qualifier	Units
Method: mod. NIOSH 0500; Gravimetric									
TOTAL DUST	02/19/2016	02/23/2016 12:42	1	0.045	0.065		0.065		MG/M3
TOTAL DUST	02/19/2016	02/23/2016 12:42	1	0.05	0.072		0.072		MG

DF = Dilution Factor RL = Reporting Limit

* = Modified by Validation

U = Non-Detect J = Estimated R = Rejected

eDATApro

Form 1 Data Sheet - Conventionals

CTEH

Houston Wood Preserving Works Site

SDG: L367778

COC Sample ID: **HOTX0219TD002** Sample Matrix : **Air**

Location ID: **NA**

Lab Sample ID: **L367778-6** Lab Code: **GALSON**

Sample Type: **Site Sample**

Parameter Name	Collection Date	Analysis Date	DF	RL	Lab Result	Lab Qualifier	Verified Result	Verified Qualifier	Units
Method: mod. NIOSH 0500; Gravimetric									
TOTAL DUST	02/19/2016	02/23/2016 12:43	1	0.046	0.054		0.054		MG/M3
TOTAL DUST	02/19/2016	02/23/2016 12:43	1	0.05	0.059		0.059		MG

DF = Dilution Factor RL = Reporting Limit

* = Modified by Validation

U = Non-Detect J = Estimated R = Rejected

eDATApro

Form 1 Data Sheet - Conventionals

CTEH

Houston Wood Preserving Works Site

SDG: L367778

COC Sample ID: **HOTX0219TD003** Sample Matrix : **Air**

Location ID: **NA**

Lab Sample ID: **L367778-7** Lab Code: **GALSON**

Sample Type: **Site Sample**

Parameter Name	Collection Date	Analysis Date	DF	RL	Lab Result	Lab Qualifier	Verified Result	Verified Qualifier	Units
Method: mod. NIOSH 0500; Gravimetric									
TOTAL DUST	02/19/2016	02/23/2016 12:43	1	0.051	0.13		0.13		MG/M3
TOTAL DUST	02/19/2016	02/23/2016 12:43	1	0.05	0.13		0.13		MG

DF = Dilution Factor RL = Reporting Limit

* = Modified by Validation

U = Non-Detect J = Estimated R = Rejected

eDATApro

Form 1 Data Sheet - Conventionals

CTEH

Houston Wood Preserving Works Site

SDG: L367778

COC Sample ID: **HOTX0219TD004** Sample Matrix : **Air**

Location ID: **NA**

Lab Sample ID: **L367778-8** Lab Code: **GALSON**

Sample Type: **Field Blank**

Parameter Name	Collection Date	Analysis Date	DF	RL	Lab Result	Lab Qualifier	Verified Result	Verified Qualifier	Units
Method: mod. NIOSH 0500; Gravimetric									
TOTAL DUST	02/19/2016	02/23/2016 12:44	1	0.05	0.05	U	0.05	U	MG

DF = Dilution Factor RL = Reporting Limit

* = Modified by Validation

U = Non-Detect J = Estimated R = Rejected

Appendix II
Chain of Custody

L3607778

775699809498
Date: 02/23/16
Shipper: FEDEX
Initials: GMB
Prep: UNKNOWN

5120 North Shore Drive
North Little Rock, AR 72118
Phone: (501) 801-8500
Fax: (501) 801-8501
Website: www.cteh.com

for Toxicology and Environmental Health L.L.C.
CHAIN OF CUSTODY AND ANALYSIS REQUEST FORM

R83

Page ___ of ___

	Send Report To:	Send Invoice To:
Name	MBerg . CConnolly	Accounts Payable
Company	CTEH	CTEH
Address	2000 Anders Lane Kemah, Texas 77565	5120 North Shore Drive North Little Rock, AR 72118
Phone	(281)535-2834	(501)801-8500
Fax	(281)535-0232	(501)801-8501
e-mail	labresults@cteh.com MBerg@cteh.com CConnolly@cteh.com	lraccounting@cteh.com

CTEH Project #: 107907

Turnaround Requested:
Same Day ___Next Day (24 hour) ___ Normal
___Other (Specify) 2 day TAT

Complete Data Packet Requested ☐Yes ☒No

Lab Contact Information:
Galson Laboratories
6601 Kirkville Road
E. Syracuse NY 13057

Client Sample Identification	Other Sample Identification	Sample Size	Units (Check one) X L ___ cm^2 ___	Sample Date	Sample Time (for non-air samples)	Initials	Respirable Dust NIOSH 7500	Total Dust NIOSH 7500	Matrix (A = air, B = bulk, S = soil, SW = wipe, T = tape, W = water)
HOTX0219RD001	AS14	1366.8	L	2.19.16		AS	X		A
HOTX0219RD002	AS12	1375.1	L	2.19.16		AS	X		A
HOTX0219RD003	AS15	1249.5	L	2.19.16		AS	X		A
HOTX0219RD004	blank	0	L	2.19.16		AS	X		A
HOTX0219TD001	AS14	1102.7	L	2.19.16		AS		X	A
HOTX0219TD002	AS12	1084.6	L	2.19.16		AS		X	A
HOTX0219TD003	AS15	987.7	L	2.19.16		AS		X	A
HOTX0219TD004	blank	0	L	2.19.16		AS		X	A

RELINQUISHED BY	DATE/TIME	RECEIVED BY	DATE/TIME
A. Sanpon	02/22/16 16:00	Fed Ex	
		KMurray KM	2/23/16 728

COMMENTS
Rec'd intact & all accounted for? Yes or No KM
Rec'd w/custody seals intact? Yes or No NA KM
Rec'd in light sensitive packaging? Yes or No NA KM
Rec'd with ice pack? Yes or No NA KM
Rec'd temperature compliant? Yes or No KM

Data Verification Report (Level 2)

Project: 107907 - Houston Wood Preserving Works Site

Client: CTEH

Report #: L367779 Date: February 26, 2016

Environmental Data Professional, LLC
1432 Watkins St.• Lake Charles, LA 70601 • phone: 337-540-0036 • fax: 337-478-6061

Disclaimer:

The review performed and reported herein is based on specifications and procedures presented to eDATApro with the associated data package. Any qualifications or review not specified with package requirements was based on USEPA National Functional Guidelines for Inorganic and Organic Data Review.

Information contained in this report is based solely on the hardcopy and/or electronic deliverables that were submitted to eDATApro. eDATApro reserves the rights to modify or change the report if new information is presented or if this report is determined to be inaccurate or incomplete.

The following parameters were reviewed during the verification process:

Chain-of-Custody (COC): Completeness and sample custody

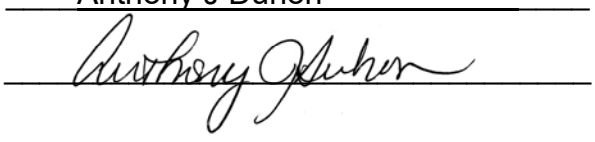
Holding time: Compare collection date versus preparation and/or analysis date

Blank Contamination: Laboratory and field blanks

Matrix/Precision/Recovery: Surrogates, Internal Standards, Duplicates, Blank spike and blank spike duplicate samples (when applicable)

Standards: Detection limit standard and continuing calibration verification (when applicable)

Reviewed by: Anthony J Duhon

Signature: 

INTRODUCTION:

Project Name: 107907 - Houston Wood Preserving Works Site
Laboratory: Galson Laboratories
Laboratory Package No.: L367779
Matrix: Air

Environmental Data Professional, LLC (eDATApro) received one electronic Level II data package containing the results for six field samples and two field blanks. Level II verification was performed on the data utilizing *USEPA National Functional Guidelines for Organic Data Review*, *USEPA National Functional Guidelines for Inorganic Data Review* and the analytical methods.

The following samples were reviewed:

Sample ID	Lab ID	Collection Date	Analyses
HOTX0219PNAH001	L367779-1	02/19/2016	[1]
HOTX0219PNAH002	L367779-2	02/19/2016	[1]
HOTX0219PNAH003	L367779-3	02/19/2016	[1]
HOTX0219PNAH004	L367779-4	02/19/2016	[1]
HOTX0219PM001	L367779-5	02/19/2016	[2]
HOTX0219PM002	L367779-6	02/19/2016	[2]
HOTX0219PM003	L367779-7	02/19/2016	[2]
HOTX0219PM004	L367779-8	02/19/2016	[2]

Analyses Performed Codes:

[1] Semivolatile Organics; PAHs (mod. NIOSH 5506; HPLC/UV)
[2] Particulate Matter; PM10 (mod. EPA Method IP-10A; Gravimetric)

DATA REVIEW FINDINGS SUMMARY

I. General Package:

The data package was complete and no resubmissions were requested.

II. Semivolatile Organics; PAHs – mod. NIOSH 5506; HPLC/UV:

The laboratory reported the results in both ug and mg/m3 units.

Possible breakthrough or migration was noted for sample HOTX0219PNAH001. The Naphthalene concentration reported for this sample may be biased low. This result was qualified as estimate (J).

All other quality assurance and quality control (QA/QC) components presented by the laboratory satisfied method and data review acceptance criteria.

III. Particulate Matter; PM10 – mod. EPA Method IP-10A; Gravimetric:

The laboratory reported the results in both mg and mg/m3 units.

All quality assurance and quality control (QA/QC) components presented by the laboratory satisfied method and data review acceptance criteria; therefore, no data qualifications were necessary.

Appendix I
Form 1 Data (Qualified)

Form 1 Data Sheet - Semivolatiles

CTEH

Houston Wood Preserving Works Site

SDG: L367779

COC Sample ID: **HOTX0219PNAH001** | Sample Matrix : **Air** | Total/Dissolved: **T**

Location ID: **NA** | Sample Date: **02/19/2016** | Lab: **SGS-GALSON**

Lab Sample ID: **L367779-1** | Analysis Date: **02/23/2016 4:05**

Sample Type: **Site Sample**

Method: **mod. NIOSH 5506; HPLC/UV**

CAS	Parameter Name	DF	RL	Lab Result	Lab Qualifier	Verified Result	Verified Qualifier	Units	
5522-43-0	1-NITROPYRENE	1	0.4	0.4	U	0.4	U	UG	
5522-43-0	1-NITROPYRENE	1	0.0004	0.0004	U	0.0004	U	MG/M3	
83-32-9	ACENAPHTHENE	1	0.3	2.3		2.3		UG	
83-32-9	ACENAPHTHENE	1	0.0004	0.0025		0.0025		MG/M3	
208-96-8	ACENAPHTHYLENE	1	0.3	0.3	U	0.3	U	UG	
208-96-8	ACENAPHTHYLENE	1	0.0003	0.0003	U	0.0003	U	MG/M3	
120-12-7	ANTHRACENE	1	0.4	0.4	U	0.4	U	UG	
120-12-7	ANTHRACENE	1	0.0004	0.0004	U	0.0004	U	MG/M3	
56-55-3	BENZO(A)ANTHRACENE	1	0.4	0.4	U	0.4	U	UG	
56-55-3	BENZO(A)ANTHRACENE	1	0.0004	0.0004	U	0.0004	U	MG/M3	
50-32-8	BENZO(A)PYRENE	1	0.5	0.5	U	0.5	U	UG	
50-32-8	BENZO(A)PYRENE	1	0.0005	0.0005	U	0.0005	U	MG/M3	
205-99-2	BENZO(B)FLUORANTHENE	1	0.4	0.4	U	0.4	U	UG	
205-99-2	BENZO(B)FLUORANTHENE	1	0.0005	0.0005	U	0.0005	U	MG/M3	
192-97-2	BENZO(E)PYRENE	1	0.4	0.4	U	0.4	U	UG	
192-97-2	BENZO(E)PYRENE	1	0.0005	0.0005	U	0.0005	U	MG/M3	
191-24-2	BENZO(G,H,I)PERYLENE	1	0.5	0.5	U	0.5	U	UG	
191-24-2	BENZO(G,H,I)PERYLENE	1	0.0006	0.0006	U	0.0006	U	MG/M3	
207-08-9	BENZO(K)FLUORANTHENE	1	0.4	0.4	U	0.4	U	UG	
207-08-9	BENZO(K)FLUORANTHENE	1	0.0005	0.0005	U	0.0005	U	MG/M3	
218-01-9	CHRYSENE	1	0.4	0.4	U	0.4	U	UG	
218-01-9	CHRYSENE	1	0.0004	0.0004	U	0.0004	U	MG/M3	
53-70-3	DIBENZ(A,H)ANTHRACENE	1	0.4	0.4	U	0.4	U	UG	
53-70-3	DIBENZ(A,H)ANTHRACENE	1	0.0005	0.0005	U	0.0005	U	MG/M3	
206-44-0	FLUORANTHENE	1	0.4	0.4	U	0.4	U	UG	
206-44-0	FLUORANTHENE	1	0.0004	0.0004	U	0.0004	U	MG/M3	
86-73-7	FLUORENE	1	0.3	0.9		0.9		UG	
86-73-7	FLUORENE	1	0.0004	0.001		0.001		MG/M3	
193-39-5	INDENO-1,2,3-CD-PYRENE	1	0.5	0.5	U	0.5	U	UG	
193-39-5	INDENO-1,2,3-CD-PYRENE	1	0.0005	0.0005	U	0.0005	U	MG/M3	
91-20-3	NAPHTHALENE	1	0.3	22	*	22	J	UG	*
91-20-3	NAPHTHALENE	1	0.0004	0.024	*	0.024	J	MG/M3	*
85-01-8	PHENANTHRENE	1	0.3	0.7		0.7		UG	
85-01-8	PHENANTHRENE	1	0.0004	0.0007		0.0007		MG/M3	
129-00-0	PYRENE	1	0.4	0.4	U	0.4	U	UG	
129-00-0	PYRENE	1	0.0004	0.0004	U	0.0004	U	MG/M3	

DF = Dilution Factor RL = Reporting Limit

* = Modified by Validation

U = Non-Detect J = Estimated R = Rejected

Form 1 Data Sheet - Semivolatiles

CTEH

Houston Wood Preserving Works Site

SDG: L367779

COC Sample ID: **HOTX0219PNAH002** | Sample Matrix : **Air** | Total/Dissolved: **T**

Location ID: **NA** | Sample Date: **02/19/2016** | Lab: **SGS-GALSON**

Lab Sample ID: **L367779-2** | Analysis Date: **02/23/2016 5:05**

Sample Type: **Site Sample**

Method: **mod. NIOSH 5506; HPLC/UV**

CAS	Parameter Name	DF	RL	Lab Result	Lab Qualifier	Verified Result	Verified Qualifier	Units
5522-43-0	1-NITROPYRENE	1	0.4	0.4	U	0.4	U	UG
5522-43-0	1-NITROPYRENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
83-32-9	ACENAPHTHENE	1	0.3	0.3	U	0.3	U	UG
83-32-9	ACENAPHTHENE	1	0.0003	0.0003	U	0.0003	U	MG/M3
208-96-8	ACENAPHTHYLENE	1	0.3	0.3	U	0.3	U	UG
208-96-8	ACENAPHTHYLENE	1	0.0003	0.0003	U	0.0003	U	MG/M3
120-12-7	ANTHRACENE	1	0.4	0.4	U	0.4	U	UG
120-12-7	ANTHRACENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
56-55-3	BENZO(A)ANTHRACENE	1	0.4	0.4	U	0.4	U	UG
56-55-3	BENZO(A)ANTHRACENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
50-32-8	BENZO(A)PYRENE	1	0.5	0.5	U	0.5	U	UG
50-32-8	BENZO(A)PYRENE	1	0.0005	0.0005	U	0.0005	U	MG/M3
205-99-2	BENZO(B)FLUORANTHENE	1	0.4	0.4	U	0.4	U	UG
205-99-2	BENZO(B)FLUORANTHENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
192-97-2	BENZO(E)PYRENE	1	0.4	0.4	U	0.4	U	UG
192-97-2	BENZO(E)PYRENE	1	0.0005	0.0005	U	0.0005	U	MG/M3
191-24-2	BENZO(G,H,I)PERYLENE	1	0.5	0.5	U	0.5	U	UG
191-24-2	BENZO(G,H,I)PERYLENE	1	0.0005	0.0005	U	0.0005	U	MG/M3
207-08-9	BENZO(K)FLUORANTHENE	1	0.4	0.4	U	0.4	U	UG
207-08-9	BENZO(K)FLUORANTHENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
218-01-9	CHRYSENE	1	0.4	0.4	U	0.4	U	UG
218-01-9	CHRYSENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
53-70-3	DIBENZ(A,H)ANTHRACENE	1	0.4	0.4	U	0.4	U	UG
53-70-3	DIBENZ(A,H)ANTHRACENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
206-44-0	FLUORANTHENE	1	0.4	0.4	U	0.4	U	UG
206-44-0	FLUORANTHENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
86-73-7	FLUORENE	1	0.3	0.3	U	0.3	U	UG
86-73-7	FLUORENE	1	0.0003	0.0003	U	0.0003	U	MG/M3
193-39-5	INDENO-1,2,3-CD-PYRENE	1	0.5	0.5	U	0.5	U	UG
193-39-5	INDENO-1,2,3-CD-PYRENE	1	0.0005	0.0005	U	0.0005	U	MG/M3
91-20-3	NAPHTHALENE	1	0.3	0.3	U	0.3	U	UG
91-20-3	NAPHTHALENE	1	0.0003	0.0003	U	0.0003	U	MG/M3
85-01-8	PHENANTHRENE	1	0.3	0.3	U	0.3	U	UG
85-01-8	PHENANTHRENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
129-00-0	PYRENE	1	0.4	0.4	U	0.4	U	UG
129-00-0	PYRENE	1	0.0004	0.0004	U	0.0004	U	MG/M3

DF = Dilution Factor RL = Reporting Limit

* = Modified by Validation

U = Non-Detect J = Estimated R = Rejected

Form 1 Data Sheet - Semivolatiles

CTEH

Houston Wood Preserving Works Site

SDG: L367779

COC Sample ID: **HOTX0219PNAH003** | Sample Matrix : **Air** | Total/Dissolved: **T**

Location ID: **NA** | Sample Date: **02/19/2016** | Lab: **SGS-GALSON**

Lab Sample ID: **L367779-3** | Analysis Date: **02/23/2016 6:05**

Sample Type: **Site Sample**

Method: **mod. NIOSH 5506; HPLC/UV**

CAS	Parameter Name	DF	RL	Lab Result	Lab Qualifier	Verified Result	Verified Qualifier	Units
5522-43-0	1-NITROPYRENE	1	0.4	0.4	U	0.4	U	UG
5522-43-0	1-NITROPYRENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
83-32-9	ACENAPHTHENE	1	0.3	0.3	U	0.3	U	UG
83-32-9	ACENAPHTHENE	1	0.0003	0.0003	U	0.0003	U	MG/M3
208-96-8	ACENAPHTHYLENE	1	0.3	0.3	U	0.3	U	UG
208-96-8	ACENAPHTHYLENE	1	0.0003	0.0003	U	0.0003	U	MG/M3
120-12-7	ANTHRACENE	1	0.4	0.4	U	0.4	U	UG
120-12-7	ANTHRACENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
56-55-3	BENZO(A)ANTHRACENE	1	0.4	0.4	U	0.4	U	UG
56-55-3	BENZO(A)ANTHRACENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
50-32-8	BENZO(A)PYRENE	1	0.5	0.5	U	0.5	U	UG
50-32-8	BENZO(A)PYRENE	1	0.0005	0.0005	U	0.0005	U	MG/M3
205-99-2	BENZO(B)FLUORANTHENE	1	0.4	0.4	U	0.4	U	UG
205-99-2	BENZO(B)FLUORANTHENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
192-97-2	BENZO(E)PYRENE	1	0.4	0.4	U	0.4	U	UG
192-97-2	BENZO(E)PYRENE	1	0.0005	0.0005	U	0.0005	U	MG/M3
191-24-2	BENZO(G,H,I)PERYLENE	1	0.5	0.5	U	0.5	U	UG
191-24-2	BENZO(G,H,I)PERYLENE	1	0.0005	0.0005	U	0.0005	U	MG/M3
207-08-9	BENZO(K)FLUORANTHENE	1	0.4	0.4	U	0.4	U	UG
207-08-9	BENZO(K)FLUORANTHENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
218-01-9	CHRYSENE	1	0.4	0.4	U	0.4	U	UG
218-01-9	CHRYSENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
53-70-3	DIBENZ(A,H)ANTHRACENE	1	0.4	0.4	U	0.4	U	UG
53-70-3	DIBENZ(A,H)ANTHRACENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
206-44-0	FLUORANTHENE	1	0.4	0.4	U	0.4	U	UG
206-44-0	FLUORANTHENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
86-73-7	FLUORENE	1	0.3	0.3	U	0.3	U	UG
86-73-7	FLUORENE	1	0.0003	0.0003	U	0.0003	U	MG/M3
193-39-5	INDENO-1,2,3-CD-PYRENE	1	0.5	0.5	U	0.5	U	UG
193-39-5	INDENO-1,2,3-CD-PYRENE	1	0.0005	0.0005	U	0.0005	U	MG/M3
91-20-3	NAPHTHALENE	1	0.3	0.3	U	0.3	U	UG
91-20-3	NAPHTHALENE	1	0.0003	0.0003	U	0.0003	U	MG/M3
85-01-8	PHENANTHRENE	1	0.3	0.3	U	0.3	U	UG
85-01-8	PHENANTHRENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
129-00-0	PYRENE	1	0.4	0.4	U	0.4	U	UG
129-00-0	PYRENE	1	0.0004	0.0004	U	0.0004	U	MG/M3

DF = Dilution Factor RL = Reporting Limit

* = Modified by Validation

U = Non-Detect J = Estimated R = Rejected

Form 1 Data Sheet - Semivolatiles

CTEH

Houston Wood Preserving Works Site

SDG: L367779

COC Sample ID: **HOTX0219PNAH004**
Location ID: **NA**
Lab Sample ID: **L367779-4**
Sample Type: **Field Blank**
Method: **mod. NIOSH 5506; HPLC/UV**

Sample Matrix : **Air**
Sample Date: **02/19/2016**
Analysis Date: **02/23/2016 7:25**

Total/Dissolved: **T**
Lab: **SGS-GALSON**

CAS	Parameter Name	DF	RL	Lab Result	Lab Qualifier	Verified Result	Verified Qualifier	Units
5522-43-0	1-NITROPYRENE	1	0.4	0.4	U	0.4	U	UG
83-32-9	ACENAPHTHENE	1	0.3	0.3	U	0.3	U	UG
208-96-8	ACENAPHTHYLENE	1	0.3	0.3	U	0.3	U	UG
120-12-7	ANTHRACENE	1	0.4	0.4	U	0.4	U	UG
56-55-3	BENZO(A)ANTHRACENE	1	0.4	0.4	U	0.4	U	UG
50-32-8	BENZO(A)PYRENE	1	0.5	0.5	U	0.5	U	UG
205-99-2	BENZO(B)FLUORANTHENE	1	0.4	0.4	U	0.4	U	UG
192-97-2	BENZO(E)PYRENE	1	0.4	0.4	U	0.4	U	UG
191-24-2	BENZO(G,H,I)PERYLENE	1	0.5	0.5	U	0.5	U	UG
207-08-9	BENZO(K)FLUORANTHENE	1	0.4	0.4	U	0.4	U	UG
218-01-9	CHRYSENE	1	0.4	0.4	U	0.4	U	UG
53-70-3	DIBENZ(A,H)ANTHRACENE	1	0.4	0.4	U	0.4	U	UG
206-44-0	FLUORANTHENE	1	0.4	0.4	U	0.4	U	UG
86-73-7	FLUORENE	1	0.3	0.3	U	0.3	U	UG
193-39-5	INDENO-1,2,3-CD-PYRENE	1	0.5	0.5	U	0.5	U	UG
91-20-3	NAPHTHALENE	1	0.3	0.3	U	0.3	U	UG
85-01-8	PHENANTHRENE	1	0.3	0.3	U	0.3	U	UG
129-00-0	PYRENE	1	0.4	0.4	U	0.4	U	UG

DF = Dilution Factor RL = Reporting Limit
* = Modified by Validation
U = Non-Detect J = Estimated R = Rejected

eDATApro
ENVIRONMENTAL DATA PROFESSIONAL, LLC

Form 1 Data Sheet - Conventionals

CTEH

Houston Wood Preserving Works Site

SDG: L367779

COC Sample ID: **HOTX0219PM001** Sample Matrix : **Air**

Location ID: **NA**

Lab Sample ID: **L367779-5** Lab Code: **GALSON**

Sample Type: **Site Sample**

Parameter Name	Collection Date	Analysis Date	DF	RL	Lab Result	Lab Qualifier	Verified Result	Verified Qualifier	Units
Method: mod. EPA Method IP-10A; Gravimetric									
PARTICULATE MATTER/PM10	02/19/2016	02/25/2016 6:59	1	0.043	0.87		0.87		MG/M3
PARTICULATE MATTER/PM10	02/19/2016	02/25/2016 6:59	1	0.05	1		1		MG

DF = Dilution Factor RL = Reporting Limit

* = Modified by Validation

U = Non-Detect J = Estimated R = Rejected

Form 1 Data Sheet - Conventionals

CTEH

Houston Wood Preserving Works Site

SDG: L367779

COC Sample ID: **HOTX0219PM002** Sample Matrix : **Air**

Location ID: **NA**

Lab Sample ID: **L367779-6** Lab Code: **GALSON**

Sample Type: **Site Sample**

Parameter Name	Collection Date	Analysis Date	DF	RL	Lab Result	Lab Qualifier	Verified Result	Verified Qualifier	Units
Method: mod. EPA Method IP-10A; Gravimetric									
PARTICULATE MATTER/PM10	02/19/2016	02/25/2016 7:01	1	0.047	0.33		0.33		MG/M3
PARTICULATE MATTER/PM10	02/19/2016	02/25/2016 7:01	1	0.05	0.35		0.35		MG

DF = Dilution Factor RL = Reporting Limit

* = Modified by Validation

U = Non-Detect J = Estimated R = Rejected

Form 1 Data Sheet - Conventionals

CTEH

Houston Wood Preserving Works Site

SDG: L367779

COC Sample ID: **HOTX0219PM003** Sample Matrix : **Air**

Location ID: **NA**

Lab Sample ID: **L367779-7** Lab Code: **GALSON**

Sample Type: **Site Sample**

Parameter Name	Collection Date	Analysis Date	DF	RL	Lab Result	Lab Qualifier	Verified Result	Verified Qualifier	Units
Method: mod. EPA Method IP-10A; Gravimetric									
PARTICULATE MATTER/PM10	02/19/2016	02/25/2016 7:01	1	0.048	0.24		0.24		MG/M3
PARTICULATE MATTER/PM10	02/19/2016	02/25/2016 7:01	1	0.05	0.25		0.25		MG

DF = Dilution Factor RL = Reporting Limit

* = Modified by Validation

U = Non-Detect J = Estimated R = Rejected

Form 1 Data Sheet - Conventionals

CTEH

Houston Wood Preserving Works Site

SDG: L367779

COC Sample ID: **HOTX0219PM004** Sample Matrix : **Air**

Location ID: **NA**

Lab Sample ID: **L367779-8** Lab Code: **GALSON**

Sample Type: **Field Blank**

Parameter Name	Collection Date	Analysis Date	DF	RL	Lab Result	Lab Qualifier	Verified Result	Verified Qualifier	Units
Method: mod. EPA Method IP-10A; Gravimetric									
PARTICULATE MATTER/PM10	02/19/2016	02/25/2016 7:02	1	0.05	0.05	U	0.05	U	MG

DF = Dilution Factor RL = Reporting Limit

* = Modified by Validation

U = Non-Detect J = Estimated R = Rejected

Appendix II
Chain of Custody

L3607779

775699809498
Date: 02/23/16
Shipper: FEDEX
Initials: GMB
Prep: UNKNOWN

5120 North Shore Drive
North Little Rock, AR 72118
Phone: (501) 801-8500
Fax: (501) 801-8501
Website: www.cteh.com

r for Toxicology and Environmental Health L.L.C.
E CHAIN OF CUSTODY AND ANALYSIS REQUEST FORM

R 84

Page ___ of ___

	Send Report To:	Send Invoice To:
Name	M Berg C. Connolly	Accounts Payable
Company	CTEH	CTEH
Address	2000 Anders Lane Kemah, Texas 77565	5120 North Shore Drive North Little Rock, AR 72118
Phone	(281)535-2834	(501)801-8500
Fax	(281)535-0232	(501)801-8501
e-mail	labresults@cteh.com MBerg@cteh.com cconnolly@cteh.com	lraccounting@cteh.com

CTEH Project #: 107907

Turnaround Requested:
Same Day __Next Day (24 hour) ___ Normal
__Other (Specify) 2 day TAT

Complete Data Packet Requested ☐Yes ☒No

Lab Contact Information:
Galson Laboratories
(6601 Kirkville Road)
E. Syracuse NY 13057

Client Sample Identification	Other Sample Identification	Sample Size	Units (Check one) X L __cm²	Sample Date	Sample Time (for non-air samples)	Initials	PNAH NIOSH 5506	PM10 Mod EPA-IP10A
HOTX0219PNAH001	AS14	909.96	L	2-19-16		AS	X	
HOTX0219PNAH002	AS12	975.05	L	2-19-16		AS	X	
HOTX0219PNAH003	AS15	980.14	L	2-19-16		AS	X	
HOTX0219PNAH004	blank	0	L	2-19-16		AS	X	
HOTX0219PM001	AS14	1170.87	L	2-19-16		AS		X
HOTX0219PM002	AS12	1070.56	L	2-19-16		AS		X
HOTX0219PM003	AS15	1045.57	L	2-19-16		AS		X
HOTX0219PM004	blank	-	L	2-19-16		AS		X

Matrix
A = air
B = bulk
S = soil
SW = wipe
T = tape
W = water

Matrix: A A A A A A A A

Samples Received in Light Sensitive Material: Yes or No

RELINQUISHED BY	DATE/TIME	RECEIVED BY	DATE/TIME
A. Sanpon	02/22/16 16:00	Fed Ex	
		Murray Kay	2/23/16 724

COMMENTS
Rec'd intact & all accounted for? Yes or No KM
Rec'd w/custody seals intact? Yes or No NA KM
Rec'd in light sensitive packaging? Yes or No KM
Rec'd with ice pack? Yes or No KM
Rec'd temperature compliant? Yes or No KM

Data Verification Report (Level 2)

Project: 107907 - Houston Wood Preserving Works Site

Client: CTEH

Report #: L367784 Date: February 26, 2016

Environmental Data Professional, LLC
1432 Watkins St.• Lake Charles, LA 70601 • phone: 337-540-0036 • fax: 337-478-6061

Disclaimer:

The review performed and reported herein is based on specifications and procedures presented to eDATApro with the associated data package. Any qualifications or review not specified with package requirements was based on USEPA National Functional Guidelines for Inorganic and Organic Data Review.

Information contained in this report is based solely on the hardcopy and/or electronic deliverables that were submitted to eDATApro. eDATApro reserves the rights to modify or change the report if new information is presented or if this report is determined to be inaccurate or incomplete.

The following parameters were reviewed during the verification process:

Chain-of-Custody (COC): Completeness and sample custody

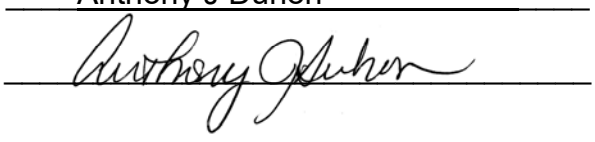
Holding time: Compare collection date versus preparation and/or analysis date

Blank Contamination: Laboratory and field blanks

Matrix/Precision/Recovery: Surrogates, Internal Standards, Duplicates, Blank spike and blank spike duplicate samples (when applicable)

Standards: Detection limit standard and continuing calibration verification (when applicable)

Reviewed by: Anthony J Duhon

Signature: 

INTRODUCTION:

Project Name: 107907 - Houston Wood Preserving Works Site
Laboratory: Galson Laboratories
Laboratory Package No.: L367784
Matrix: Air

Environmental Data Professional, LLC (eDATApro) received one electronic Level II data package containing the results for six field samples and two field blanks. Level II verification was performed on the data utilizing *USEPA National Functional Guidelines for Organic Data Review*, *USEPA National Functional Guidelines for Inorganic Data Review* and the analytical methods.

The following samples were reviewed:

Sample ID	Lab ID	Collection Date	Analyses
HOTX0220PNAH001	L367784-1	02/20/2016	[1]
HOTX0220PNAH002	L367784-2	02/20/2016	[1]
HOTX0220PNAH003	L367784-3	02/20/2016	[1]
HOTX0220PNAH004	L367784-4	02/20/2016	[1]
HOTX0220PM001	L367784-5	02/20/2016	[2]
HOTX0220PM002	L367784-6	02/20/2016	[2]
HOTX0220PM003	L367784-7	02/20/2016	[2]
HOTX0220PM004	L367784-8	02/20/2016	[2]

Analyses Performed Codes:

[1] Semivolatile Organics; PAHs (mod. NIOSH 5506; HPLC/UV)
[2] Particulate Matter; PM10 (mod. EPA Method IP-10A; Gravimetric)

DATA REVIEW FINDINGS SUMMARY

I. General Package:

The data package was complete and no resubmissions were requested.

II. Semivolatile Organics; PAHs – mod. NIOSH 5506; HPLC/UV:

The laboratory reported the results in both ug and mg/m3 units.

Possible breakthrough or migration was noted for sample HOTX0220PNAH001. The Naphthalene concentration reported for this sample may be biased low. This result was qualified as estimate (J).

All other quality assurance and quality control (QA/QC) components presented by the laboratory satisfied method and data review acceptance criteria.

III. Particulate Matter; PM10 – mod. EPA Method IP-10A; Gravimetric:

The laboratory reported the results in both mg and mg/m3 units.

The laboratory noted for samples HOTX0220PM001 and HOTX0220PM003, “Filter(s) received torn at the laboratory, results may be biased low.” Verification of the impact of this information is outside the scope of Level II data review. No data qualifications were applied based on these comments.

All quality assurance and quality control (QA/QC) components presented by the laboratory satisfied method and data review acceptance criteria; therefore, no data qualifications were necessary.

Appendix I
Form 1 Data (Qualified)

Form 1 Data Sheet - Semivolatiles

CTEH

Houston Wood Preserving Works Site

SDG: L367784

COC Sample ID: **HOTX0220PNAH001** | Sample Matrix : **Air** | Total/Dissolved: **T**

Location ID: **NA** | Sample Date: **02/20/2016** | Lab: **SGS-GALSON**

Lab Sample ID: **L367784-1** | Analysis Date: **02/23/2016 8:25**

Sample Type: **Site Sample**

Method: **mod. NIOSH 5506; HPLC/UV**

CAS	Parameter Name	DF	RL	Lab Result	Lab Qualifier	Verified Result	Verified Qualifier	Units	
5522-43-0	1-NITROPYRENE	1	0.4	0.4	U	0.4	U	UG	
5522-43-0	1-NITROPYRENE	1	0.0003	0.0003	U	0.0003	U	MG/M3	
83-32-9	ACENAPHTHENE	1	0.3	0.8		0.8		UG	
83-32-9	ACENAPHTHENE	1	0.0003	0.0008		0.0008		MG/M3	
208-96-8	ACENAPHTHYLENE	1	0.3	0.3	U	0.3	U	UG	
208-96-8	ACENAPHTHYLENE	1	0.0003	0.0003	U	0.0003	U	MG/M3	
120-12-7	ANTHRACENE	1	0.4	0.4	U	0.4	U	UG	
120-12-7	ANTHRACENE	1	0.0003	0.0003	U	0.0003	U	MG/M3	
56-55-3	BENZO(A)ANTHRACENE	1	0.4	0.4	U	0.4	U	UG	
56-55-3	BENZO(A)ANTHRACENE	1	0.0004	0.0004	U	0.0004	U	MG/M3	
50-32-8	BENZO(A)PYRENE	1	0.5	0.5	U	0.5	U	UG	
50-32-8	BENZO(A)PYRENE	1	0.0004	0.0004	U	0.0004	U	MG/M3	
205-99-2	BENZO(B)FLUORANTHENE	1	0.4	0.4	U	0.4	U	UG	
205-99-2	BENZO(B)FLUORANTHENE	1	0.0004	0.0004	U	0.0004	U	MG/M3	
192-97-2	BENZO(E)PYRENE	1	0.4	0.4	U	0.4	U	UG	
192-97-2	BENZO(E)PYRENE	1	0.0004	0.0004	U	0.0004	U	MG/M3	
191-24-2	BENZO(G,H,I)PERYLENE	1	0.5	0.5	U	0.5	U	UG	
191-24-2	BENZO(G,H,I)PERYLENE	1	0.0005	0.0005	U	0.0005	U	MG/M3	
207-08-9	BENZO(K)FLUORANTHENE	1	0.4	0.4	U	0.4	U	UG	
207-08-9	BENZO(K)FLUORANTHENE	1	0.0004	0.0004	U	0.0004	U	MG/M3	
218-01-9	CHRYSENE	1	0.4	0.4	U	0.4	U	UG	
218-01-9	CHRYSENE	1	0.0004	0.0004	U	0.0004	U	MG/M3	
53-70-3	DIBENZ(A,H)ANTHRACENE	1	0.4	0.4	U	0.4	U	UG	
53-70-3	DIBENZ(A,H)ANTHRACENE	1	0.0004	0.0004	U	0.0004	U	MG/M3	
206-44-0	FLUORANTHENE	1	0.4	0.4	U	0.4	U	UG	
206-44-0	FLUORANTHENE	1	0.0004	0.0004	U	0.0004	U	MG/M3	
86-73-7	FLUORENE	1	0.3	0.3	U	0.3	U	UG	
86-73-7	FLUORENE	1	0.0003	0.0003	U	0.0003	U	MG/M3	
193-39-5	INDENO-1,2,3-CD-PYRENE	1	0.5	0.5	U	0.5	U	UG	
193-39-5	INDENO-1,2,3-CD-PYRENE	1	0.0005	0.0005	U	0.0005	U	MG/M3	
91-20-3	NAPHTHALENE	1	0.3	4.5	*	4.5	J	UG	*
91-20-3	NAPHTHALENE	1	0.0003	0.0043	*	0.0043	J	MG/M3	*
85-01-8	PHENANTHRENE	1	0.3	0.3	U	0.3	U	UG	
85-01-8	PHENANTHRENE	1	0.0003	0.0003	U	0.0003	U	MG/M3	
129-00-0	PYRENE	1	0.4	0.4	U	0.4	U	UG	
129-00-0	PYRENE	1	0.0004	0.0004	U	0.0004	U	MG/M3	

DF = Dilution Factor RL = Reporting Limit

* = Modified by Validation

U = Non-Detect J = Estimated R = Rejected

eDATApro ENVIRONMENTAL DATA PROFESSIONAL, LLC

Form 1 Data Sheet - Semivolatiles

CTEH

Houston Wood Preserving Works Site

SDG: L367784

COC Sample ID: **HOTX0220PNAH002** | Sample Matrix : **Air** | Total/Dissolved: **T**

Location ID: **NA** | Sample Date: **02/20/2016** | Lab: **SGS-GALSON**

Lab Sample ID: **L367784-2** | Analysis Date: **02/23/2016 9:25**

Sample Type: **Site Sample**

Method: **mod. NIOSH 5506; HPLC/UV**

CAS	Parameter Name	DF	RL	Lab Result	Lab Qualifier	Verified Result	Verified Qualifier	Units
5522-43-0	1-NITROPYRENE	1	0.4	0.4	U	0.4	U	UG
5522-43-0	1-NITROPYRENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
83-32-9	ACENAPHTHENE	1	0.3	0.3	U	0.3	U	UG
83-32-9	ACENAPHTHENE	1	0.0003	0.0003	U	0.0003	U	MG/M3
208-96-8	ACENAPHTHYLENE	1	0.3	0.3	U	0.3	U	UG
208-96-8	ACENAPHTHYLENE	1	0.0003	0.0003	U	0.0003	U	MG/M3
120-12-7	ANTHRACENE	1	0.4	0.4	U	0.4	U	UG
120-12-7	ANTHRACENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
56-55-3	BENZO(A)ANTHRACENE	1	0.4	0.4	U	0.4	U	UG
56-55-3	BENZO(A)ANTHRACENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
50-32-8	BENZO(A)PYRENE	1	0.5	0.5	U	0.5	U	UG
50-32-8	BENZO(A)PYRENE	1	0.0005	0.0005	U	0.0005	U	MG/M3
205-99-2	BENZO(B)FLUORANTHENE	1	0.4	0.4	U	0.4	U	UG
205-99-2	BENZO(B)FLUORANTHENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
192-97-2	BENZO(E)PYRENE	1	0.4	0.4	U	0.4	U	UG
192-97-2	BENZO(E)PYRENE	1	0.0005	0.0005	U	0.0005	U	MG/M3
191-24-2	BENZO(G,H,I)PERYLENE	1	0.5	0.5	U	0.5	U	UG
191-24-2	BENZO(G,H,I)PERYLENE	1	0.0005	0.0005	U	0.0005	U	MG/M3
207-08-9	BENZO(K)FLUORANTHENE	1	0.4	0.4	U	0.4	U	UG
207-08-9	BENZO(K)FLUORANTHENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
218-01-9	CHRYSENE	1	0.4	0.4	U	0.4	U	UG
218-01-9	CHRYSENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
53-70-3	DIBENZ(A,H)ANTHRACENE	1	0.4	0.4	U	0.4	U	UG
53-70-3	DIBENZ(A,H)ANTHRACENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
206-44-0	FLUORANTHENE	1	0.4	0.4	U	0.4	U	UG
206-44-0	FLUORANTHENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
86-73-7	FLUORENE	1	0.3	0.3	U	0.3	U	UG
86-73-7	FLUORENE	1	0.0003	0.0003	U	0.0003	U	MG/M3
193-39-5	INDENO-1,2,3-CD-PYRENE	1	0.5	0.5	U	0.5	U	UG
193-39-5	INDENO-1,2,3-CD-PYRENE	1	0.0005	0.0005	U	0.0005	U	MG/M3
91-20-3	NAPHTHALENE	1	0.3	0.3	U	0.3	U	UG
91-20-3	NAPHTHALENE	1	0.0003	0.0003	U	0.0003	U	MG/M3
85-01-8	PHENANTHRENE	1	0.3	0.3	U	0.3	U	UG
85-01-8	PHENANTHRENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
129-00-0	PYRENE	1	0.4	0.4	U	0.4	U	UG
129-00-0	PYRENE	1	0.0004	0.0004	U	0.0004	U	MG/M3

DF = Dilution Factor RL = Reporting Limit

* = Modified by Validation

U = Non-Detect J = Estimated R = Rejected

Form 1 Data Sheet - Semivolatiles

CTEH

Houston Wood Preserving Works Site

SDG: L367784

COC Sample ID: **HOTX0220PNAH003** Sample Matrix : **Air** Total/Dissolved: **T**

Location ID: **NA** Sample Date: **02/20/2016** Lab: **SGS-GALSON**

Lab Sample ID: **L367784-3** Analysis Date: **02/23/2016 10:25**

Sample Type: **Site Sample**

Method: **mod. NIOSH 5506; HPLC/UV**

CAS	Parameter Name	DF	RL	Lab Result	Lab Qualifier	Verified Result	Verified Qualifier	Units
5522-43-0	1-NITROPYRENE	1	0.4	0.4	U	0.4	U	UG
5522-43-0	1-NITROPYRENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
83-32-9	ACENAPHTHENE	1	0.3	0.3	U	0.3	U	UG
83-32-9	ACENAPHTHENE	1	0.0003	0.0003	U	0.0003	U	MG/M3
208-96-8	ACENAPHTHYLENE	1	0.3	0.3	U	0.3	U	UG
208-96-8	ACENAPHTHYLENE	1	0.0003	0.0003	U	0.0003	U	MG/M3
120-12-7	ANTHRACENE	1	0.4	0.4	U	0.4	U	UG
120-12-7	ANTHRACENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
56-55-3	BENZO(A)ANTHRACENE	1	0.4	0.4	U	0.4	U	UG
56-55-3	BENZO(A)ANTHRACENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
50-32-8	BENZO(A)PYRENE	1	0.5	0.5	U	0.5	U	UG
50-32-8	BENZO(A)PYRENE	1	0.0005	0.0005	U	0.0005	U	MG/M3
205-99-2	BENZO(B)FLUORANTHENE	1	0.4	0.4	U	0.4	U	UG
205-99-2	BENZO(B)FLUORANTHENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
192-97-2	BENZO(E)PYRENE	1	0.4	0.4	U	0.4	U	UG
192-97-2	BENZO(E)PYRENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
191-24-2	BENZO(G,H,I)PERYLENE	1	0.5	0.5	U	0.5	U	UG
191-24-2	BENZO(G,H,I)PERYLENE	1	0.0005	0.0005	U	0.0005	U	MG/M3
207-08-9	BENZO(K)FLUORANTHENE	1	0.4	0.4	U	0.4	U	UG
207-08-9	BENZO(K)FLUORANTHENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
218-01-9	CHRYSENE	1	0.4	0.4	U	0.4	U	UG
218-01-9	CHRYSENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
53-70-3	DIBENZ(A,H)ANTHRACENE	1	0.4	0.4	U	0.4	U	UG
53-70-3	DIBENZ(A,H)ANTHRACENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
206-44-0	FLUORANTHENE	1	0.4	0.4	U	0.4	U	UG
206-44-0	FLUORANTHENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
86-73-7	FLUORENE	1	0.3	0.3	U	0.3	U	UG
86-73-7	FLUORENE	1	0.0003	0.0003	U	0.0003	U	MG/M3
193-39-5	INDENO-1,2,3-CD-PYRENE	1	0.5	0.5	U	0.5	U	UG
193-39-5	INDENO-1,2,3-CD-PYRENE	1	0.0005	0.0005	U	0.0005	U	MG/M3
91-20-3	NAPHTHALENE	1	0.3	0.3	U	0.3	U	UG
91-20-3	NAPHTHALENE	1	0.0003	0.0003	U	0.0003	U	MG/M3
85-01-8	PHENANTHRENE	1	0.3	0.3	U	0.3	U	UG
85-01-8	PHENANTHRENE	1	0.0003	0.0003	U	0.0003	U	MG/M3
129-00-0	PYRENE	1	0.4	0.4	U	0.4	U	UG
129-00-0	PYRENE	1	0.0004	0.0004	U	0.0004	U	MG/M3

DF = Dilution Factor RL = Reporting Limit

* = Modified by Validation

U = Non-Detect J = Estimated R = Rejected

Form 1 Data Sheet - Semivolatiles

CTEH

Houston Wood Preserving Works Site

SDG: L367784

COC Sample ID: **HOTX0220PNAH004** | Sample Matrix : **Air** | Total/Dissolved: **T**

Location ID: **NA** | Sample Date: **02/20/2016** | Lab: **SGS-GALSON**

Lab Sample ID: **L367784-4** | Analysis Date: **02/23/2016 11:24**

Sample Type: **Field Blank**

Method: **mod. NIOSH 5506; HPLC/UV**

CAS	Parameter Name	DF	RL	Lab Result	Lab Qualifier	Verified Result	Verified Qualifier	Units
5522-43-0	1-NITROPYRENE	1	0.4	0.4	U	0.4	U	UG
83-32-9	ACENAPHTHENE	1	0.3	0.3	U	0.3	U	UG
208-96-8	ACENAPHTHYLENE	1	0.3	0.3	U	0.3	U	UG
120-12-7	ANTHRACENE	1	0.4	0.4	U	0.4	U	UG
56-55-3	BENZO(A)ANTHRACENE	1	0.4	0.4	U	0.4	U	UG
50-32-8	BENZO(A)PYRENE	1	0.5	0.5	U	0.5	U	UG
205-99-2	BENZO(B)FLUORANTHENE	1	0.4	0.4	U	0.4	U	UG
192-97-2	BENZO(E)PYRENE	1	0.4	0.4	U	0.4	U	UG
191-24-2	BENZO(G,H,I)PERYLENE	1	0.5	0.5	U	0.5	U	UG
207-08-9	BENZO(K)FLUORANTHENE	1	0.4	0.4	U	0.4	U	UG
218-01-9	CHRYSENE	1	0.4	0.4	U	0.4	U	UG
53-70-3	DIBENZ(A,H)ANTHRACENE	1	0.4	0.4	U	0.4	U	UG
206-44-0	FLUORANTHENE	1	0.4	0.4	U	0.4	U	UG
86-73-7	FLUORENE	1	0.3	0.3	U	0.3	U	UG
193-39-5	INDENO-1,2,3-CD-PYRENE	1	0.5	0.5	U	0.5	U	UG
91-20-3	NAPHTHALENE	1	0.3	0.3	U	0.3	U	UG
85-01-8	PHENANTHRENE	1	0.3	0.3	U	0.3	U	UG
129-00-0	PYRENE	1	0.4	0.4	U	0.4	U	UG

DF = Dilution Factor RL = Reporting Limit

* = Modified by Validation

U = Non-Detect J = Estimated R = Rejected

eDATApro ENVIRONMENTAL DATA PROFESSIONAL, LLC

Form 1 Data Sheet - Conventionals

CTEH

Houston Wood Preserving Works Site

SDG: L367784

COC Sample ID: **HOTX0220PM001** Sample Matrix : **Air**

Location ID: **NA**

Lab Sample ID: **L367784-5** Lab Code: **GALSON**

Sample Type: **Site Sample**

Parameter Name	Collection Date	Analysis Date	DF	RL	Lab Result	Lab Qualifier	Verified Result	Verified Qualifier	Units
Method: mod. EPA Method IP-10A; Gravimetric									
PARTICULATE MATTER/PM10	02/20/2016	02/25/2016 6:55	1	0.046	0.29		0.29		MG/M3
PARTICULATE MATTER/PM10	02/20/2016	02/25/2016 6:55	1	0.05	0.32		0.32		MG

DF = Dilution Factor RL = Reporting Limit

* = Modified by Validation

U = Non-Detect J = Estimated R = Rejected

Form 1 Data Sheet - Conventionals

CTEH

Houston Wood Preserving Works Site

SDG: L367784

COC Sample ID: **HOTX0220PM002** Sample Matrix : **Air**

Location ID: **NA**

Lab Sample ID: **L367784-6** Lab Code: **GALSON**

Sample Type: **Site Sample**

Parameter Name	Collection Date	Analysis Date	DF	RL	Lab Result	Lab Qualifier	Verified Result	Verified Qualifier	Units
Method: mod. EPA Method IP-10A; Gravimetric									
PARTICULATE MATTER/PM10	02/20/2016	02/25/2016 6:56	1	0.075	0.23		0.23		MG/M3
PARTICULATE MATTER/PM10	02/20/2016	02/25/2016 6:56	1	0.05	0.16		0.16		MG

DF = Dilution Factor RL = Reporting Limit

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Form 1 Data Sheet - Conventionals

CTEH

Houston Wood Preserving Works Site

SDG: L367784

COC Sample ID: **HOTX0220PM003** Sample Matrix : **Air**

Location ID: **NA**

Lab Sample ID: **L367784-7** Lab Code: **GALSON**

Sample Type: **Site Sample**

Parameter Name	Collection Date	Analysis Date	DF	RL	Lab Result	Lab Qualifier	Verified Result	Verified Qualifier	Units
Method: mod. EPA Method IP-10A; Gravimetric									
PARTICULATE MATTER/PM10	02/20/2016	02/25/2016 6:57	1	0.032	0.31		0.31		MG/M3
PARTICULATE MATTER/PM10	02/20/2016	02/25/2016 6:57	1	0.05	0.48		0.48		MG

DF = Dilution Factor RL = Reporting Limit

* = Modified by Validation

U = Non-Detect J = Estimated R = Rejected

Form 1 Data Sheet - Conventionals

CTEH

Houston Wood Preserving Works Site

SDG: L367784

COC Sample ID: **HOTX0220PM004** Sample Matrix : **Air**

Location ID: **NA**

Lab Sample ID: **L367784-8** Lab Code: **GALSON**

Sample Type: **Field Blank**

Parameter Name	Collection Date	Analysis Date	DF	RL	Lab Result	Lab Qualifier	Verified Result	Verified Qualifier	Units
Method: mod. EPA Method IP-10A; Gravimetric									
PARTICULATE MATTER/PM10	02/20/2016	02/25/2016 6:58	1	0.05	0.05	U	0.05	U	MG

DF = Dilution Factor RL = Reporting Limit

* = Modified by Validation

U = Non-Detect J = Estimated R = Rejected

Appendix II
Chain of Custody

775699809498
Date:02/23/16
Shipper:FEDEX
Initials:GMB

R87

5120 North Shore Drive
North Little Rock, AR 72118
Phone: (501) 801-8500
Fax: (501) 801-8501
Website: www.cteh.com

Prep:UNKNOWN

for Toxicology and Environmental Health L.L.C.
CHAIN OF CUSTODY AND ANALYSIS REQUEST FORM

Page ___ of ___

	Send Report To:	Send Invoice To:
Name	cconnolly@cteh.com;mberg@cteh.co	
Company	CTEH	CTEH
Address	5120 North Shore Drive North Little Rock, AR 72118	5120 North Shore Drive North Little Rock, AR 72118
Phone	(501)801-8500	(501)801-8500
Fax	(501)801-8501	(501)801-8501
e-mail	labresults@cteh.com	

CTEH Project #: 107907

Turnaround Requested:
Same Day ___Next Day (24 hour) ___ Normal
X Other (Specify) 2 Day
Complete Data Packet Requested X Yes ☐No

Lab Contact Information:
Galson Laboratories
6601 Kirkville Road
E. Syracuse, NY 13057

Client Sample Identification	Other Sample Identification	Sample Size	Units (Check one) ___L ___cm² ___	Sample Date	Sample Time (for non-air samples)	Initials	NIOSH 5506 PNAH	Mod EPA IP-10A PM10								Matrix A = air B = bulk S = soil SW = wipe T = tape W = water
HOTX0220PNAH001	AS14	1030	L	02/20/16		JA	X									A
HOTX0220PNAH002	AS12	957	L	02/20/16		JA	X									A
HOTX0220PNAH003	AS07	1002	L	02/20/16		JA	X									A
HOTX0220PNAH004	BL	0	L	02/20/16		JA	X									A
HOTX0220PM001	AS14	1088	L	02/20/16		JA		X								A
HOTX0220PM002	AS12	667	L	02/20/16		JA		X								A
HOTX0220PM003	AS07	1567	L	02/20/16		JA		X								A
HOTX0220PM004	BL	0	L	02/20/16		JA		X								A

Samples Received in Light Sensitive Material: Yes or No

RELINQUISHED BY	DATE/TIME	RECEIVED BY	DATE/TIME	COMMENTS
Justin Langley	02/22/16 16:00	Fed Ex		Rec'd intact & all accounted for? Yes or No KM Rec'd w/custody seals intact? Yes or No NA KM Rec'd in light sensitive packaging? Yes or No KM Rec'd with ice pack? Yes or No KM Rec'd temperature compliant? Yes or No KM

Data Verification Report (Level 2)

Project: 107907 - Houston Wood Preserving Works Site

Client: CTEH

Report #: L367787 Date: February 26, 2016

Environmental Data Professional, LLC
1432 Watkins St.• Lake Charles, LA 70601 • phone: 337-540-0036 • fax: 337-478-6061

Disclaimer:

The review performed and reported herein is based on specifications and procedures presented to eDATApro with the associated data package. Any qualifications or review not specified with package requirements was based on USEPA National Functional Guidelines for Inorganic and Organic Data Review.

Information contained in this report is based solely on the hardcopy and/or electronic deliverables that were submitted to eDATApro. eDATApro reserves the rights to modify or change the report if new information is presented or if this report is determined to be inaccurate or incomplete.

The following parameters were reviewed during the verification process:

Chain-of-Custody (COC): Completeness and sample custody

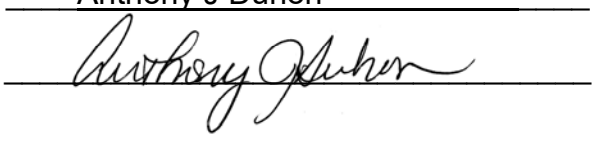
Holding time: Compare collection date versus preparation and/or analysis date

Blank Contamination: Laboratory and field blanks

Matrix/Precision/Recovery: Surrogates, Internal Standards, Duplicates, Blank spike and blank spike duplicate samples (when applicable)

Standards: Detection limit standard and continuing calibration verification (when applicable)

Reviewed by: Anthony J Duhon

Signature: 

INTRODUCTION:

Project Name: 107907 - Houston Wood Preserving Works Site
Laboratory: Galson Laboratories
Laboratory Package No.: L367787
Matrix: Air

Environmental Data Professional, LLC (eDATApro) received one electronic Level II data package containing the results for six field samples and two field blanks. Level II verification was performed on the data utilizing *USEPA National Functional Guidelines for Inorganic Data Review* and the analytical method.

The following samples were reviewed:

Sample ID	Lab ID	Collection Date	Analyses
HOTX0220RD001	L367787-1	02/20/2016	[1]
HOTX0220RD002	L367787-2	02/20/2016	[1]
HOTX0220RD003	L367787-3	02/20/2016	[1]
HOTX0220RD004	L367787-4	02/20/2016	[1]
HOTX0220TD001	L367787-5	02/20/2016	[2]
HOTX0220TD002	L367787-6	02/20/2016	[2]
HOTX0220TD003	L367787-7	02/20/2016	[2]
HOTX0220TD004	L367787-8	02/20/2016	[2]

Analyses Performed Codes:

[1] Respirable Dust (mod. NIOSH 0600; Gravimetric)
[2] Total Dust (mod. NIOSH 0500; Gravimetric)

DATA REVIEW FINDINGS SUMMARY

I. General Package:

The data package was complete and no resubmissions were requested.

II. Respirable Dust - mod. NIOSH 0600; Gravimetric:

The laboratory reported the results in both mg and mg/m3.

All quality assurance and quality control (QA/QC) components presented by the laboratory satisfied method and data review acceptance criteria; therefore, no data qualifications were necessary.

III. Total Dust - mod. NIOSH 0500; Gravimetric:

The laboratory reported the results in both mg and mg/m3.

All quality assurance and quality control (QA/QC) components presented by the laboratory satisfied method and data review acceptance criteria; therefore, no data qualifications were necessary.

Appendix I
Form 1 Data (Qualified)

Form 1 Data Sheet - Conventionals

CTEH

Houston Wood Preserving Works Site

SDG: L367787

COC Sample ID: **HOTX0220RD001** Sample Matrix : **Air**

Location ID: **NA**

Lab Sample ID: **L367787-1** Lab Code: **GALSON**

Sample Type: **Site Sample**

Parameter Name	Collection Date	Analysis Date	DF	RL	Lab Result	Lab Qualifier	Verified Result	Verified Qualifier	Units
Method: mod. NIOSH 0600; Gravimetric									
RESPIRABLE DUST	02/20/2016	02/23/2016 12:59	1	0.037	0.037	U	0.037	U	MG/M3
RESPIRABLE DUST	02/20/2016	02/23/2016 12:59	1	0.05	0.05	U	0.05	U	MG

DF = Dilution Factor RL = Reporting Limit

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eDATApro

Form 1 Data Sheet - Conventionals

CTEH

Houston Wood Preserving Works Site

SDG: L367787

COC Sample ID: **HOTX0220RD002** Sample Matrix : **Air**

Location ID: **NA**

Lab Sample ID: **L367787-2** Lab Code: **GALSON**

Sample Type: **Site Sample**

Parameter Name	Collection Date	Analysis Date	DF	RL	Lab Result	Lab Qualifier	Verified Result	Verified Qualifier	Units
Method: mod. NIOSH 0600; Gravimetric									
RESPIRABLE DUST	02/20/2016	02/23/2016 1:00	1	0.038	0.038	U	0.038	U	MG/M3
RESPIRABLE DUST	02/20/2016	02/23/2016 1:00	1	0.05	0.05	U	0.05	U	MG

DF = Dilution Factor RL = Reporting Limit

* = Modified by Validation

U = Non-Detect J = Estimated R = Rejected

eDATApro

Form 1 Data Sheet - Conventionals

CTEH

Houston Wood Preserving Works Site

SDG: L367787

COC Sample ID: **HOTX0220RD003** Sample Matrix : **Air**

Location ID: **NA**

Lab Sample ID: **L367787-3** Lab Code: **GALSON**

Sample Type: **Site Sample**

Parameter Name	Collection Date	Analysis Date	DF	RL	Lab Result	Lab Qualifier	Verified Result	Verified Qualifier	Units
Method: mod. NIOSH 0600; Gravimetric									
RESPIRABLE DUST	02/20/2016	02/23/2016 1:01	1	0.041	0.041	U	0.041	U	MG/M3
RESPIRABLE DUST	02/20/2016	02/23/2016 1:01	1	0.05	0.05	U	0.05	U	MG

DF = Dilution Factor RL = Reporting Limit

* = Modified by Validation

U = Non-Detect J = Estimated R = Rejected

eDATApro

Form 1 Data Sheet - Conventionals

CTEH

Houston Wood Preserving Works Site

SDG: L367787

COC Sample ID: **HOTX0220RD004** Sample Matrix : **Air**

Location ID: **NA**

Lab Sample ID: **L367787-4** Lab Code: **GALSON**

Sample Type: **Field Blank**

Parameter Name	Collection Date	Analysis Date	DF	RL	Lab Result	Lab Qualifier	Verified Result	Verified Qualifier	Units
Method: mod. NIOSH 0600; Gravimetric									
RESPIRABLE DUST	02/20/2016	02/23/2016 12:45	1	0.05	0.05	U	0.05	U	MG

DF = Dilution Factor RL = Reporting Limit

* = Modified by Validation

U = Non-Detect J = Estimated R = Rejected

eDATApro

Form 1 Data Sheet - Conventionals

CTEH

Houston Wood Preserving Works Site

SDG: L367787

COC Sample ID: **HOTX0220TD001** Sample Matrix : **Air**

Location ID: **NA**

Lab Sample ID: **L367787-5** Lab Code: **GALSON**

Sample Type: **Site Sample**

Parameter Name	Collection Date	Analysis Date	DF	RL	Lab Result	Lab Qualifier	Verified Result	Verified Qualifier	Units
Method: mod. NIOSH 0500; Gravimetric									
TOTAL DUST	02/20/2016	02/23/2016 12:46	1	0.046	0.046	U	0.046	U	MG/M3
TOTAL DUST	02/20/2016	02/23/2016 12:46	1	0.05	0.05	U	0.05	U	MG

DF = Dilution Factor RL = Reporting Limit

* = Modified by Validation

U = Non-Detect J = Estimated R = Rejected

Form 1 Data Sheet - Conventionals

CTEH

Houston Wood Preserving Works Site

SDG: L367787

COC Sample ID: **HOTX0220TD002** Sample Matrix : **Air**

Location ID: **NA**

Lab Sample ID: **L367787-6** Lab Code: **GALSON**

Sample Type: **Site Sample**

Parameter Name	Collection Date	Analysis Date	DF	RL	Lab Result	Lab Qualifier	Verified Result	Verified Qualifier	Units
Method: mod. NIOSH 0500; Gravimetric									
TOTAL DUST	02/20/2016	02/23/2016 12:47	1	0.047	0.047	U	0.047	U	MG/M3
TOTAL DUST	02/20/2016	02/23/2016 12:47	1	0.05	0.05	U	0.05	U	MG

DF = Dilution Factor RL = Reporting Limit

* = Modified by Validation

U = Non-Detect J = Estimated R = Rejected

Form 1 Data Sheet - Conventionals

CTEH

Houston Wood Preserving Works Site

SDG: L367787

COC Sample ID: **HOTX0220TD003** Sample Matrix : **Air**

Location ID: **NA**

Lab Sample ID: **L367787-7** Lab Code: **GALSON**

Sample Type: **Site Sample**

Parameter Name	Collection Date	Analysis Date	DF	RL	Lab Result	Lab Qualifier	Verified Result	Verified Qualifier	Units
Method: mod. NIOSH 0500; Gravimetric									
TOTAL DUST	02/20/2016	02/23/2016 12:46	1	0.052	0.091		0.091		MG/M3
TOTAL DUST	02/20/2016	02/23/2016 12:46	1	0.05	0.087		0.087		MG

DF = Dilution Factor RL = Reporting Limit

* = Modified by Validation

U = Non-Detect J = Estimated R = Rejected

eDATApro

Form 1 Data Sheet - Conventionals

CTEH

Houston Wood Preserving Works Site

SDG: L367787

COC Sample ID: **HOTX0220TD004** Sample Matrix : **Air**

Location ID: **NA**

Lab Sample ID: **L367787-8** Lab Code: **GALSON**

Sample Type: **Field Blank**

Parameter Name	Collection Date	Analysis Date	DF	RL	Lab Result	Lab Qualifier	Verified Result	Verified Qualifier	Units
Method: mod. NIOSH 0500; Gravimetric									
TOTAL DUST	02/20/2016	02/23/2016 12:46	1	0.05	0.05	U	0.05	U	MG

DF = Dilution Factor RL = Reporting Limit

* = Modified by Validation

U = Non-Detect J = Estimated R = Rejected

eDATApro

Appendix II
Chain of Custody

775699809498
Date:02/23/16
Shipper:FEDEX
Initials:GMB

5120 North Shore Drive
North Little Rock, AR 72118
Phone: (501) 801-8500
Fax: (501) 801-8501
Website: www.cteh.com

Prep:UNKNOWN

for Toxicology and Environmental Health L.L.C.

E CHAIN OF CUSTODY AND ANALYSIS REQUEST FORM

R8

Page ___ of ___

	Send Report To:	Send Invoice To:
Name	cconnolly@cteh.com;mberg@cteh.co	Accounts Payable
Company	CTEH	CTEH
Address	5120 North Shore Drive North Little Rock, AR 72118	5120 North Shore Drive North Little Rock, AR 72118
Phone	(501)801-8500	(501)801-8500
Fax	(501)801-8501	(501)801-8501
e-mail	labresults@cteh.com	

CTEH Project #: 107907

Turnaround Requested:
Same Day ___ Next Day (24 hour) ___ Normal
X Other (Specify) 2 Day

Complete Data Packet Requested X Yes ☐No

Lab Contact Information:
Galson Laboratories
6601 Kirkville Road
E. Syracuse, NY 13057

Client Sample Identification	Other Sample Identification	Sample Size	Units (Check one) ___L ___cm²	Sample Date	Sample Time (for non-air samples)	Initials	NIOSH 0600 Resp dust	NIOSH 0500 Total Dust								Matrix A = air B = bulk S = soil SW = wipe T = tape W = water
HOTX0220RD001	AS14	1355	L	02/20/16		JA	X									A
HOTX0220RD002	AS12	1327	L	02/20/16		JA	X									A
HOTX0220RD003	AS07	1208	L	02/20/16		JA	X									A
HOTX0220RD004	BL	0	L	02/20/16		JA	X									A
HOTX0220TD001	AS14	1098	L	02/20/16		JA		X								A
HOTX0220TD002	AS12	1054	L	02/20/16		JA		X								A
HOTX0220TD003	AS07	955	L	02/20/16		JA		X								A
HOTX0220TD004	BL	0	L	02/20/16		JA		X								A

RELINQUISHED BY	DATE/TIME	RECEIVED BY	DATE/TIME	COMMENTS
Justin Langley	02/22/16 16:00	FedEx		Rec'd intact & all accounted for? Yes or No KM
				Rec'd w/custody seals intact? Yes or No NA KM
				Rec'd in light sensitive packaging? Yes or No NA KM
				Rec'd with ice pack? Yes or No NA KM
				Rec'd temperature compliant? Yes or No KM

Data Verification Report (Level 2)

Project: 107907 - Houston Wood Preserving Works Site

Client: CTEH

Report #: L368113 Date: March 2, 2016

Environmental Data Professional, LLC
1432 Watkins St.• Lake Charles, LA 70601 • phone: 337-540-0036 • fax: 337-478-6061

Disclaimer:

The review performed and reported herein is based on specifications and procedures presented to eDATApro with the associated data package. Any qualifications or review not specified with package requirements was based on USEPA National Functional Guidelines for Inorganic and Organic Data Review.

Information contained in this report is based solely on the hardcopy and/or electronic deliverables that were submitted to eDATApro. eDATApro reserves the rights to modify or change the report if new information is presented or if this report is determined to be inaccurate or incomplete.

The following parameters were reviewed during the verification process:

Chain-of-Custody (COC): Completeness and sample custody

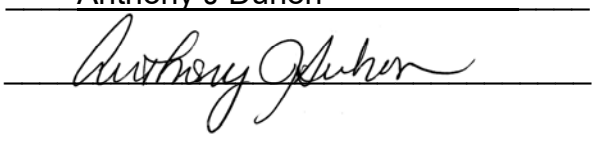
Holding time: Compare collection date versus preparation and/or analysis date

Blank Contamination: Laboratory and field blanks

Matrix/Precision/Recovery: Surrogates, Internal Standards, Duplicates, Blank spike and blank spike duplicate samples (when applicable)

Standards: Detection limit standard and continuing calibration verification (when applicable)

Reviewed by: Anthony J Duhon

Signature: 

INTRODUCTION:

Project Name: 107907 - Houston Wood Preserving Works Site
Laboratory: Galson Laboratories
Laboratory Package No.: L368113
Matrix: Air

Environmental Data Professional, LLC (eDATApro) received one electronic Level II data package containing the results for six field samples and two field blanks. Level II verification was performed on the data utilizing *USEPA National Functional Guidelines for Organic Data Review*, *USEPA National Functional Guidelines for Inorganic Data Review* and the analytical methods.

The following samples were reviewed:

Sample ID	Lab ID	Collection Date	Analyses
HOTX0224PNAH001	L368113-1	02/24/2016	[1]
HOTX0224PNAH002	L368113-2	02/24/2016	[1]
HOTX0224PNAH003	L368113-3	02/24/2016	[1]
HOTX0224PNAH004	L368113-4	02/24/2016	[1]
HOTX0224PM001	L368113-5	02/24/2016	[2]
HOTX0224PM002	L368113-6	02/24/2016	[2]
HOTX0224PM003	L368113-7	02/24/2016	[2]
HOTX0224PM004	L368113-8	02/24/2016	[2]

Analyses Performed Codes:

[1] Semivolatile Organics; PAHs (mod. NIOSH 5506; HPLC/UV)
[2] Particulate Matter; PM10 (mod. EPA Method IP-10A; Gravimetric)

DATA REVIEW FINDINGS SUMMARY

I. General Package:

The data package was complete and no resubmissions were requested.

II. Semivolatile Organics; PAHs – mod. NIOSH 5506; HPLC/UV:

The laboratory reported the results in both ug and mg/m3 units.

All quality assurance and quality control (QA/QC) components presented by the laboratory satisfied method and data review acceptance criteria; therefore, no data qualifications were necessary.

III. Particulate Matter; PM10 – mod. EPA Method IP-10A; Gravimetric:

The laboratory reported the results in both mg and mg/m3 units.

All quality assurance and quality control (QA/QC) components presented by the laboratory satisfied method and data review acceptance criteria; therefore, no data qualifications were necessary.

Appendix I
Form 1 Data (Qualified)

Form 1 Data Sheet - Semivolatiles

CTEH

Houston Wood Preserving Works Site

SDG: L368113

COC Sample ID: **HOTX0224PNAH001** | Sample Matrix : **Air** | Total/Dissolved: **T**

Location ID: **NA** | Sample Date: **02/24/2016** | Lab: **GALSON**

Lab Sample ID: **L368113-1** | Analysis Date: **02/26/2016 7:48**

Sample Type: **Site Sample**

Method: **mod. NIOSH 5506; HPLC/UV**

CAS	Parameter Name	DF	RL	Lab Result	Lab Qualifier	Verified Result	Verified Qualifier	Units
5522-43-0	1-NITROPYRENE	1	0.4	0.4	U	0.4	U	UG
5522-43-0	1-NITROPYRENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
83-32-9	ACENAPHTHENE	1	0.3	0.3	U	0.3	U	UG
83-32-9	ACENAPHTHENE	1	0.0003	0.0003	U	0.0003	U	MG/M3
208-96-8	ACENAPHTHYLENE	1	0.3	0.3	U	0.3	U	UG
208-96-8	ACENAPHTHYLENE	1	0.0003	0.0003	U	0.0003	U	MG/M3
120-12-7	ANTHRACENE	1	0.4	0.4	U	0.4	U	UG
120-12-7	ANTHRACENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
56-55-3	BENZO(A)ANTHRACENE	1	0.4	0.4	U	0.4	U	UG
56-55-3	BENZO(A)ANTHRACENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
50-32-8	BENZO(A)PYRENE	1	0.5	0.5	U	0.5	U	UG
50-32-8	BENZO(A)PYRENE	1	0.0005	0.0005	U	0.0005	U	MG/M3
205-99-2	BENZO(B)FLUORANTHENE	1	0.4	0.4	U	0.4	U	UG
205-99-2	BENZO(B)FLUORANTHENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
192-97-2	BENZO(E)PYRENE	1	0.4	0.4	U	0.4	U	UG
192-97-2	BENZO(E)PYRENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
191-24-2	BENZO(G,H,I)PERYLENE	1	0.5	0.5	U	0.5	U	UG
191-24-2	BENZO(G,H,I)PERYLENE	1	0.0005	0.0005	U	0.0005	U	MG/M3
207-08-9	BENZO(K)FLUORANTHENE	1	0.4	0.4	U	0.4	U	UG
207-08-9	BENZO(K)FLUORANTHENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
218-01-9	CHRYSENE	1	0.4	0.4	U	0.4	U	UG
218-01-9	CHRYSENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
53-70-3	DIBENZ(A,H)ANTHRACENE	1	0.4	0.4	U	0.4	U	UG
53-70-3	DIBENZ(A,H)ANTHRACENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
206-44-0	FLUORANTHENE	1	0.4	0.4	U	0.4	U	UG
206-44-0	FLUORANTHENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
86-73-7	FLUORENE	1	0.3	0.3	U	0.3	U	UG
86-73-7	FLUORENE	1	0.0003	0.0003	U	0.0003	U	MG/M3
193-39-5	INDENO-1,2,3-CD-PYRENE	1	0.5	0.5	U	0.5	U	UG
193-39-5	INDENO-1,2,3-CD-PYRENE	1	0.0005	0.0005	U	0.0005	U	MG/M3
91-20-3	NAPHTHALENE	1	0.3	0.3	U	0.3	U	UG
91-20-3	NAPHTHALENE	1	0.0003	0.0003	U	0.0003	U	MG/M3
85-01-8	PHENANTHRENE	1	0.3	0.3	U	0.3	U	UG
85-01-8	PHENANTHRENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
129-00-0	PYRENE	1	0.4	0.4	U	0.4	U	UG
129-00-0	PYRENE	1	0.0004	0.0004	U	0.0004	U	MG/M3

DF = Dilution Factor RL = Reporting Limit

* = Modified by Validation

U = Non-Detect J = Estimated R = Rejected

Form 1 Data Sheet - Semivolatiles

CTEH

Houston Wood Preserving Works Site

SDG: L368113

COC Sample ID: **HOTX0224PNAH002** Sample Matrix : **Air** Total/Dissolved: **T**

Location ID: **NA** Sample Date: **02/24/2016** Lab: **GALSON**

Lab Sample ID: **L368113-2** Analysis Date: **02/26/2016 8:48**

Sample Type: **Site Sample**

Method: **mod. NIOSH 5506; HPLC/UV**

CAS	Parameter Name	DF	RL	Lab Result	Lab Qualifier	Verified Result	Verified Qualifier	Units
5522-43-0	1-NITROPYRENE	1	0.4	0.4	U	0.4	U	UG
5522-43-0	1-NITROPYRENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
83-32-9	ACENAPHTHENE	1	0.3	0.3	U	0.3	U	UG
83-32-9	ACENAPHTHENE	1	0.0003	0.0003	U	0.0003	U	MG/M3
208-96-8	ACENAPHTHYLENE	1	0.3	0.3	U	0.3	U	UG
208-96-8	ACENAPHTHYLENE	1	0.0003	0.0003	U	0.0003	U	MG/M3
120-12-7	ANTHRACENE	1	0.4	0.4	U	0.4	U	UG
120-12-7	ANTHRACENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
56-55-3	BENZO(A)ANTHRACENE	1	0.4	0.4	U	0.4	U	UG
56-55-3	BENZO(A)ANTHRACENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
50-32-8	BENZO(A)PYRENE	1	0.5	0.5	U	0.5	U	UG
50-32-8	BENZO(A)PYRENE	1	0.0005	0.0005	U	0.0005	U	MG/M3
205-99-2	BENZO(B)FLUORANTHENE	1	0.4	0.4	U	0.4	U	UG
205-99-2	BENZO(B)FLUORANTHENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
192-97-2	BENZO(E)PYRENE	1	0.4	0.4	U	0.4	U	UG
192-97-2	BENZO(E)PYRENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
191-24-2	BENZO(G,H,I)PERYLENE	1	0.5	0.5	U	0.5	U	UG
191-24-2	BENZO(G,H,I)PERYLENE	1	0.0005	0.0005	U	0.0005	U	MG/M3
207-08-9	BENZO(K)FLUORANTHENE	1	0.4	0.4	U	0.4	U	UG
207-08-9	BENZO(K)FLUORANTHENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
218-01-9	CHRYSENE	1	0.4	0.4	U	0.4	U	UG
218-01-9	CHRYSENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
53-70-3	DIBENZ(A,H)ANTHRACENE	1	0.4	0.4	U	0.4	U	UG
53-70-3	DIBENZ(A,H)ANTHRACENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
206-44-0	FLUORANTHENE	1	0.4	0.4	U	0.4	U	UG
206-44-0	FLUORANTHENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
86-73-7	FLUORENE	1	0.3	0.3	U	0.3	U	UG
86-73-7	FLUORENE	1	0.0003	0.0003	U	0.0003	U	MG/M3
193-39-5	INDENO-1,2,3-CD-PYRENE	1	0.5	0.5	U	0.5	U	UG
193-39-5	INDENO-1,2,3-CD-PYRENE	1	0.0005	0.0005	U	0.0005	U	MG/M3
91-20-3	NAPHTHALENE	1	0.3	0.3	U	0.3	U	UG
91-20-3	NAPHTHALENE	1	0.0003	0.0003	U	0.0003	U	MG/M3
85-01-8	PHENANTHRENE	1	0.3	0.3	U	0.3	U	UG
85-01-8	PHENANTHRENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
129-00-0	PYRENE	1	0.4	0.4	U	0.4	U	UG
129-00-0	PYRENE	1	0.0004	0.0004	U	0.0004	U	MG/M3

DF = Dilution Factor RL = Reporting Limit

* = Modified by Validation

U = Non-Detect J = Estimated R = Rejected

eDATApro ENVIRONMENTAL DATA PROFESSIONAL, LLC

Form 1 Data Sheet - Semivolatiles

CTEH

Houston Wood Preserving Works Site

SDG: L368113

COC Sample ID: **HOTX0224PNAH003** Sample Matrix : **Air** Total/Dissolved: **T**

Location ID: **NA** Sample Date: **02/24/2016** Lab: **GALSON**

Lab Sample ID: **L368113-3** Analysis Date: **02/26/2016 9:48**

Sample Type: **Site Sample**

Method: **mod. NIOSH 5506; HPLC/UV**

CAS	Parameter Name	DF	RL	Lab Result	Lab Qualifier	Verified Result	Verified Qualifier	Units
5522-43-0	1-NITROPYRENE	1	0.4	0.4	U	0.4	U	UG
5522-43-0	1-NITROPYRENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
83-32-9	ACENAPHTHENE	1	0.3	0.3	U	0.3	U	UG
83-32-9	ACENAPHTHENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
208-96-8	ACENAPHTHYLENE	1	0.3	0.3	U	0.3	U	UG
208-96-8	ACENAPHTHYLENE	1	0.0003	0.0003	U	0.0003	U	MG/M3
120-12-7	ANTHRACENE	1	0.4	0.4	U	0.4	U	UG
120-12-7	ANTHRACENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
56-55-3	BENZO(A)ANTHRACENE	1	0.4	0.4	U	0.4	U	UG
56-55-3	BENZO(A)ANTHRACENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
50-32-8	BENZO(A)PYRENE	1	0.5	0.5	U	0.5	U	UG
50-32-8	BENZO(A)PYRENE	1	0.0005	0.0005	U	0.0005	U	MG/M3
205-99-2	BENZO(B)FLUORANTHENE	1	0.4	0.4	U	0.4	U	UG
205-99-2	BENZO(B)FLUORANTHENE	1	0.0005	0.0005	U	0.0005	U	MG/M3
192-97-2	BENZO(E)PYRENE	1	0.4	0.4	U	0.4	U	UG
192-97-2	BENZO(E)PYRENE	1	0.0005	0.0005	U	0.0005	U	MG/M3
191-24-2	BENZO(G,H,I)PERYLENE	1	0.5	0.5	U	0.5	U	UG
191-24-2	BENZO(G,H,I)PERYLENE	1	0.0006	0.0006	U	0.0006	U	MG/M3
207-08-9	BENZO(K)FLUORANTHENE	1	0.4	0.4	U	0.4	U	UG
207-08-9	BENZO(K)FLUORANTHENE	1	0.0005	0.0005	U	0.0005	U	MG/M3
218-01-9	CHRYSENE	1	0.4	0.4	U	0.4	U	UG
218-01-9	CHRYSENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
53-70-3	DIBENZ(A,H)ANTHRACENE	1	0.4	0.4	U	0.4	U	UG
53-70-3	DIBENZ(A,H)ANTHRACENE	1	0.0005	0.0005	U	0.0005	U	MG/M3
206-44-0	FLUORANTHENE	1	0.4	0.4	U	0.4	U	UG
206-44-0	FLUORANTHENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
86-73-7	FLUORENE	1	0.3	0.3	U	0.3	U	UG
86-73-7	FLUORENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
193-39-5	INDENO-1,2,3-CD-PYRENE	1	0.5	0.5	U	0.5	U	UG
193-39-5	INDENO-1,2,3-CD-PYRENE	1	0.0005	0.0005	U	0.0005	U	MG/M3
91-20-3	NAPHTHALENE	1	0.3	0.3	U	0.3	U	UG
91-20-3	NAPHTHALENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
85-01-8	PHENANTHRENE	1	0.3	0.3	U	0.3	U	UG
85-01-8	PHENANTHRENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
129-00-0	PYRENE	1	0.4	0.4	U	0.4	U	UG
129-00-0	PYRENE	1	0.0004	0.0004	U	0.0004	U	MG/M3

DF = Dilution Factor RL = Reporting Limit

* = Modified by Validation

U = Non-Detect J = Estimated R = Rejected

Form 1 Data Sheet - Semivolatiles

CTEH

Houston Wood Preserving Works Site

SDG: L368113

COC Sample ID: **HOTX0224PNAH004** Sample Matrix : **Air** Total/Dissolved: **T**

Location ID: **NA** Sample Date: **02/24/2016** Lab: **GALSON**

Lab Sample ID: **L368113-4** Analysis Date: **02/26/2016 10:48**

Sample Type: **Field Blank**

Method: **mod. NIOSH 5506; HPLC/UV**

CAS	Parameter Name	DF	RL	Lab Result	Lab Qualifier	Verified Result	Verified Qualifier	Units
5522-43-0	1-NITROPYRENE	1	0.4	0.4	U	0.4	U	UG
83-32-9	ACENAPHTHENE	1	0.3	0.3	U	0.3	U	UG
208-96-8	ACENAPHTHYLENE	1	0.3	0.3	U	0.3	U	UG
120-12-7	ANTHRACENE	1	0.4	0.4	U	0.4	U	UG
56-55-3	BENZO(A)ANTHRACENE	1	0.4	0.4	U	0.4	U	UG
50-32-8	BENZO(A)PYRENE	1	0.5	0.5	U	0.5	U	UG
205-99-2	BENZO(B)FLUORANTHENE	1	0.4	0.4	U	0.4	U	UG
192-97-2	BENZO(E)PYRENE	1	0.4	0.4	U	0.4	U	UG
191-24-2	BENZO(G,H,I)PERYLENE	1	0.5	0.5	U	0.5	U	UG
207-08-9	BENZO(K)FLUORANTHENE	1	0.4	0.4	U	0.4	U	UG
218-01-9	CHRYSENE	1	0.4	0.4	U	0.4	U	UG
53-70-3	DIBENZ(A,H)ANTHRACENE	1	0.4	0.4	U	0.4	U	UG
206-44-0	FLUORANTHENE	1	0.4	0.4	U	0.4	U	UG
86-73-7	FLUORENE	1	0.3	0.3	U	0.3	U	UG
193-39-5	INDENO-1,2,3-CD-PYRENE	1	0.5	0.5	U	0.5	U	UG
91-20-3	NAPHTHALENE	1	0.3	0.3	U	0.3	U	UG
85-01-8	PHENANTHRENE	1	0.3	0.3	U	0.3	U	UG
129-00-0	PYRENE	1	0.4	0.4	U	0.4	U	UG

DF = Dilution Factor RL = Reporting Limit

* = Modified by Validation

U = Non-Detect J = Estimated R = Rejected

eDATApro ENVIRONMENTAL DATA PROFESSIONAL, LLC

Form 1 Data Sheet - Conventionals

CTEH

Houston Wood Preserving Works Site

SDG: L368113

COC Sample ID: **HOTX0224PM001** Sample Matrix : **Air**

Location ID: **NA**

Lab Sample ID: **L368113-5** Lab Code: **GALSON**

Sample Type: **Site Sample**

Parameter Name	Collection Date	Analysis Date	DF	RL	Lab Result	Lab Qualifier	Verified Result	Verified Qualifier	Units
Method: mod. EPA Method IP-10A; Gravimetric									
PARTICULATE MATTER/PM10	02/24/2016	02/29/2016 7:16	1	0.07	0.68		0.68		MG/M3
PARTICULATE MATTER/PM10	02/24/2016	02/29/2016 7:16	1	0.05	0.48		0.48		MG

DF = Dilution Factor RL = Reporting Limit

* = Modified by Validation

U = Non-Detect J = Estimated R = Rejected

Form 1 Data Sheet - Conventionals

CTEH

Houston Wood Preserving Works Site

SDG: L368113

COC Sample ID: **HOTX0224PM002** Sample Matrix : **Air**

Location ID: **NA**

Lab Sample ID: **L368113-6** Lab Code: **GALSON**

Sample Type: **Site Sample**

Parameter Name	Collection Date	Analysis Date	DF	RL	Lab Result	Lab Qualifier	Verified Result	Verified Qualifier	Units
Method: mod. EPA Method IP-10A; Gravimetric									
PARTICULATE MATTER/PM10	02/24/2016	02/29/2016 7:17	1	0.066	0.32		0.32		MG/M3
PARTICULATE MATTER/PM10	02/24/2016	02/29/2016 7:17	1	0.05	0.24		0.24		MG

DF = Dilution Factor RL = Reporting Limit

* = Modified by Validation

U = Non-Detect J = Estimated R = Rejected

Form 1 Data Sheet - Conventionals

CTEH

Houston Wood Preserving Works Site

SDG: L368113

COC Sample ID: **HOTX0224PM003** Sample Matrix : **Air**

Location ID: **NA**

Lab Sample ID: **L368113-7** Lab Code: **GALSON**

Sample Type: **Site Sample**

Parameter Name	Collection Date	Analysis Date	DF	RL	Lab Result	Lab Qualifier	Verified Result	Verified Qualifier	Units
Method: mod. EPA Method IP-10A; Gravimetric									
PARTICULATE MATTER/PM10	02/24/2016	02/29/2016 7:13	1	0.071	0.33		0.33		MG/M3
PARTICULATE MATTER/PM10	02/24/2016	02/29/2016 7:13	1	0.05	0.23		0.23		MG

DF = Dilution Factor RL = Reporting Limit

* = Modified by Validation

U = Non-Detect J = Estimated R = Rejected

Form 1 Data Sheet - Conventionals

CTEH

Houston Wood Preserving Works Site

SDG: L368113

COC Sample ID: **HOTX0224PM004** Sample Matrix : **Air**

Location ID: **NA**

Lab Sample ID: **L368113-8** Lab Code: **GALSON**

Sample Type: **Field Blank**

Parameter Name	Collection Date	Analysis Date	DF	RL	Lab Result	Lab Qualifier	Verified Result	Verified Qualifier	Units
Method: mod. EPA Method IP-10A; Gravimetric									
PARTICULATE MATTER/PM10	02/24/2016	02/29/2016 7:14	1	0.05	0.05	U	0.05	U	MG

DF = Dilution Factor RL = Reporting Limit

* = Modified by Validation

U = Non-Detect J = Estimated R = Rejected

eDATApro

Appendix II
Chain of Custody

5120 North Shore Drive
North Little Rock, AR 72118
Phone: (501) 801-8500
Fax: (501) 801-8501
Website: www.cteh.com

Center for Toxicology and Environmental Health L.L.C.

SAMPLE CHAIN OF CUSTODY AND ANALYSIS REQUEST FORM

R1/9

Page ___ of ___

	Send Report To:	Send Invoice To:
Name	cconnolly@cteh.com;mberg@cteh.co	
Company	CTEH	CTEH
Address	5120 North Shore Drive North Little Rock, AR 72118	5120 North Shore Drive North Little Rock, AR 72118
Phone	(501)801-8500	(501)801-8500
Fax	(501)801-8501	(501)801-8501
e-mail	labresults@cteh.com	

CTEH Project #: 107907

Turnaround Requested:
Same Day ___ Next Day (24 hour) ___ Normal
_X_ Other (Specify) 2 Day

Complete Data Packet Requested X Yes ☐No

Lab Contact Information:
Galson Laboratories
6601 Kirkville Road
E. Syracuse, NY 13057

Client Sample Identification	Other Sample Identification	Sample Size	Units (Check one) ___L ___cm²	Sample Date	Sample Time (for non-air samples)	Initials	NIOSH 5506 PNAH	Mod EPA IP-10A PM10								Matrix A = air B = bulk S = soil SW = wipe T = tape W = water
HOTX0224PNAH001	AS14	991.8	L	02/24/16		JA	X									A
HOTX0224PNAH002	AS12	996.2	L	02/24/16		JA	X									A
HOTX0224PNAH003	AS07	916.2	L	02/24/16		JA	X									A
HOTX0224PNAH004	BL	0	L	02/24/16		JA	X									A
HOTX0224PM001	AS14	711	L	02/24/16		JA		X								A
HOTX0224PM002	AS12	760.6	L	02/24/16		JA		X								A
HOTX0224PM003	AS07	707.3	L	02/24/16		JA		X								A
HOTX0224PM004	BL	0	L	02/24/16		JA		X								A

775731084796
Date:02/26/16
Shipper:FEDEX
Initials:SK
Prep:UNKNOWN

Intermittent 060043

PVC

SK 2/24/16

RELINQUISHED BY	DATE/TIME	RECEIVED BY	DATE/TIME	COMMENTS
Justin Langley	02/25/16 16:00	Fed Ex		Rec'd intact & all accounted for? Yes or No SK Rec'd w/custody seals intact? Yes or No NA Rec'd in light sensitive packaging? Yes or No SK Rec'd with ice pack? Yes or No SK Rec'd temperature compliant? Yes or No SK
		M Krause	2/26/16 0741	

Data Verification Report (Level 2)

Project: 107907 - Houston Wood Preserving Works Site

Client: CTEH

Report #: L368115 Date: March 2, 2016

Environmental Data Professional, LLC
1432 Watkins St.• Lake Charles, LA 70601 • phone: 337-540-0036 • fax: 337-478-6061

Disclaimer:

The review performed and reported herein is based on specifications and procedures presented to eDATApro with the associated data package. Any qualifications or review not specified with package requirements was based on USEPA National Functional Guidelines for Inorganic and Organic Data Review.

Information contained in this report is based solely on the hardcopy and/or electronic deliverables that were submitted to eDATApro. eDATApro reserves the rights to modify or change the report if new information is presented or if this report is determined to be inaccurate or incomplete.

The following parameters were reviewed during the verification process:

Chain-of-Custody (COC): Completeness and sample custody

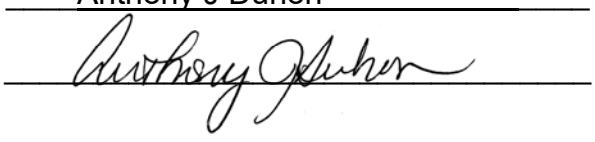
Holding time: Compare collection date versus preparation and/or analysis date

Blank Contamination: Laboratory and field blanks

Matrix/Precision/Recovery: Surrogates, Internal Standards, Duplicates, Blank spike and blank spike duplicate samples (when applicable)

Standards: Detection limit standard and continuing calibration verification (when applicable)

Reviewed by: Anthony J Duhon

Signature: 

INTRODUCTION:

Project Name: 107907 - Houston Wood Preserving Works Site
Laboratory: Galson Laboratories
Laboratory Package No.: L368115
Matrix: Air

Environmental Data Professional, LLC (eDATApro) received one electronic Level II data package containing the results for six field samples and two field blanks. Level II verification was performed on the data utilizing *USEPA National Functional Guidelines for Inorganic Data Review* and the analytical method.

The following samples were reviewed:

Sample ID	Lab ID	Collection Date	Analyses
HOTX0224RD001	L368115-1	02/24/2016	[1]
HOTX0224RD002	L368115-2	02/24/2016	[1]
HOTX0224RD003	L368115-3	02/24/2016	[1]
HOTX0224RD004	L368115-4	02/24/2016	[1]
HOTX0224TD001	L368115-5	02/24/2016	[2]
HOTX0224TD002	L368115-6	02/24/2016	[2]
HOTX0224TD003	L368115-7	02/24/2016	[2]
HOTX0224TD004	L368115-8	02/24/2016	[2]

Analyses Performed Codes:

[1] Respirable Dust (mod. NIOSH 0600; Gravimetric)
[2] Total Dust (mod. NIOSH 0500; Gravimetric)

DATA REVIEW FINDINGS SUMMARY

I. General Package:

The data package was complete and no resubmissions were requested.

II. Respirable Dust - mod. NIOSH 0600; Gravimetric:

The laboratory reported the results in both mg and mg/m3.

All quality assurance and quality control (QA/QC) components presented by the laboratory satisfied method and data review acceptance criteria; therefore, no data qualifications were necessary.

III. Total Dust - mod. NIOSH 0500; Gravimetric:

The laboratory reported the results in both mg and mg/m3.

All quality assurance and quality control (QA/QC) components presented by the laboratory satisfied method and data review acceptance criteria; therefore, no data qualifications were necessary.

Appendix I
Form 1 Data (Qualified)

Form 1 Data Sheet - Conventionals

CTEH

Houston Wood Preserving Works Site

SDG: L368115

COC Sample ID: **HOTX0224RD001** Sample Matrix : **Air**

Location ID: **NA**

Lab Sample ID: **L368115-1** Lab Code: **GALSON**

Sample Type: **Site Sample**

Parameter Name	Collection Date	Analysis Date	DF	RL	Lab Result	Lab Qualifier	Verified Result	Verified Qualifier	Units
Method: mod. NIOSH 0600; Gravimetric									
RESPIRABLE DUST	02/24/2016	02/29/2016 9:06	1	0.037	0.037	U	0.037	U	MG/M3
RESPIRABLE DUST	02/24/2016	02/29/2016 9:06	1	0.05	0.05	U	0.05	U	MG

DF = Dilution Factor RL = Reporting Limit

* = Modified by Validation

U = Non-Detect J = Estimated R = Rejected

eDATApro

Form 1 Data Sheet - Conventionals

CTEH

Houston Wood Preserving Works Site

SDG: L368115

COC Sample ID: **HOTX0224RD002** Sample Matrix : **Air**

Location ID: **NA**

Lab Sample ID: **L368115-2** Lab Code: **GALSON**

Sample Type: **Site Sample**

Parameter Name	Collection Date	Analysis Date	DF	RL	Lab Result	Lab Qualifier	Verified Result	Verified Qualifier	Units
Method: mod. NIOSH 0600; Gravimetric									
RESPIRABLE DUST	02/24/2016	02/29/2016 9:07	1	0.037	0.037	U	0.037	U	MG/M3
RESPIRABLE DUST	02/24/2016	02/29/2016 9:07	1	0.05	0.05	U	0.05	U	MG

DF = Dilution Factor RL = Reporting Limit

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U = Non-Detect J = Estimated R = Rejected

eDATApro

Form 1 Data Sheet - Conventionals

CTEH

Houston Wood Preserving Works Site

SDG: L368115

COC Sample ID: **HOTX0224RD003** Sample Matrix : **Air**

Location ID: **NA**

Lab Sample ID: **L368115-3** Lab Code: **GALSON**

Sample Type: **Site Sample**

Parameter Name	Collection Date	Analysis Date	DF	RL	Lab Result	Lab Qualifier	Verified Result	Verified Qualifier	Units
Method: mod. NIOSH 0600; Gravimetric									
RESPIRABLE DUST	02/24/2016	02/29/2016 9:08	1	0.037	0.037	U	0.037	U	MG/M3
RESPIRABLE DUST	02/24/2016	02/29/2016 9:08	1	0.05	0.05	U	0.05	U	MG

DF = Dilution Factor RL = Reporting Limit

* = Modified by Validation

U = Non-Detect J = Estimated R = Rejected

eDATApro

Form 1 Data Sheet - Conventionals

CTEH

Houston Wood Preserving Works Site

SDG: L368115

COC Sample ID: **HOTX0224RD004** Sample Matrix : **Air**

Location ID: **NA**

Lab Sample ID: **L368115-4** Lab Code: **GALSON**

Sample Type: **Field Blank**

Parameter Name	Collection Date	Analysis Date	DF	RL	Lab Result	Lab Qualifier	Verified Result	Verified Qualifier	Units
Method: mod. NIOSH 0600; Gravimetric									
RESPIRABLE DUST	02/24/2016	02/29/2016 9:08	1	0.05	0.05	U	0.05	U	MG

DF = Dilution Factor RL = Reporting Limit

* = Modified by Validation

U = Non-Detect J = Estimated R = Rejected

eDATApro

Form 1 Data Sheet - Conventionals

CTEH

Houston Wood Preserving Works Site

SDG: L368115

COC Sample ID: **HOTX0224TD001** Sample Matrix : **Air**

Location ID: **NA**

Lab Sample ID: **L368115-5** Lab Code: **GALSON**

Sample Type: **Site Sample**

Parameter Name	Collection Date	Analysis Date	DF	RL	Lab Result	Lab Qualifier	Verified Result	Verified Qualifier	Units
Method: mod. NIOSH 0500; Gravimetric									
TOTAL DUST	02/24/2016	02/29/2016 7:20	1	0.045	0.045	U	0.045	U	MG/M3
TOTAL DUST	02/24/2016	02/29/2016 7:20	1	0.05	0.05	U	0.05	U	MG

DF = Dilution Factor RL = Reporting Limit

* = Modified by Validation

U = Non-Detect J = Estimated R = Rejected

eDATApro

Form 1 Data Sheet - Conventionals

CTEH

Houston Wood Preserving Works Site

SDG: L368115

COC Sample ID: **HOTX0224TD002** Sample Matrix : **Air**

Location ID: **NA**

Lab Sample ID: **L368115-6** Lab Code: **GALSON**

Sample Type: **Site Sample**

Parameter Name	Collection Date	Analysis Date	DF	RL	Lab Result	Lab Qualifier	Verified Result	Verified Qualifier	Units
Method: mod. NIOSH 0500; Gravimetric									
TOTAL DUST	02/24/2016	02/29/2016 7:21	1	0.045	0.045	U	0.045	U	MG/M3
TOTAL DUST	02/24/2016	02/29/2016 7:21	1	0.05	0.05	U	0.05	U	MG

DF = Dilution Factor RL = Reporting Limit

* = Modified by Validation

U = Non-Detect J = Estimated R = Rejected

eDATApro

Form 1 Data Sheet - Conventionals

CTEH

Houston Wood Preserving Works Site

SDG: L368115

COC Sample ID: **HOTX0224TD003** Sample Matrix : **Air**

Location ID: **NA**

Lab Sample ID: **L368115-7** Lab Code: **GALSON**

Sample Type: **Site Sample**

Parameter Name	Collection Date	Analysis Date	DF	RL	Lab Result	Lab Qualifier	Verified Result	Verified Qualifier	Units
Method: mod. NIOSH 0500; Gravimetric									
TOTAL DUST	02/24/2016	02/29/2016 7:24	1	0.046	0.046	U	0.046	U	MG/M3
TOTAL DUST	02/24/2016	02/29/2016 7:24	1	0.05	0.05	U	0.05	U	MG

DF = Dilution Factor RL = Reporting Limit

* = Modified by Validation

U = Non-Detect J = Estimated R = Rejected

eDATApro

Form 1 Data Sheet - Conventionals

CTEH

Houston Wood Preserving Works Site

SDG: L368115

COC Sample ID: **HOTX0224TD004** Sample Matrix : **Air**

Location ID: **NA**

Lab Sample ID: **L368115-8** Lab Code: **GALSON**

Sample Type: **Field Blank**

Parameter Name	Collection Date	Analysis Date	DF	RL	Lab Result	Lab Qualifier	Verified Result	Verified Qualifier	Units
Method: mod. NIOSH 0500; Gravimetric									
TOTAL DUST	02/24/2016	02/29/2016 7:25	1	0.05	0.05	U	0.05	U	MG

DF = Dilution Factor RL = Reporting Limit

* = Modified by Validation

U = Non-Detect J = Estimated R = Rejected

eDATApro

Appendix II
Chain of Custody

R117

5120 North Shore Drive
North Little Rock, AR 72118
Phone: (501) 801-8500
Fax: (501) 801-8501
Website: www.cteh.com

Center for Toxicology and Environmental Health L.L.C.

SAMPLE CHAIN OF CUSTODY AND ANALYSIS REQUEST FORM

Page ___ of ___

	Send Report To:	Send Invoice To:
Name	cconnolly@cteh.com;mberg@cteh.co	
Company	CTEH	CTEH
Address	5120 North Shore Drive North Little Rock, AR 72118	5120 North Shore Drive North Little Rock, AR 72118
Phone	(501)801-8500	(501)801-8500
Fax	(501)801-8501	(501)801-8501
e-mail	labresults@cteh.com	

CTEH Project #: 107907

Turnaround Requested:
Same Day ___Next Day (24 hour) ___ Normal
_X_ Other (Specify) 2 Day

Complete Data Packet Requested X Yes ☐No

Lab Contact Information:
Galson Laboratories
6601 Kirkville Road
E. Syracuse, NY 13057

Client Sample Identification	Other Sample Identification	Sample Size	Units (Check one) ___L ___cm² ___	Sample Date	Sample Time (for non-air samples)	Initials	NIOSH 0600 Resp dust	NIOSH 0500 Total Dust								Matrix A = air B = bulk S = soil SW = wipe T = tape W = water
HOTX0224RD001	AS16	1352	L	02/24/16		JA	X									A
HOTX0224RD002	AS07	1352	L	02/24/16		JA	X									A
HOTX0224RD003	AS12	1357	L	02/24/16		JA	X									A
HOTX0224RD004	BL	0	L	02/24/16		JA	X									A
HOTX0224TD001	AS16	1100.5	L	02/24/16		JA		X								A
HOTX0224TD002	AS07	1099	L	02/24/16		JA		X								A
HOTX0224TD003	AS12	1086	L	02/24/16		JA		X								A
HOTX0224TD004	BL	0	L	02/24/16		JA		X								A

3pc PW PVC

2pc PW PVC

775731084796
Date:02/26/16
Shipper:FEDEX
Initials:SK
Prep:UNKNOWN

SK 2/26/16

RELINQUISHED BY	DATE/TIME	RECEIVED BY	DATE/TIME
Justin Langley	02/25/16 16:00	FedEx	
		M. Krause	2/26/16 0741

Rec'd intact & all accounted for? Yes or No SK
Rec'd w/custody seals intact? Yes or No NA
Rec'd in light sensitive packaging? Yes or No NA
Rec'd with ice pack? Yes or No SK
Rec'd temperature compliant? Yes or No SK

Data Verification Report (Level 2)

Project: 107907 - Houston Wood Preserving Works Site

Client: CTEH

Report #: L368254 Date: March 3, 2016

Environmental Data Professional, LLC
1432 Watkins St.• Lake Charles, LA 70601 • phone: 337-540-0036 • fax: 337-478-6061

Disclaimer:

The review performed and reported herein is based on specifications and procedures presented to eDATApro with the associated data package. Any qualifications or review not specified with package requirements was based on USEPA National Functional Guidelines for Inorganic and Organic Data Review.

Information contained in this report is based solely on the hardcopy and/or electronic deliverables that were submitted to eDATApro. eDATApro reserves the rights to modify or change the report if new information is presented or if this report is determined to be inaccurate or incomplete.

The following parameters were reviewed during the verification process:

Chain-of-Custody (COC): Completeness and sample custody

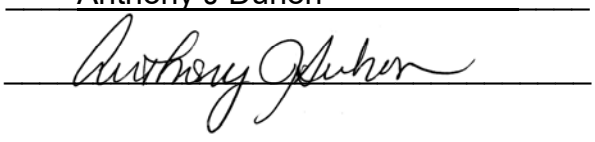
Holding time: Compare collection date versus preparation and/or analysis date

Blank Contamination: Laboratory and field blanks

Matrix/Precision/Recovery: Surrogates, Internal Standards, Duplicates, Blank spike and blank spike duplicate samples (when applicable)

Standards: Detection limit standard and continuing calibration verification (when applicable)

Reviewed by: Anthony J Duhon

Signature: 

INTRODUCTION:

Project Name: 107907 - Houston Wood Preserving Works Site
Laboratory: Galson Laboratories
Laboratory Package No.: L368254
Matrix: Air

Environmental Data Professional, LLC (eDATApro) received one electronic Level II data package containing the results for three field samples and one field blank. Level II verification was performed on the data utilizing *USEPA National Functional Guidelines for Organic Data Review* and the analytical method.

The following samples were reviewed:

Sample ID	Lab ID	Collection Date	Analyses
HOTX0226PNAH001	L368254-1	02/26/2016	[1]
HOTX0226PNAH002	L368254-2	02/26/2016	[1]
HOTX0226PNAH003	L368254-3	02/26/2016	[1]
HOTX0226PNAH004	L368254-4	02/26/2016	[1]

Analyses Performed Codes:

[1] Semivolatile Organics; PAHs (mod. NIOSH 5506; HPLC/UV)

DATA REVIEW FINDINGS SUMMARY

I. General Package:

The data package was complete and no resubmissions were requested.

II. Semivolatile Organics; PAHs – mod. NIOSH 5506; HPLC/UV:

The laboratory reported the results in both ug and mg/m3 units.

Benzo(a)anthracene was present in method blank sample WG340241-2. This analyte was not detected in the associated field samples. No data qualifications were necessary.

All other quality assurance and quality control (QA/QC) components presented by the laboratory satisfied method and data review acceptance criteria.

Appendix I
Form 1 Data (Qualified)

Form 1 Data Sheet - Semivolatiles

CTEH

Houston Wood Preserving Works Site

SDG: L368254

COC Sample ID: **HOTX0226PNAH001** Sample Matrix : **Air** Total/Dissolved: **T**

Location ID: **NA** Sample Date: **02/26/2016** Lab: **GALSON**

Lab Sample ID: **L368254-1** Analysis Date: **02/29/2016 7:44**

Sample Type: **Site Sample**

Method: **mod. NIOSH 5506; HPLC/UV**

CAS	Parameter Name	DF	RL	Lab Result	Lab Qualifier	Verified Result	Verified Qualifier	Units
5522-43-0	1-NITROPYRENE	1	0.4	0.4	U	0.4	U	UG
5522-43-0	1-NITROPYRENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
83-32-9	ACENAPHTHENE	1	0.3	0.3	U	0.3	U	UG
83-32-9	ACENAPHTHENE	1	0.0003	0.0003	U	0.0003	U	MG/M3
208-96-8	ACENAPHTHYLENE	1	0.3	0.3	U	0.3	U	UG
208-96-8	ACENAPHTHYLENE	1	0.0003	0.0003	U	0.0003	U	MG/M3
120-12-7	ANTHRACENE	1	0.4	0.4	U	0.4	U	UG
120-12-7	ANTHRACENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
56-55-3	BENZO(A)ANTHRACENE	1	0.4	0.4	U	0.4	U	UG
56-55-3	BENZO(A)ANTHRACENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
50-32-8	BENZO(A)PYRENE	1	0.5	0.5	U	0.5	U	UG
50-32-8	BENZO(A)PYRENE	1	0.0005	0.0005	U	0.0005	U	MG/M3
205-99-2	BENZO(B)FLUORANTHENE	1	0.4	0.4	U	0.4	U	UG
205-99-2	BENZO(B)FLUORANTHENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
192-97-2	BENZO(E)PYRENE	1	0.4	0.4	U	0.4	U	UG
192-97-2	BENZO(E)PYRENE	1	0.0005	0.0005	U	0.0005	U	MG/M3
191-24-2	BENZO(G,H,I)PERYLENE	1	0.5	0.5	U	0.5	U	UG
191-24-2	BENZO(G,H,I)PERYLENE	1	0.0005	0.0005	U	0.0005	U	MG/M3
207-08-9	BENZO(K)FLUORANTHENE	1	0.4	0.4	U	0.4	U	UG
207-08-9	BENZO(K)FLUORANTHENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
218-01-9	CHRYSENE	1	0.4	0.4	U	0.4	U	UG
218-01-9	CHRYSENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
53-70-3	DIBENZ(A,H)ANTHRACENE	1	0.4	0.4	U	0.4	U	UG
53-70-3	DIBENZ(A,H)ANTHRACENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
206-44-0	FLUORANTHENE	1	0.4	0.4	U	0.4	U	UG
206-44-0	FLUORANTHENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
86-73-7	FLUORENE	1	0.3	0.3	U	0.3	U	UG
86-73-7	FLUORENE	1	0.0003	0.0003	U	0.0003	U	MG/M3
193-39-5	INDENO-1,2,3-CD-PYRENE	1	0.5	0.5	U	0.5	U	UG
193-39-5	INDENO-1,2,3-CD-PYRENE	1	0.0005	0.0005	U	0.0005	U	MG/M3
91-20-3	NAPHTHALENE	1	0.3	0.3	U	0.3	U	UG
91-20-3	NAPHTHALENE	1	0.0003	0.0003	U	0.0003	U	MG/M3
85-01-8	PHENANTHRENE	1	0.3	0.3	U	0.3	U	UG
85-01-8	PHENANTHRENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
129-00-0	PYRENE	1	0.4	0.4	U	0.4	U	UG
129-00-0	PYRENE	1	0.0004	0.0004	U	0.0004	U	MG/M3

DF = Dilution Factor RL = Reporting Limit

* = Modified by Validation

U = Non-Detect J = Estimated R = Rejected

eDATApro ENVIRONMENTAL DATA PROFESSIONAL, LLC

Form 1 Data Sheet - Semivolatiles

CTEH

Houston Wood Preserving Works Site

SDG: L368254

COC Sample ID: **HOTX0226PNAH002** Sample Matrix : **Air** Total/Dissolved: **T**

Location ID: **NA** Sample Date: **02/26/2016** Lab: **GALSON**

Lab Sample ID: **L368254-2** Analysis Date: **02/29/2016 8:44**

Sample Type: **Site Sample**

Method: **mod. NIOSH 5506; HPLC/UV**

CAS	Parameter Name	DF	RL	Lab Result	Lab Qualifier	Verified Result	Verified Qualifier	Units
5522-43-0	1-NITROPYRENE	1	0.4	0.4	U	0.4	U	UG
5522-43-0	1-NITROPYRENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
83-32-9	ACENAPHTHENE	1	0.3	0.3	U	0.3	U	UG
83-32-9	ACENAPHTHENE	1	0.0003	0.0003	U	0.0003	U	MG/M3
208-96-8	ACENAPHTHYLENE	1	0.3	0.3	U	0.3	U	UG
208-96-8	ACENAPHTHYLENE	1	0.0003	0.0003	U	0.0003	U	MG/M3
120-12-7	ANTHRACENE	1	0.4	0.4	U	0.4	U	UG
120-12-7	ANTHRACENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
56-55-3	BENZO(A)ANTHRACENE	1	0.4	0.4	U	0.4	U	UG
56-55-3	BENZO(A)ANTHRACENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
50-32-8	BENZO(A)PYRENE	1	0.5	0.5	U	0.5	U	UG
50-32-8	BENZO(A)PYRENE	1	0.0005	0.0005	U	0.0005	U	MG/M3
205-99-2	BENZO(B)FLUORANTHENE	1	0.4	0.4	U	0.4	U	UG
205-99-2	BENZO(B)FLUORANTHENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
192-97-2	BENZO(E)PYRENE	1	0.4	0.4	U	0.4	U	UG
192-97-2	BENZO(E)PYRENE	1	0.0005	0.0005	U	0.0005	U	MG/M3
191-24-2	BENZO(G,H,I)PERYLENE	1	0.5	0.5	U	0.5	U	UG
191-24-2	BENZO(G,H,I)PERYLENE	1	0.0005	0.0005	U	0.0005	U	MG/M3
207-08-9	BENZO(K)FLUORANTHENE	1	0.4	0.4	U	0.4	U	UG
207-08-9	BENZO(K)FLUORANTHENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
218-01-9	CHRYSENE	1	0.4	0.4	U	0.4	U	UG
218-01-9	CHRYSENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
53-70-3	DIBENZ(A,H)ANTHRACENE	1	0.4	0.4	U	0.4	U	UG
53-70-3	DIBENZ(A,H)ANTHRACENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
206-44-0	FLUORANTHENE	1	0.4	0.4	U	0.4	U	UG
206-44-0	FLUORANTHENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
86-73-7	FLUORENE	1	0.3	0.3	U	0.3	U	UG
86-73-7	FLUORENE	1	0.0003	0.0003	U	0.0003	U	MG/M3
193-39-5	INDENO-1,2,3-CD-PYRENE	1	0.5	0.5	U	0.5	U	UG
193-39-5	INDENO-1,2,3-CD-PYRENE	1	0.0005	0.0005	U	0.0005	U	MG/M3
91-20-3	NAPHTHALENE	1	0.3	0.3	U	0.3	U	UG
91-20-3	NAPHTHALENE	1	0.0003	0.0003	U	0.0003	U	MG/M3
85-01-8	PHENANTHRENE	1	0.3	0.3	U	0.3	U	UG
85-01-8	PHENANTHRENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
129-00-0	PYRENE	1	0.4	0.4	U	0.4	U	UG
129-00-0	PYRENE	1	0.0004	0.0004	U	0.0004	U	MG/M3

DF = Dilution Factor RL = Reporting Limit

* = Modified by Validation

U = Non-Detect J = Estimated R = Rejected

Form 1 Data Sheet - Semivolatiles

CTEH

Houston Wood Preserving Works Site

SDG: L368254

COC Sample ID: **HOTX0226PNAH003** Sample Matrix : **Air** Total/Dissolved: **T**

Location ID: **NA** Sample Date: **02/26/2016** Lab: **GALSON**

Lab Sample ID: **L368254-3** Analysis Date: **02/29/2016 9:44**

Sample Type: **Site Sample**

Method: **mod. NIOSH 5506; HPLC/UV**

CAS	Parameter Name	DF	RL	Lab Result	Lab Qualifier	Verified Result	Verified Qualifier	Units
5522-43-0	1-NITROPYRENE	1	0.4	0.4	U	0.4	U	UG
5522-43-0	1-NITROPYRENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
83-32-9	ACENAPHTHENE	1	0.3	0.3	U	0.3	U	UG
83-32-9	ACENAPHTHENE	1	0.0003	0.0003	U	0.0003	U	MG/M3
208-96-8	ACENAPHTHYLENE	1	0.3	0.3	U	0.3	U	UG
208-96-8	ACENAPHTHYLENE	1	0.0003	0.0003	U	0.0003	U	MG/M3
120-12-7	ANTHRACENE	1	0.4	0.4	U	0.4	U	UG
120-12-7	ANTHRACENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
56-55-3	BENZO(A)ANTHRACENE	1	0.4	0.4	U	0.4	U	UG
56-55-3	BENZO(A)ANTHRACENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
50-32-8	BENZO(A)PYRENE	1	0.5	0.5	U	0.5	U	UG
50-32-8	BENZO(A)PYRENE	1	0.0005	0.0005	U	0.0005	U	MG/M3
205-99-2	BENZO(B)FLUORANTHENE	1	0.4	0.4	U	0.4	U	UG
205-99-2	BENZO(B)FLUORANTHENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
192-97-2	BENZO(E)PYRENE	1	0.4	0.4	U	0.4	U	UG
192-97-2	BENZO(E)PYRENE	1	0.0005	0.0005	U	0.0005	U	MG/M3
191-24-2	BENZO(G,H,I)PERYLENE	1	0.5	0.5	U	0.5	U	UG
191-24-2	BENZO(G,H,I)PERYLENE	1	0.0005	0.0005	U	0.0005	U	MG/M3
207-08-9	BENZO(K)FLUORANTHENE	1	0.4	0.4	U	0.4	U	UG
207-08-9	BENZO(K)FLUORANTHENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
218-01-9	CHRYSENE	1	0.4	0.4	U	0.4	U	UG
218-01-9	CHRYSENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
53-70-3	DIBENZ(A,H)ANTHRACENE	1	0.4	0.4	U	0.4	U	UG
53-70-3	DIBENZ(A,H)ANTHRACENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
206-44-0	FLUORANTHENE	1	0.4	0.4	U	0.4	U	UG
206-44-0	FLUORANTHENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
86-73-7	FLUORENE	1	0.3	0.3	U	0.3	U	UG
86-73-7	FLUORENE	1	0.0003	0.0003	U	0.0003	U	MG/M3
193-39-5	INDENO-1,2,3-CD-PYRENE	1	0.5	0.5	U	0.5	U	UG
193-39-5	INDENO-1,2,3-CD-PYRENE	1	0.0005	0.0005	U	0.0005	U	MG/M3
91-20-3	NAPHTHALENE	1	0.3	0.3		0.3		UG
91-20-3	NAPHTHALENE	1	0.0003	0.0004		0.0004		MG/M3
85-01-8	PHENANTHRENE	1	0.3	0.3	U	0.3	U	UG
85-01-8	PHENANTHRENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
129-00-0	PYRENE	1	0.4	0.4	U	0.4	U	UG
129-00-0	PYRENE	1	0.0004	0.0004	U	0.0004	U	MG/M3

DF = Dilution Factor RL = Reporting Limit

* = Modified by Validation

U = Non-Detect J = Estimated R = Rejected

Form 1 Data Sheet - Semivolatiles

CTEH

Houston Wood Preserving Works Site

SDG: L368254

COC Sample ID: **HOTX0226PNAH004** Sample Matrix : **Air** Total/Dissolved: **T**

Location ID: **NA** Sample Date: **02/26/2016** Lab: **GALSON**

Lab Sample ID: **L368254-4** Analysis Date: **02/29/2016 10:44**

Sample Type: **Field Blank**

Method: **mod. NIOSH 5506; HPLC/UV**

CAS	Parameter Name	DF	RL	Lab Result	Lab Qualifier	Verified Result	Verified Qualifier	Units
5522-43-0	1-NITROPYRENE	1	0.4	0.4	U	0.4	U	UG
83-32-9	ACENAPHTHENE	1	0.3	0.3	U	0.3	U	UG
208-96-8	ACENAPHTHYLENE	1	0.3	0.3	U	0.3	U	UG
120-12-7	ANTHRACENE	1	0.4	0.4	U	0.4	U	UG
56-55-3	BENZO(A)ANTHRACENE	1	0.4	0.4	U	0.4	U	UG
50-32-8	BENZO(A)PYRENE	1	0.5	0.5	U	0.5	U	UG
205-99-2	BENZO(B)FLUORANTHENE	1	0.4	0.4	U	0.4	U	UG
192-97-2	BENZO(E)PYRENE	1	0.4	0.4	U	0.4	U	UG
191-24-2	BENZO(G,H,I)PERYLENE	1	0.5	0.5	U	0.5	U	UG
207-08-9	BENZO(K)FLUORANTHENE	1	0.4	0.4	U	0.4	U	UG
218-01-9	CHRYSENE	1	0.4	0.4	U	0.4	U	UG
53-70-3	DIBENZ(A,H)ANTHRACENE	1	0.4	0.4	U	0.4	U	UG
206-44-0	FLUORANTHENE	1	0.4	0.4	U	0.4	U	UG
86-73-7	FLUORENE	1	0.3	0.3	U	0.3	U	UG
193-39-5	INDENO-1,2,3-CD-PYRENE	1	0.5	0.5	U	0.5	U	UG
91-20-3	NAPHTHALENE	1	0.3	0.3	U	0.3	U	UG
85-01-8	PHENANTHRENE	1	0.3	0.3	U	0.3	U	UG
129-00-0	PYRENE	1	0.4	0.4	U	0.4	U	UG

DF = Dilution Factor RL = Reporting Limit

* = Modified by Validation

U = Non-Detect J = Estimated R = Rejected

eDATApro ENVIRONMENTAL DATA PROFESSIONAL, LLC

Appendix II
Chain of Custody

L3688254

(84)

5120 North Shore Drive
North Little Rock, AR 72118
Phone: (501) 801-8500
Fax: (501) 801-8501
Website: www.cteh.com

Center for Toxicology and Environmental Health L.L.C.

SAMPLE CHAIN OF CUSTODY AND ANALYSIS REQUEST FORM

Page ___ of ___

	Send Report To:	Send Invoice To:
Name	cconnolly@cteh.com;mberg@cteh.co	
Company	CTEH	CTEH
Address	5120 North Shore Drive North Little Rock, AR 72118	5120 North Shore Drive North Little Rock, AR 72118
Phone	(501)801-8500	(501)801-8500
Fax	(501)801-8501	(501)801-8501
e-mail	labresults@cteh.com	

CTEH Project #: 107907

Turnaround Requested:
Same Day __Next Day (24 hour) ___ Normal
_X_Other (Specify) 2 Day

Complete Data Packet Requested X Yes ☐No

806684141230
Date:02/29/16
Shipper:FEDEX
Initials:KP
Prep:UNKNOWN

Client Sample Identification	Other Sample Identification	Sample Size	Units (Check one) ___L ___cm²	Sample Date	Sample Time (for non-air samples)	Initials	NIOSH 5506 PNAH		Samples Received in Light Sensitive Material: Yes or No	Matrix A = air B = bulk S = soil SW = wipe T = tape W = water
HOTX0226PNAH001	AS07	961	L	02/26/16		JA	X			A
HOTX0226PNAH002	AS12	963	L	02/26/16		JA	X			A
HOTX0226PNAH003	AS16	976	L	02/26/16		JA	X			A
HOTX0226PNAH004	BL	0	L	02/26/16		JA	X			A

Not Used

Rec'd intact & all accounted for? Yes or No ZK
Rec'd w/custody seals intact? Yes or No N/A
Rec'd in light sensitive packaging? Yes or No ZK
Rec'd with ice pack? Yes or No ZK
Rec'd temperature compliant? Yes or No N/A

RELINQUISHED BY	DATE/TIME	RECEIVED BY	DATE/TIME	COMMENTS
	2/27/16/0600	Zach King	2/29/16 9:25	Each sample has a filter & an Orbo 43 tube. ZK 2/29

Data Verification Report (Level 2)

Project: 107907 - Houston Wood Preserving Works Site

Client: CTEH

Report #: L368530 Date: March 5, 2016

Environmental Data Professional, LLC
1432 Watkins St.• Lake Charles, LA 70601 • phone: 337-540-0036 • fax: 337-478-6061

Disclaimer:

The review performed and reported herein is based on specifications and procedures presented to eDATApro with the associated data package. Any qualifications or review not specified with package requirements was based on USEPA National Functional Guidelines for Inorganic and Organic Data Review.

Information contained in this report is based solely on the hardcopy and/or electronic deliverables that were submitted to eDATApro. eDATApro reserves the rights to modify or change the report if new information is presented or if this report is determined to be inaccurate or incomplete.

The following parameters were reviewed during the verification process:

Chain-of-Custody (COC): Completeness and sample custody

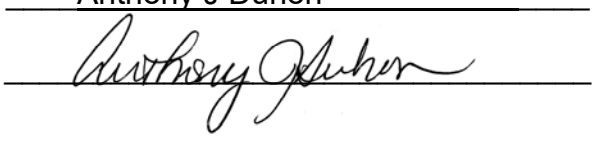
Holding time: Compare collection date versus preparation and/or analysis date

Blank Contamination: Laboratory and field blanks

Matrix/Precision/Recovery: Surrogates, Internal Standards, Duplicates, Blank spike and blank spike duplicate samples (when applicable)

Standards: Detection limit standard and continuing calibration verification (when applicable)

Reviewed by: Anthony J Duhon

Signature: 

INTRODUCTION:

Project Name: 107907 - Houston Wood Preserving Works Site
Laboratory: Galson Laboratories
Laboratory Package No.: L368530
Matrix: Air

Environmental Data Professional, LLC (eDATApro) received one electronic Level II data package containing the results for three field samples and one field blank. Level II verification was performed on the data utilizing *USEPA National Functional Guidelines for Organic Data Review* and the analytical method.

The following samples were reviewed:

Sample ID	Lab ID	Collection Date	Analyses
HOTX0229PNAH001	L368530-1	02/29/2016	[1]
HOTX0229PNAH002	L368530-2	02/29/2016	[1]
HOTX0229PNAH003	L368530-3	02/29/2016	[1]
HOTX0229PNAH004	L368530-4	02/29/2016	[1]

Analyses Performed Codes:

[1] Semivolatile Organics; PAHs (mod. NIOSH 5506; HPLC/UV)

DATA REVIEW FINDINGS SUMMARY

I. General Package:

The data package was complete and no resubmissions were requested.

II. Semivolatile Organics; PAHs – mod. NIOSH 5506; HPLC/UV:

The laboratory reported the results in both ug and mg/m3 units.

Benzo(a)pyrene was present in method blank sample WG340624-2. This analyte was not detected in the associated field samples. No data qualifications were necessary.

Comparisons between measurements of several analytes in the blank spike and blank spike duplicate analyses (BS/BSD) exceeded precision acceptance criteria. These analytes were not detected in the field samples. No data qualifications were necessary.

All other quality assurance and quality control (QA/QC) components presented by the laboratory satisfied method and data review acceptance criteria.

Appendix I
Form 1 Data (Qualified)

Form 1 Data Sheet - Semivolatiles

CTEH

Houston Wood Preserving Works Site

SDG: L368530

COC Sample ID: **HOTX0229PNAH001** | Sample Matrix : **Air** | Total/Dissolved: **T**

Location ID: **NA** | Sample Date: **02/29/2016** | Lab: **GALSON**

Lab Sample ID: **L368530-1** | Analysis Date: **03/03/2016 6:05**

Sample Type: **Site Sample**

Method: **mod. NIOSH 5506; HPLC/UV**

CAS	Parameter Name	DF	RL	Lab Result	Lab Qualifier	Verified Result	Verified Qualifier	Units
5522-43-0	1-NITROPYRENE	1	0.4	0.4	U	0.4	U	UG
5522-43-0	1-NITROPYRENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
83-32-9	ACENAPHTHENE	1	0.3	0.3	U	0.3	U	UG
83-32-9	ACENAPHTHENE	1	0.0003	0.0003	U	0.0003	U	MG/M3
208-96-8	ACENAPHTHYLENE	1	0.3	0.3	U	0.3	U	UG
208-96-8	ACENAPHTHYLENE	1	0.0003	0.0003	U	0.0003	U	MG/M3
120-12-7	ANTHRACENE	1	0.4	0.4	U	0.4	U	UG
120-12-7	ANTHRACENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
56-55-3	BENZO(A)ANTHRACENE	1	0.4	0.4	U	0.4	U	UG
56-55-3	BENZO(A)ANTHRACENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
50-32-8	BENZO(A)PYRENE	1	0.5	0.5	U	0.5	U	UG
50-32-8	BENZO(A)PYRENE	1	0.0005	0.0005	U	0.0005	U	MG/M3
205-99-2	BENZO(B)FLUORANTHENE	1	0.4	0.4	U	0.4	U	UG
205-99-2	BENZO(B)FLUORANTHENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
192-97-2	BENZO(E)PYRENE	1	0.4	0.4	U	0.4	U	UG
192-97-2	BENZO(E)PYRENE	1	0.0005	0.0005	U	0.0005	U	MG/M3
191-24-2	BENZO(G,H,I)PERYLENE	1	0.5	0.5	U	0.5	U	UG
191-24-2	BENZO(G,H,I)PERYLENE	1	0.0005	0.0005	U	0.0005	U	MG/M3
207-08-9	BENZO(K)FLUORANTHENE	1	0.4	0.4	U	0.4	U	UG
207-08-9	BENZO(K)FLUORANTHENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
218-01-9	CHRYSENE	1	0.4	0.4	U	0.4	U	UG
218-01-9	CHRYSENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
53-70-3	DIBENZ(A,H)ANTHRACENE	1	0.4	0.4	U	0.4	U	UG
53-70-3	DIBENZ(A,H)ANTHRACENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
206-44-0	FLUORANTHENE	1	0.4	0.4	U	0.4	U	UG
206-44-0	FLUORANTHENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
86-73-7	FLUORENE	1	0.3	0.3	U	0.3	U	UG
86-73-7	FLUORENE	1	0.0003	0.0003	U	0.0003	U	MG/M3
193-39-5	INDENO-1,2,3-CD-PYRENE	1	0.5	0.5	U	0.5	U	UG
193-39-5	INDENO-1,2,3-CD-PYRENE	1	0.0005	0.0005	U	0.0005	U	MG/M3
91-20-3	NAPHTHALENE	1	0.3	0.3	U	0.3	U	UG
91-20-3	NAPHTHALENE	1	0.0003	0.0003	U	0.0003	U	MG/M3
85-01-8	PHENANTHRENE	1	0.3	0.3	U	0.3	U	UG
85-01-8	PHENANTHRENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
129-00-0	PYRENE	1	0.4	0.4	U	0.4	U	UG
129-00-0	PYRENE	1	0.0004	0.0004	U	0.0004	U	MG/M3

DF = Dilution Factor RL = Reporting Limit

* = Modified by Validation

U = Non-Detect J = Estimated R = Rejected

eDATApro ENVIRONMENTAL DATA PROFESSIONAL, LLC

Form 1 Data Sheet - Semivolatiles

CTEH

Houston Wood Preserving Works Site

SDG: L368530

COC Sample ID: **HOTX0229PNAH002** Sample Matrix : **Air** Total/Dissolved: **T**

Location ID: **NA** Sample Date: **02/29/2016** Lab: **GALSON**

Lab Sample ID: **L368530-2** Analysis Date: **03/03/2016 7:05**

Sample Type: **Site Sample**

Method: **mod. NIOSH 5506; HPLC/UV**

CAS	Parameter Name	DF	RL	Lab Result	Lab Qualifier	Verified Result	Verified Qualifier	Units
5522-43-0	1-NITROPYRENE	1	0.4	0.4	U	0.4	U	UG
5522-43-0	1-NITROPYRENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
83-32-9	ACENAPHTHENE	1	0.3	0.3	U	0.3	U	UG
83-32-9	ACENAPHTHENE	1	0.0003	0.0003	U	0.0003	U	MG/M3
208-96-8	ACENAPHTHYLENE	1	0.3	0.3	U	0.3	U	UG
208-96-8	ACENAPHTHYLENE	1	0.0003	0.0003	U	0.0003	U	MG/M3
120-12-7	ANTHRACENE	1	0.4	0.4	U	0.4	U	UG
120-12-7	ANTHRACENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
56-55-3	BENZO(A)ANTHRACENE	1	0.4	0.4	U	0.4	U	UG
56-55-3	BENZO(A)ANTHRACENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
50-32-8	BENZO(A)PYRENE	1	0.5	0.5	U	0.5	U	UG
50-32-8	BENZO(A)PYRENE	1	0.0005	0.0005	U	0.0005	U	MG/M3
205-99-2	BENZO(B)FLUORANTHENE	1	0.4	0.4	U	0.4	U	UG
205-99-2	BENZO(B)FLUORANTHENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
192-97-2	BENZO(E)PYRENE	1	0.4	0.4	U	0.4	U	UG
192-97-2	BENZO(E)PYRENE	1	0.0005	0.0005	U	0.0005	U	MG/M3
191-24-2	BENZO(G,H,I)PERYLENE	1	0.5	0.5	U	0.5	U	UG
191-24-2	BENZO(G,H,I)PERYLENE	1	0.0005	0.0005	U	0.0005	U	MG/M3
207-08-9	BENZO(K)FLUORANTHENE	1	0.4	0.4	U	0.4	U	UG
207-08-9	BENZO(K)FLUORANTHENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
218-01-9	CHRYSENE	1	0.4	0.4	U	0.4	U	UG
218-01-9	CHRYSENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
53-70-3	DIBENZ(A,H)ANTHRACENE	1	0.4	0.4	U	0.4	U	UG
53-70-3	DIBENZ(A,H)ANTHRACENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
206-44-0	FLUORANTHENE	1	0.4	0.4	U	0.4	U	UG
206-44-0	FLUORANTHENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
86-73-7	FLUORENE	1	0.3	0.3	U	0.3	U	UG
86-73-7	FLUORENE	1	0.0003	0.0003	U	0.0003	U	MG/M3
193-39-5	INDENO-1,2,3-CD-PYRENE	1	0.5	0.5	U	0.5	U	UG
193-39-5	INDENO-1,2,3-CD-PYRENE	1	0.0005	0.0005	U	0.0005	U	MG/M3
91-20-3	NAPHTHALENE	1	0.3	0.3	U	0.3	U	UG
91-20-3	NAPHTHALENE	1	0.0003	0.0003	U	0.0003	U	MG/M3
85-01-8	PHENANTHRENE	1	0.3	0.3	U	0.3	U	UG
85-01-8	PHENANTHRENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
129-00-0	PYRENE	1	0.4	0.4	U	0.4	U	UG
129-00-0	PYRENE	1	0.0004	0.0004	U	0.0004	U	MG/M3

DF = Dilution Factor RL = Reporting Limit

* = Modified by Validation

U = Non-Detect J = Estimated R = Rejected

Form 1 Data Sheet - Semivolatiles

CTEH

Houston Wood Preserving Works Site

SDG: L368530

COC Sample ID: **HOTX0229PNAH003** Sample Matrix : **Air** Total/Dissolved: **T**

Location ID: **NA** Sample Date: **02/29/2016** Lab: **GALSON**

Lab Sample ID: **L368530-3** Analysis Date: **03/03/2016 8:05**

Sample Type: **Site Sample**

Method: **mod. NIOSH 5506; HPLC/UV**

CAS	Parameter Name	DF	RL	Lab Result	Lab Qualifier	Verified Result	Verified Qualifier	Units
5522-43-0	1-NITROPYRENE	1	0.4	0.4	U	0.4	U	UG
5522-43-0	1-NITROPYRENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
83-32-9	ACENAPHTHENE	1	0.3	0.3	U	0.3	U	UG
83-32-9	ACENAPHTHENE	1	0.0003	0.0003	U	0.0003	U	MG/M3
208-96-8	ACENAPHTHYLENE	1	0.3	0.3	U	0.3	U	UG
208-96-8	ACENAPHTHYLENE	1	0.0003	0.0003	U	0.0003	U	MG/M3
120-12-7	ANTHRACENE	1	0.4	0.4	U	0.4	U	UG
120-12-7	ANTHRACENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
56-55-3	BENZO(A)ANTHRACENE	1	0.4	0.4	U	0.4	U	UG
56-55-3	BENZO(A)ANTHRACENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
50-32-8	BENZO(A)PYRENE	1	0.5	0.5	U	0.5	U	UG
50-32-8	BENZO(A)PYRENE	1	0.0005	0.0005	U	0.0005	U	MG/M3
205-99-2	BENZO(B)FLUORANTHENE	1	0.4	0.4	U	0.4	U	UG
205-99-2	BENZO(B)FLUORANTHENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
192-97-2	BENZO(E)PYRENE	1	0.4	0.4	U	0.4	U	UG
192-97-2	BENZO(E)PYRENE	1	0.0005	0.0005	U	0.0005	U	MG/M3
191-24-2	BENZO(G,H,I)PERYLENE	1	0.5	0.5	U	0.5	U	UG
191-24-2	BENZO(G,H,I)PERYLENE	1	0.0005	0.0005	U	0.0005	U	MG/M3
207-08-9	BENZO(K)FLUORANTHENE	1	0.4	0.4	U	0.4	U	UG
207-08-9	BENZO(K)FLUORANTHENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
218-01-9	CHRYSENE	1	0.4	0.4	U	0.4	U	UG
218-01-9	CHRYSENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
53-70-3	DIBENZ(A,H)ANTHRACENE	1	0.4	0.4	U	0.4	U	UG
53-70-3	DIBENZ(A,H)ANTHRACENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
206-44-0	FLUORANTHENE	1	0.4	0.4	U	0.4	U	UG
206-44-0	FLUORANTHENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
86-73-7	FLUORENE	1	0.3	0.3	U	0.3	U	UG
86-73-7	FLUORENE	1	0.0003	0.0003	U	0.0003	U	MG/M3
193-39-5	INDENO-1,2,3-CD-PYRENE	1	0.5	0.5	U	0.5	U	UG
193-39-5	INDENO-1,2,3-CD-PYRENE	1	0.0005	0.0005	U	0.0005	U	MG/M3
91-20-3	NAPHTHALENE	1	0.3	0.3	U	0.3	U	UG
91-20-3	NAPHTHALENE	1	0.0003	0.0003	U	0.0003	U	MG/M3
85-01-8	PHENANTHRENE	1	0.3	0.3	U	0.3	U	UG
85-01-8	PHENANTHRENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
129-00-0	PYRENE	1	0.4	0.4	U	0.4	U	UG
129-00-0	PYRENE	1	0.0004	0.0004	U	0.0004	U	MG/M3

DF = Dilution Factor RL = Reporting Limit

* = Modified by Validation

U = Non-Detect J = Estimated R = Rejected

Form 1 Data Sheet - Semivolatiles

CTEH

Houston Wood Preserving Works Site

SDG: L368530

COC Sample ID: **HOTX0229PNAH004** Sample Matrix : **Air** Total/Dissolved: **T**

Location ID: **NA** Sample Date: **02/29/2016** Lab: **GALSON**

Lab Sample ID: **L368530-4** Analysis Date: **03/03/2016 9:05**

Sample Type: **Field Blank**

Method: **mod. NIOSH 5506; HPLC/UV**

CAS	Parameter Name	DF	RL	Lab Result	Lab Qualifier	Verified Result	Verified Qualifier	Units
5522-43-0	1-NITROPYRENE	1	0.4	0.4	U	0.4	U	UG
83-32-9	ACENAPHTHENE	1	0.3	0.3	U	0.3	U	UG
208-96-8	ACENAPHTHYLENE	1	0.3	0.3	U	0.3	U	UG
120-12-7	ANTHRACENE	1	0.4	0.4	U	0.4	U	UG
56-55-3	BENZO(A)ANTHRACENE	1	0.4	0.4	U	0.4	U	UG
50-32-8	BENZO(A)PYRENE	1	0.5	0.5	U	0.5	U	UG
205-99-2	BENZO(B)FLUORANTHENE	1	0.4	0.4	U	0.4	U	UG
192-97-2	BENZO(E)PYRENE	1	0.4	0.4	U	0.4	U	UG
191-24-2	BENZO(G,H,I)PERYLENE	1	0.5	0.5	U	0.5	U	UG
207-08-9	BENZO(K)FLUORANTHENE	1	0.4	0.4	U	0.4	U	UG
218-01-9	CHRYSENE	1	0.4	0.4	U	0.4	U	UG
53-70-3	DIBENZ(A,H)ANTHRACENE	1	0.4	0.4	U	0.4	U	UG
206-44-0	FLUORANTHENE	1	0.4	0.4	U	0.4	U	UG
86-73-7	FLUORENE	1	0.3	0.3	U	0.3	U	UG
193-39-5	INDENO-1,2,3-CD-PYRENE	1	0.5	0.5	U	0.5	U	UG
91-20-3	NAPHTHALENE	1	0.3	0.3	U	0.3	U	UG
85-01-8	PHENANTHRENE	1	0.3	0.3	U	0.3	U	UG
129-00-0	PYRENE	1	0.4	0.4	U	0.4	U	UG

DF = Dilution Factor RL = Reporting Limit

* = Modified by Validation

U = Non-Detect J = Estimated R = Rejected

eDATApro ENVIRONMENTAL DATA PROFESSIONAL, LLC

Appendix II
Chain of Custody

L3685 30

(81)

5120 North Shore Drive
North Little Rock, AR 72118
Phone: (501) 801-8500
Fax: (501) 801-8501
Website: www.cteh.com

Center for Toxicology and Environmental Health L.L.C.

SAMPLE CHAIN OF CUSTODY AND ANALYSIS REQUEST FORM

Page 1 of 1

	Send Report To:	Send Invoice To:
Name	cconnolly@cteh.com;mberg@cteh.co	
Company	CTEH	CTEH
Address	5120 North Shore Drive North Little Rock, AR 72118	5120 North Shore Drive North Little Rock, AR 72118
Phone	(501)801-8500	(501)801-8500
Fax	(501)801-8501	(501)801-8501
e-mail	labresults@cteh.com	

CTEH Project #: 107907

Turnaround Requested:
Same Day __Next Day (24 hour) ___ Normal
_X_ Other (Specify) 2 Day

Complete Data Packet Requested X Yes ☐No

775765423911
Date:03/02/16
Shipper:FEDEX
Initials:SK
Prep:UNKNOWN

Client Sample Identification	Other Sample Identification	Sample Size	Units (Check one) ✓ L / cm²	Sample Date	Sample Time (for non-air samples)	Initials	NIOSH 5506 PNAH	Matrix (A = air, B = bulk, S = soil, SW = wipe, T = tape, W = water)
HOTX0229PNAH001	AS12	957	L	02/29/16		JA	X	A
HOTX0229PNAH002	AS16	958	L	02/29/16		JA	X	A
HOTX0229PNAH003	AS07	964	L	02/29/16		JA	X	A
HOTX0229PNAH004	BL	0	L	02/29/16		JA	X	A

Rec'd intact & all accounted for? Yes or No ZK
Rec'd w/custody seals intact? Yes or No N/A
Rec'd in light sensitive packaging? Yes or No ZK
Rec'd with ice pack? Yes or No ZK
Rec'd temperature compliant? Yes or No N/A

RELINQUISHED BY	DATE/TIME	RECEIVED BY	DATE/TIME	COMMENTS
	3/1/16 16:00	Fed Ex		
		Zach King	3/2/16 10:02	1 filter & Orbo 43 tube per sample ZK 3/2

Data Verification Report (Level 2)

Project: 107907 - Houston Wood Preserving Works Site

Client: CTEH

Report #: L368327 Date: March 8, 2016

Environmental Data Professional, LLC
1432 Watkins St.• Lake Charles, LA 70601 • phone: 337-540-0036 • fax: 337-478-6061

Disclaimer:

The review performed and reported herein is based on specifications and procedures presented to eDATApro with the associated data package. Any qualifications or review not specified with package requirements was based on USEPA National Functional Guidelines for Inorganic and Organic Data Review.

Information contained in this report is based solely on the hardcopy and/or electronic deliverables that were submitted to eDATApro. eDATApro reserves the rights to modify or change the report if new information is presented or if this report is determined to be inaccurate or incomplete.

The following parameters were reviewed during the verification process:

Chain-of-Custody (COC): Completeness and sample custody

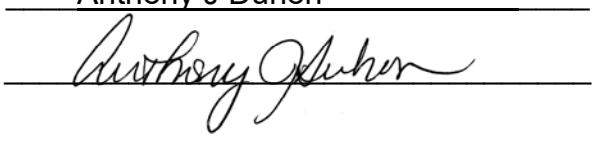
Holding time: Compare collection date versus preparation and/or analysis date

Blank Contamination: Laboratory and field blanks

Matrix/Precision/Recovery: Surrogates, Internal Standards, Duplicates, Blank spike and blank spike duplicate samples (when applicable)

Standards: Detection limit standard and continuing calibration verification (when applicable)

Reviewed by: Anthony J Duhon

Signature: 

INTRODUCTION:

Project Name: 107907 - Houston Wood Preserving Works Site
Laboratory: Galson Laboratories
Laboratory Package No.: L368327
Matrix: Air

Environmental Data Professional, LLC (eDATApro) received one electronic Level II data package containing the results for six field samples and two field blanks. Level II verification was performed on the data utilizing *USEPA National Functional Guidelines for Organic Data Review*, *USEPA National Functional Guidelines for Inorganic Data Review* and the analytical methods.

The following samples were reviewed:

Sample ID	Lab ID	Collection Date	Analyses
HOTX0225PNAH001	L368327-1	02/25/2016	[1]
HOTX0225PNAH002	L368327-2	02/25/2016	[1]
HOTX0225PNAH003	L368327-3	02/25/2016	[1]
HOTX0225PNAH004	L368327-4	02/25/2016	[1]
HOTX0225PM001	L368327-5	02/25/2016	[2]
HOTX0225PM002	L368327-6	02/25/2016	[2]
HOTX0225PM003	L368327-7	02/25/2016	[2]
HOTX0225PM004	L368327-8	02/25/2016	[2]

Analyses Performed Codes:

[1] Semivolatile Organics; PAHs (mod. NIOSH 5506; HPLC/UV)
[2] Particulate Matter; PM10 (mod. EPA Method IP-10A; Gravimetric)

DATA REVIEW FINDINGS SUMMARY

I. General Package:

The data package was complete and no resubmissions were requested.

II. Semivolatile Organics; PAHs – mod. NIOSH 5506; HPLC/UV:

The laboratory reported the results in both ug and mg/m3 units.

The measurement of Naphthalene in the back filter of sample HOTX0225PNAH001 indicated probable breakthrough from the front filter. The reported mass and concentration values may be biased low; therefore, were qualified as estimate (J).

Benzo(a)Anthracene and Pyrene were present in method blank sample WG340370-2. These analytes were not detected in the associated field samples. No data qualifications were necessary.

All other quality assurance and quality control (QA/QC) components presented by the laboratory satisfied method and data review acceptance criteria.

III. Particulate Matter; PM10 – mod. EPA Method IP-10A; Gravimetric:

The laboratory reported the results in both mg and mg/m3 units.

All quality assurance and quality control (QA/QC) components presented by the laboratory satisfied method and data review acceptance criteria; therefore, no data qualifications were necessary.

Appendix I
Form 1 Data (Qualified)

Form 1 Data Sheet - Semivolatiles

CTEH

Houston Wood Preserving Works Site

SDG: L368327

COC Sample ID: **HOTX0225PNAH001** | Sample Matrix : **Air** | Total/Dissolved: **T**

Location ID: **NA** | Sample Date: **02/25/2016** | Lab: **GALSON**

Lab Sample ID: **L368327-1** | Analysis Date: **03/02/2016 11:00**

Sample Type: **Site Sample**

Method: **mod. NIOSH 5506; HPLC/UV**

CAS	Parameter Name	DF	RL	Lab Result	Lab Qualifier	Verified Result	Verified Qualifier	Units	
5522-43-0	1-NITROPYRENE	1	0.4	0.4	U	0.4	U	UG	
5522-43-0	1-NITROPYRENE	1	0.0004	0.0004	U	0.0004	U	MG/M3	
83-32-9	ACENAPHTHENE	1	0.3	0.4		0.4		UG	
83-32-9	ACENAPHTHENE	1	0.0004	0.0004		0.0004		MG/M3	
208-96-8	ACENAPHTHYLENE	1	0.3	0.3	U	0.3	U	UG	
208-96-8	ACENAPHTHYLENE	1	0.0003	0.0003	U	0.0003	U	MG/M3	
120-12-7	ANTHRACENE	1	0.4	0.4	U	0.4	U	UG	
120-12-7	ANTHRACENE	1	0.0004	0.0004	U	0.0004	U	MG/M3	
56-55-3	BENZO(A)ANTHRACENE	1	0.4	0.4	U	0.4	U	UG	
56-55-3	BENZO(A)ANTHRACENE	1	0.0004	0.0004	U	0.0004	U	MG/M3	
50-32-8	BENZO(A)PYRENE	1	0.5	0.5	U	0.5	U	UG	
50-32-8	BENZO(A)PYRENE	1	0.0005	0.0005	U	0.0005	U	MG/M3	
205-99-2	BENZO(B)FLUORANTHENE	1	0.4	0.4	U	0.4	U	UG	
205-99-2	BENZO(B)FLUORANTHENE	1	0.0004	0.0004	U	0.0004	U	MG/M3	
192-97-2	BENZO(E)PYRENE	1	0.4	0.4	U	0.4	U	UG	
192-97-2	BENZO(E)PYRENE	1	0.0005	0.0005	U	0.0005	U	MG/M3	
191-24-2	BENZO(G,H,I)PERYLENE	1	0.5	0.5	U	0.5	U	UG	
191-24-2	BENZO(G,H,I)PERYLENE	1	0.0005	0.0005	U	0.0005	U	MG/M3	
207-08-9	BENZO(K)FLUORANTHENE	1	0.4	0.4	U	0.4	U	UG	
207-08-9	BENZO(K)FLUORANTHENE	1	0.0004	0.0004	U	0.0004	U	MG/M3	
218-01-9	CHRYSENE	1	0.4	0.4	U	0.4	U	UG	
218-01-9	CHRYSENE	1	0.0004	0.0004	U	0.0004	U	MG/M3	
53-70-3	DIBENZ(A,H)ANTHRACENE	1	0.4	0.4	U	0.4	U	UG	
53-70-3	DIBENZ(A,H)ANTHRACENE	1	0.0004	0.0004	U	0.0004	U	MG/M3	
206-44-0	FLUORANTHENE	1	0.4	0.4	U	0.4	U	UG	
206-44-0	FLUORANTHENE	1	0.0004	0.0004	U	0.0004	U	MG/M3	
86-73-7	FLUORENE	1	0.3	0.3	U	0.3	U	UG	
86-73-7	FLUORENE	1	0.0004	0.0004	U	0.0004	U	MG/M3	
193-39-5	INDENO-1,2,3-CD-PYRENE	1	0.5	0.5	U	0.5	U	UG	
193-39-5	INDENO-1,2,3-CD-PYRENE	1	0.0005	0.0005	U	0.0005	U	MG/M3	
91-20-3	NAPHTHALENE	1	0.3	1.8	*	1.8	J	UG	*
91-20-3	NAPHTHALENE	1	0.0003	0.0019	*	0.0019	J	MG/M3	*
85-01-8	PHENANTHRENE	1	0.3	0.3	U	0.3	U	UG	
85-01-8	PHENANTHRENE	1	0.0004	0.0004	U	0.0004	U	MG/M3	
129-00-0	PYRENE	1	0.4	0.4	U	0.4	U	UG	
129-00-0	PYRENE	1	0.0004	0.0004	U	0.0004	U	MG/M3	

DF = Dilution Factor RL = Reporting Limit

* = Modified by Validation

U = Non-Detect J = Estimated R = Rejected

eDATApro ENVIRONMENTAL DATA PROFESSIONAL, LLC

Form 1 Data Sheet - Semivolatiles

CTEH

Houston Wood Preserving Works Site

SDG: L368327

COC Sample ID: **HOTX0225PNAH002** Sample Matrix : **Air** Total/Dissolved: **T**

Location ID: **NA** Sample Date: **02/25/2016** Lab: **GALSON**

Lab Sample ID: **L368327-2** Analysis Date: **03/01/2016 7:56**

Sample Type: **Site Sample**

Method: **mod. NIOSH 5506; HPLC/UV**

CAS	Parameter Name	DF	RL	Lab Result	Lab Qualifier	Verified Result	Verified Qualifier	Units
5522-43-0	1-NITROPYRENE	1	0.4	0.4	U	0.4	U	UG
5522-43-0	1-NITROPYRENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
83-32-9	ACENAPHTHENE	1	0.3	0.3	U	0.3	U	UG
83-32-9	ACENAPHTHENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
208-96-8	ACENAPHTHYLENE	1	0.3	0.3	U	0.3	U	UG
208-96-8	ACENAPHTHYLENE	1	0.0003	0.0003	U	0.0003	U	MG/M3
120-12-7	ANTHRACENE	1	0.4	0.4	U	0.4	U	UG
120-12-7	ANTHRACENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
56-55-3	BENZO(A)ANTHRACENE	1	0.4	0.4	U	0.4	U	UG
56-55-3	BENZO(A)ANTHRACENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
50-32-8	BENZO(A)PYRENE	1	0.5	0.5	U	0.5	U	UG
50-32-8	BENZO(A)PYRENE	1	0.0005	0.0005	U	0.0005	U	MG/M3
205-99-2	BENZO(B)FLUORANTHENE	1	0.4	0.4	U	0.4	U	UG
205-99-2	BENZO(B)FLUORANTHENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
192-97-2	BENZO(E)PYRENE	1	0.4	0.4	U	0.4	U	UG
192-97-2	BENZO(E)PYRENE	1	0.0005	0.0005	U	0.0005	U	MG/M3
191-24-2	BENZO(G,H,I)PERYLENE	1	0.5	0.5	U	0.5	U	UG
191-24-2	BENZO(G,H,I)PERYLENE	1	0.0005	0.0005	U	0.0005	U	MG/M3
207-08-9	BENZO(K)FLUORANTHENE	1	0.4	0.4	U	0.4	U	UG
207-08-9	BENZO(K)FLUORANTHENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
218-01-9	CHRYSENE	1	0.4	0.4	U	0.4	U	UG
218-01-9	CHRYSENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
53-70-3	DIBENZ(A,H)ANTHRACENE	1	0.4	0.4	U	0.4	U	UG
53-70-3	DIBENZ(A,H)ANTHRACENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
206-44-0	FLUORANTHENE	1	0.4	0.4	U	0.4	U	UG
206-44-0	FLUORANTHENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
86-73-7	FLUORENE	1	0.3	0.3	U	0.3	U	UG
86-73-7	FLUORENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
193-39-5	INDENO-1,2,3-CD-PYRENE	1	0.5	0.5	U	0.5	U	UG
193-39-5	INDENO-1,2,3-CD-PYRENE	1	0.0005	0.0005	U	0.0005	U	MG/M3
91-20-3	NAPHTHALENE	1	0.3	0.3	U	0.3	U	UG
91-20-3	NAPHTHALENE	1	0.0003	0.0003	U	0.0003	U	MG/M3
85-01-8	PHENANTHRENE	1	0.3	0.3	U	0.3	U	UG
85-01-8	PHENANTHRENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
129-00-0	PYRENE	1	0.4	0.4	U	0.4	U	UG
129-00-0	PYRENE	1	0.0004	0.0004	U	0.0004	U	MG/M3

DF = Dilution Factor RL = Reporting Limit

* = Modified by Validation

U = Non-Detect J = Estimated R = Rejected

Form 1 Data Sheet - Semivolatiles

CTEH

Houston Wood Preserving Works Site

SDG: L368327

COC Sample ID: **HOTX0225PNAH003** Sample Matrix : **Air** Total/Dissolved: **T**

Location ID: **NA** Sample Date: **02/25/2016** Lab: **GALSON**

Lab Sample ID: **L368327-3** Analysis Date: **03/01/2016 8:56**

Sample Type: **Site Sample**

Method: **mod. NIOSH 5506; HPLC/UV**

CAS	Parameter Name	DF	RL	Lab Result	Lab Qualifier	Verified Result	Verified Qualifier	Units
5522-43-0	1-NITROPYRENE	1	0.4	0.4	U	0.4	U	UG
5522-43-0	1-NITROPYRENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
83-32-9	ACENAPHTHENE	1	0.3	0.3	U	0.3	U	UG
83-32-9	ACENAPHTHENE	1	0.0003	0.0003	U	0.0003	U	MG/M3
208-96-8	ACENAPHTHYLENE	1	0.3	0.3	U	0.3	U	UG
208-96-8	ACENAPHTHYLENE	1	0.0003	0.0003	U	0.0003	U	MG/M3
120-12-7	ANTHRACENE	1	0.4	0.4	U	0.4	U	UG
120-12-7	ANTHRACENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
56-55-3	BENZO(A)ANTHRACENE	1	0.4	0.4	U	0.4	U	UG
56-55-3	BENZO(A)ANTHRACENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
50-32-8	BENZO(A)PYRENE	1	0.5	0.5	U	0.5	U	UG
50-32-8	BENZO(A)PYRENE	1	0.0005	0.0005	U	0.0005	U	MG/M3
205-99-2	BENZO(B)FLUORANTHENE	1	0.4	0.4	U	0.4	U	UG
205-99-2	BENZO(B)FLUORANTHENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
192-97-2	BENZO(E)PYRENE	1	0.4	0.4	U	0.4	U	UG
192-97-2	BENZO(E)PYRENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
191-24-2	BENZO(G,H,I)PERYLENE	1	0.5	0.5	U	0.5	U	UG
191-24-2	BENZO(G,H,I)PERYLENE	1	0.0005	0.0005	U	0.0005	U	MG/M3
207-08-9	BENZO(K)FLUORANTHENE	1	0.4	0.4	U	0.4	U	UG
207-08-9	BENZO(K)FLUORANTHENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
218-01-9	CHRYSENE	1	0.4	0.4	U	0.4	U	UG
218-01-9	CHRYSENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
53-70-3	DIBENZ(A,H)ANTHRACENE	1	0.4	0.4	U	0.4	U	UG
53-70-3	DIBENZ(A,H)ANTHRACENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
206-44-0	FLUORANTHENE	1	0.4	0.4	U	0.4	U	UG
206-44-0	FLUORANTHENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
86-73-7	FLUORENE	1	0.3	0.3	U	0.3	U	UG
86-73-7	FLUORENE	1	0.0003	0.0003	U	0.0003	U	MG/M3
193-39-5	INDENO-1,2,3-CD-PYRENE	1	0.5	0.5	U	0.5	U	UG
193-39-5	INDENO-1,2,3-CD-PYRENE	1	0.0005	0.0005	U	0.0005	U	MG/M3
91-20-3	NAPHTHALENE	1	0.3	0.3	U	0.3	U	UG
91-20-3	NAPHTHALENE	1	0.0003	0.0003	U	0.0003	U	MG/M3
85-01-8	PHENANTHRENE	1	0.3	0.3	U	0.3	U	UG
85-01-8	PHENANTHRENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
129-00-0	PYRENE	1	0.4	0.4	U	0.4	U	UG
129-00-0	PYRENE	1	0.0004	0.0004	U	0.0004	U	MG/M3

DF = Dilution Factor RL = Reporting Limit

* = Modified by Validation

U = Non-Detect J = Estimated R = Rejected

eDATApro ENVIRONMENTAL DATA PROFESSIONAL, LLC

Form 1 Data Sheet - Semivolatiles

CTEH

Houston Wood Preserving Works Site

SDG: L368327

COC Sample ID: **HOTX0225PNAH004** Sample Matrix : **Air** Total/Dissolved: **T**

Location ID: **NA** Sample Date: **02/25/2016** Lab: **GALSON**

Lab Sample ID: **L368327-4** Analysis Date: **03/02/2016 11:40**

Sample Type: **Field Blank**

Method: **mod. NIOSH 5506; HPLC/UV**

CAS	Parameter Name	DF	RL	Lab Result	Lab Qualifier	Verified Result	Verified Qualifier	Units
5522-43-0	1-NITROPYRENE	1	0.4	0.4	U	0.4	U	UG
83-32-9	ACENAPHTHENE	1	0.3	0.3	U	0.3	U	UG
208-96-8	ACENAPHTHYLENE	1	0.3	0.3	U	0.3	U	UG
120-12-7	ANTHRACENE	1	0.4	0.4	U	0.4	U	UG
56-55-3	BENZO(A)ANTHRACENE	1	0.4	0.4	U	0.4	U	UG
50-32-8	BENZO(A)PYRENE	1	0.5	0.5	U	0.5	U	UG
205-99-2	BENZO(B)FLUORANTHENE	1	0.4	0.4	U	0.4	U	UG
192-97-2	BENZO(E)PYRENE	1	0.4	0.4	U	0.4	U	UG
191-24-2	BENZO(G,H,I)PERYLENE	1	0.5	0.5	U	0.5	U	UG
207-08-9	BENZO(K)FLUORANTHENE	1	0.4	0.4	U	0.4	U	UG
218-01-9	CHRYSENE	1	0.4	0.4	U	0.4	U	UG
53-70-3	DIBENZ(A,H)ANTHRACENE	1	0.4	0.4	U	0.4	U	UG
206-44-0	FLUORANTHENE	1	0.4	0.4	U	0.4	U	UG
86-73-7	FLUORENE	1	0.3	0.3	U	0.3	U	UG
193-39-5	INDENO-1,2,3-CD-PYRENE	1	0.5	0.5	U	0.5	U	UG
91-20-3	NAPHTHALENE	1	0.3	0.3	U	0.3	U	UG
85-01-8	PHENANTHRENE	1	0.3	0.3	U	0.3	U	UG
129-00-0	PYRENE	1	0.4	0.4	U	0.4	U	UG

DF = Dilution Factor RL = Reporting Limit

* = Modified by Validation

U = Non-Detect J = Estimated R = Rejected

eDATApro ENVIRONMENTAL DATA PROFESSIONAL, LLC

Form 1 Data Sheet - Conventionals

CTEH

Houston Wood Preserving Works Site

SDG: L368327

COC Sample ID: **HOTX0225PM001** Sample Matrix : **Air**

Location ID: **NA**

Lab Sample ID: **L368327-5** Lab Code: **GALSON**

Sample Type: **Site Sample**

Parameter Name	Collection Date	Analysis Date	DF	RL	Lab Result	Lab Qualifier	Verified Result	Verified Qualifier	Units
Method: mod. EPA Method IP-10A; Gravimetric									
PARTICULATE MATTER/PM10	02/25/2016	03/02/2016 12:11	1	0.045	0.24		0.24		MG/M3
PARTICULATE MATTER/PM10	02/25/2016	03/02/2016 12:11	1	0.05	0.27		0.27		MG

DF = Dilution Factor RL = Reporting Limit

* = Modified by Validation

U = Non-Detect J = Estimated R = Rejected

Form 1 Data Sheet - Conventionals

CTEH

Houston Wood Preserving Works Site

SDG: L368327

COC Sample ID: **HOTX0225PM002** Sample Matrix : **Air**

Location ID: **NA**

Lab Sample ID: **L368327-6** Lab Code: **GALSON**

Sample Type: **Site Sample**

Parameter Name	Collection Date	Analysis Date	DF	RL	Lab Result	Lab Qualifier	Verified Result	Verified Qualifier	Units
Method: mod. EPA Method IP-10A; Gravimetric									
PARTICULATE MATTER/PM10	02/25/2016	03/02/2016 12:13	1	0.047	0.18		0.18		MG/M3
PARTICULATE MATTER/PM10	02/25/2016	03/02/2016 12:13	1	0.05	0.19		0.19		MG

DF = Dilution Factor RL = Reporting Limit

* = Modified by Validation

U = Non-Detect J = Estimated R = Rejected

Form 1 Data Sheet - Conventionals

CTEH

Houston Wood Preserving Works Site

SDG: L368327

COC Sample ID: **HOTX0225PM003** Sample Matrix : **Air**

Location ID: **NA**

Lab Sample ID: **L368327-7** Lab Code: **GALSON**

Sample Type: **Site Sample**

Parameter Name	Collection Date	Analysis Date	DF	RL	Lab Result	Lab Qualifier	Verified Result	Verified Qualifier	Units
Method: mod. EPA Method IP-10A; Gravimetric									
PARTICULATE MATTER/PM10	02/25/2016	03/02/2016 12:14	1	0.036	0.22		0.22		MG/M3
PARTICULATE MATTER/PM10	02/25/2016	03/02/2016 12:14	1	0.05	0.31		0.31		MG

DF = Dilution Factor RL = Reporting Limit

* = Modified by Validation

U = Non-Detect J = Estimated R = Rejected

Form 1 Data Sheet - Conventionals

CTEH

Houston Wood Preserving Works Site

SDG: L368327

COC Sample ID: **HOTX0225PM004** Sample Matrix : **Air**

Location ID: **NA**

Lab Sample ID: **L368327-8** Lab Code: **GALSON**

Sample Type: **Field Blank**

Parameter Name	Collection Date	Analysis Date	DF	RL	Lab Result	Lab Qualifier	Verified Result	Verified Qualifier	Units
Method: mod. EPA Method IP-10A; Gravimetric									
PARTICULATE MATTER/PM10	02/25/2016	03/02/2016 12:14	1	0.05	0.05	U	0.05	U	MG

DF = Dilution Factor RL = Reporting Limit

* = Modified by Validation

U = Non-Detect J = Estimated R = Rejected

Appendix II
Chain of Custody

775741473790
Date:02/27/16
Shipper:FEDEX
Initials:KMM
Prep:UNKNOWN

149

5120 North Shore Drive
North Little Rock, AR 72118
Phone: (501) 801-8500
Fax: (501) 801-8501
Website: www.cteh.com

for Toxicology and Environmental Health L.L.C.
CHAIN OF CUSTODY AND ANALYSIS REQUEST FORM

Page ___ of ___

	Send Report To:	Send Invoice To:
Name	cconnolly@cteh.com;mberg@cteh.co	
Company	CTEH	CTEH
Address	5120 North Shore Drive North Little Rock, AR 72118	5120 North Shore Drive North Little Rock, AR 72118
Phone	(501)801-8500	(501)801-8500
Fax	(501)801-8501	(501)801-8501
e-mail	labresults@cteh.com	

CTEH Project #: 107907

Turnaround Requested:
Same Day __Next Day (24 hour) _X_ Normal
__Other (Specify) _____

Complete Data Packet Requested X Yes ☐No

Lab Contact Information:
Galson Laboratories
6601 Kirkville Road
E. Syracuse, NY 13057

Client Sample Identification	Other Sample Identification	Sample Size	Units (Check one) ____L __cm² ____	Sample Date	Sample Time (for non-air samples)	Initials	NIOSH 5506 PNAH	Mod EPA IP-10A PM10								**Matrix** A = air B = bulk S = soil SW = wipe T = tape W = water
HOTX0225PNAH001	AS16	950.2	L	02/25/16		PWW	X									A
HOTX0225PNAH002	AS12	950.8	L	02/25/16		PWW	X									A
HOTX0225PNAH003	AS07	981.7	L	02/25/16		PWW	X									A
HOTX0225PNAH004	BL	0	L	02/25/16		PWW	X									A
HOTX0225PM001	AS16	1108.5	L	02/25/16		PWW		X								A
HOTX0225PM002	AS12	1073.9	L	02/25/16		PWW		X								A
HOTX0225PM003	AS07	1389.4	L	02/25/16		PWW		X								A
HOTX0225PM004	BL	0	L	02/25/16		PWW		X								A

Samples Received in Light Sensitve Material: (Yes) or No

RELINQUISHED BY	DATE/TIME	RECEIVED BY	DATE/TIME	COMMENTS
Justin Langley	2/26/16 16:00	Fed Ex		Rec'd intact & all accounted for? (Yes) or No KM Rec'd w/custody seals intact? Yes or No NA KM Rec'd in light sensitive packaging? (Yes) or No KM Rec'd with ice pack? (Yes) or No KM Rec'd temperature compliant? (Yes) or No KM
		KMuldoon Kmuldoon	2/29/16 1625	

Data Verification Report (Level 2)

Project: 107907 - Houston Wood Preserving Works Site

Client: CTEH

Report #: L368483 Date: March 8, 2016

Environmental Data Professional, LLC
1432 Watkins St.• Lake Charles, LA 70601 • phone: 337-540-0036 • fax: 337-478-6061

Disclaimer:

The review performed and reported herein is based on specifications and procedures presented to eDATApro with the associated data package. Any qualifications or review not specified with package requirements was based on USEPA National Functional Guidelines for Inorganic and Organic Data Review.

Information contained in this report is based solely on the hardcopy and/or electronic deliverables that were submitted to eDATApro. eDATApro reserves the rights to modify or change the report if new information is presented or if this report is determined to be inaccurate or incomplete.

The following parameters were reviewed during the verification process:

Chain-of-Custody (COC): Completeness and sample custody

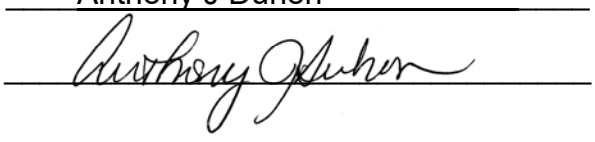
Holding time: Compare collection date versus preparation and/or analysis date

Blank Contamination: Laboratory and field blanks

Matrix/Precision/Recovery: Surrogates, Internal Standards, Duplicates, Blank spike and blank spike duplicate samples (when applicable)

Standards: Detection limit standard and continuing calibration verification (when applicable)

Reviewed by: Anthony J Duhon

Signature: 

INTRODUCTION:

Project Name: 107907 - Houston Wood Preserving Works Site
Laboratory: Galson Laboratories
Laboratory Package No.: L368483
Matrix: Air

Environmental Data Professional, LLC (eDATApro) received one electronic Level II data package containing the results for three field samples and one field blank. Level II verification was performed on the data utilizing *USEPA National Functional Guidelines for Organic Data Review* and the analytical method.

The following samples were reviewed:

Sample ID	Lab ID	Collection Date	Analyses
HOTX0227PNAH001	L368483-1	02/27/2016	[1]
HOTX0227PNAH002	L368483-2	02/27/2016	[1]
HOTX0227PNAH003	L368483-3	02/27/2016	[1]
HOTX0227PNAH004	L368483-4	02/27/2016	[1]

Analyses Performed Codes:

[1] Semivolatile Organics; PAHs (mod. NIOSH 5506; HPLC/UV)

DATA REVIEW FINDINGS SUMMARY

I. General Package:

The data package was complete and no resubmissions were requested.

II. Semivolatile Organics; PAHs – mod. NIOSH 5506; HPLC/UV:

The laboratory reported the results in both ug and mg/m3 units.

Fluoranthene, Benzo(a)Anthracene and Benzo(a)Pyrene were present in method blank sample WG340480-2. These analytes were not detected in the associated field samples. No data qualifications were necessary.

All other quality assurance and quality control (QA/QC) components presented by the laboratory satisfied method and data review acceptance criteria.

Appendix I
Form 1 Data (Qualified)

Form 1 Data Sheet - Semivolatiles

CTEH

Houston Wood Preserving Works Site

SDG: L368483

COC Sample ID: **HOTX0227PNAH001** | Sample Matrix : **Air** | Total/Dissolved: **T**

Location ID: **NA** | Sample Date: **02/27/2016** | Lab: **GALSON**

Lab Sample ID: **L368483-1** | Analysis Date: **03/02/2016 4:20**

Sample Type: **Site Sample**

Method: **mod. NIOSH 5506; HPLC/UV**

CAS	Parameter Name	DF	RL	Lab Result	Lab Qualifier	Verified Result	Verified Qualifier	Units
5522-43-0	1-NITROPYRENE	1	0.4	0.4	U	0.4	U	UG
5522-43-0	1-NITROPYRENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
83-32-9	ACENAPHTHENE	1	0.3	0.3	U	0.3	U	UG
83-32-9	ACENAPHTHENE	1	0.0003	0.0003	U	0.0003	U	MG/M3
208-96-8	ACENAPHTHYLENE	1	0.3	0.3	U	0.3	U	UG
208-96-8	ACENAPHTHYLENE	1	0.0003	0.0003	U	0.0003	U	MG/M3
120-12-7	ANTHRACENE	1	0.4	0.4	U	0.4	U	UG
120-12-7	ANTHRACENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
56-55-3	BENZO(A)ANTHRACENE	1	0.4	0.4	U	0.4	U	UG
56-55-3	BENZO(A)ANTHRACENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
50-32-8	BENZO(A)PYRENE	1	0.5	0.5	U	0.5	U	UG
50-32-8	BENZO(A)PYRENE	1	0.0005	0.0005	U	0.0005	U	MG/M3
205-99-2	BENZO(B)FLUORANTHENE	1	0.4	0.4	U	0.4	U	UG
205-99-2	BENZO(B)FLUORANTHENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
192-97-2	BENZO(E)PYRENE	1	0.4	0.4	U	0.4	U	UG
192-97-2	BENZO(E)PYRENE	1	0.0005	0.0005	U	0.0005	U	MG/M3
191-24-2	BENZO(G,H,I)PERYLENE	1	0.5	0.5	U	0.5	U	UG
191-24-2	BENZO(G,H,I)PERYLENE	1	0.0005	0.0005	U	0.0005	U	MG/M3
207-08-9	BENZO(K)FLUORANTHENE	1	0.4	0.4	U	0.4	U	UG
207-08-9	BENZO(K)FLUORANTHENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
218-01-9	CHRYSENE	1	0.4	0.4	U	0.4	U	UG
218-01-9	CHRYSENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
53-70-3	DIBENZ(A,H)ANTHRACENE	1	0.4	0.4	U	0.4	U	UG
53-70-3	DIBENZ(A,H)ANTHRACENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
206-44-0	FLUORANTHENE	1	0.4	0.4	U	0.4	U	UG
206-44-0	FLUORANTHENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
86-73-7	FLUORENE	1	0.3	0.3	U	0.3	U	UG
86-73-7	FLUORENE	1	0.0003	0.0003	U	0.0003	U	MG/M3
193-39-5	INDENO-1,2,3-CD-PYRENE	1	0.5	0.5	U	0.5	U	UG
193-39-5	INDENO-1,2,3-CD-PYRENE	1	0.0005	0.0005	U	0.0005	U	MG/M3
91-20-3	NAPHTHALENE	1	0.3	0.3		0.3		UG
91-20-3	NAPHTHALENE	1	0.0003	0.0004		0.0004		MG/M3
85-01-8	PHENANTHRENE	1	0.3	0.3	U	0.3	U	UG
85-01-8	PHENANTHRENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
129-00-0	PYRENE	1	0.4	0.4	U	0.4	U	UG
129-00-0	PYRENE	1	0.0004	0.0004	U	0.0004	U	MG/M3

DF = Dilution Factor RL = Reporting Limit

* = Modified by Validation

U = Non-Detect J = Estimated R = Rejected

eDATApro ENVIRONMENTAL DATA PROFESSIONAL, LLC

Form 1 Data Sheet - Semivolatiles

CTEH

Houston Wood Preserving Works Site

SDG: L368483

COC Sample ID: **HOTX0227PNAH002** Sample Matrix : **Air** Total/Dissolved: **T**

Location ID: **NA** Sample Date: **02/27/2016** Lab: **GALSON**

Lab Sample ID: **L368483-2** Analysis Date: **03/02/2016 5:20**

Sample Type: **Site Sample**

Method: **mod. NIOSH 5506; HPLC/UV**

CAS	Parameter Name	DF	RL	Lab Result	Lab Qualifier	Verified Result	Verified Qualifier	Units
5522-43-0	1-NITROPYRENE	1	0.4	0.4	U	0.4	U	UG
5522-43-0	1-NITROPYRENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
83-32-9	ACENAPHTHENE	1	0.3	0.3	U	0.3	U	UG
83-32-9	ACENAPHTHENE	1	0.0003	0.0003	U	0.0003	U	MG/M3
208-96-8	ACENAPHTHYLENE	1	0.3	0.3	U	0.3	U	UG
208-96-8	ACENAPHTHYLENE	1	0.0003	0.0003	U	0.0003	U	MG/M3
120-12-7	ANTHRACENE	1	0.4	0.4	U	0.4	U	UG
120-12-7	ANTHRACENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
56-55-3	BENZO(A)ANTHRACENE	1	0.4	0.4	U	0.4	U	UG
56-55-3	BENZO(A)ANTHRACENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
50-32-8	BENZO(A)PYRENE	1	0.5	0.5	U	0.5	U	UG
50-32-8	BENZO(A)PYRENE	1	0.0005	0.0005	U	0.0005	U	MG/M3
205-99-2	BENZO(B)FLUORANTHENE	1	0.4	0.4	U	0.4	U	UG
205-99-2	BENZO(B)FLUORANTHENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
192-97-2	BENZO(E)PYRENE	1	0.4	0.4	U	0.4	U	UG
192-97-2	BENZO(E)PYRENE	1	0.0005	0.0005	U	0.0005	U	MG/M3
191-24-2	BENZO(G,H,I)PERYLENE	1	0.5	0.5	U	0.5	U	UG
191-24-2	BENZO(G,H,I)PERYLENE	1	0.0005	0.0005	U	0.0005	U	MG/M3
207-08-9	BENZO(K)FLUORANTHENE	1	0.4	0.4	U	0.4	U	UG
207-08-9	BENZO(K)FLUORANTHENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
218-01-9	CHRYSENE	1	0.4	0.4	U	0.4	U	UG
218-01-9	CHRYSENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
53-70-3	DIBENZ(A,H)ANTHRACENE	1	0.4	0.4	U	0.4	U	UG
53-70-3	DIBENZ(A,H)ANTHRACENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
206-44-0	FLUORANTHENE	1	0.4	0.4	U	0.4	U	UG
206-44-0	FLUORANTHENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
86-73-7	FLUORENE	1	0.3	0.3	U	0.3	U	UG
86-73-7	FLUORENE	1	0.0003	0.0003	U	0.0003	U	MG/M3
193-39-5	INDENO-1,2,3-CD-PYRENE	1	0.5	0.5	U	0.5	U	UG
193-39-5	INDENO-1,2,3-CD-PYRENE	1	0.0005	0.0005	U	0.0005	U	MG/M3
91-20-3	NAPHTHALENE	1	0.3	0.3	U	0.3	U	UG
91-20-3	NAPHTHALENE	1	0.0003	0.0003	U	0.0003	U	MG/M3
85-01-8	PHENANTHRENE	1	0.3	0.3	U	0.3	U	UG
85-01-8	PHENANTHRENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
129-00-0	PYRENE	1	0.4	0.4	U	0.4	U	UG
129-00-0	PYRENE	1	0.0004	0.0004	U	0.0004	U	MG/M3

DF = Dilution Factor RL = Reporting Limit

* = Modified by Validation

U = Non-Detect J = Estimated R = Rejected

eDATApro ENVIRONMENTAL DATA PROFESSIONAL, LLC

Form 1 Data Sheet - Semivolatiles

CTEH

Houston Wood Preserving Works Site

SDG: L368483

COC Sample ID: **HOTX0227PNAH003** Sample Matrix : **Air** Total/Dissolved: **T**

Location ID: **NA** Sample Date: **02/27/2016** Lab: **GALSON**

Lab Sample ID: **L368483-3** Analysis Date: **03/02/2016 6:20**

Sample Type: **Site Sample**

Method: **mod. NIOSH 5506; HPLC/UV**

CAS	Parameter Name	DF	RL	Lab Result	Lab Qualifier	Verified Result	Verified Qualifier	Units
5522-43-0	1-NITROPYRENE	1	0.4	0.4	U	0.4	U	UG
5522-43-0	1-NITROPYRENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
83-32-9	ACENAPHTHENE	1	0.3	0.3	U	0.3	U	UG
83-32-9	ACENAPHTHENE	1	0.0003	0.0003	U	0.0003	U	MG/M3
208-96-8	ACENAPHTHYLENE	1	0.3	0.3	U	0.3	U	UG
208-96-8	ACENAPHTHYLENE	1	0.0003	0.0003	U	0.0003	U	MG/M3
120-12-7	ANTHRACENE	1	0.4	0.4	U	0.4	U	UG
120-12-7	ANTHRACENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
56-55-3	BENZO(A)ANTHRACENE	1	0.4	0.4	U	0.4	U	UG
56-55-3	BENZO(A)ANTHRACENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
50-32-8	BENZO(A)PYRENE	1	0.5	0.5	U	0.5	U	UG
50-32-8	BENZO(A)PYRENE	1	0.0005	0.0005	U	0.0005	U	MG/M3
205-99-2	BENZO(B)FLUORANTHENE	1	0.4	0.4	U	0.4	U	UG
205-99-2	BENZO(B)FLUORANTHENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
192-97-2	BENZO(E)PYRENE	1	0.4	0.4	U	0.4	U	UG
192-97-2	BENZO(E)PYRENE	1	0.0005	0.0005	U	0.0005	U	MG/M3
191-24-2	BENZO(G,H,I)PERYLENE	1	0.5	0.5	U	0.5	U	UG
191-24-2	BENZO(G,H,I)PERYLENE	1	0.0005	0.0005	U	0.0005	U	MG/M3
207-08-9	BENZO(K)FLUORANTHENE	1	0.4	0.4	U	0.4	U	UG
207-08-9	BENZO(K)FLUORANTHENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
218-01-9	CHRYSENE	1	0.4	0.4	U	0.4	U	UG
218-01-9	CHRYSENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
53-70-3	DIBENZ(A,H)ANTHRACENE	1	0.4	0.4	U	0.4	U	UG
53-70-3	DIBENZ(A,H)ANTHRACENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
206-44-0	FLUORANTHENE	1	0.4	0.4	U	0.4	U	UG
206-44-0	FLUORANTHENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
86-73-7	FLUORENE	1	0.3	0.3	U	0.3	U	UG
86-73-7	FLUORENE	1	0.0003	0.0003	U	0.0003	U	MG/M3
193-39-5	INDENO-1,2,3-CD-PYRENE	1	0.5	0.5	U	0.5	U	UG
193-39-5	INDENO-1,2,3-CD-PYRENE	1	0.0005	0.0005	U	0.0005	U	MG/M3
91-20-3	NAPHTHALENE	1	0.3	0.3	U	0.3	U	UG
91-20-3	NAPHTHALENE	1	0.0003	0.0003	U	0.0003	U	MG/M3
85-01-8	PHENANTHRENE	1	0.3	0.3	U	0.3	U	UG
85-01-8	PHENANTHRENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
129-00-0	PYRENE	1	0.4	0.4	U	0.4	U	UG
129-00-0	PYRENE	1	0.0004	0.0004	U	0.0004	U	MG/M3

DF = Dilution Factor RL = Reporting Limit

* = Modified by Validation

U = Non-Detect J = Estimated R = Rejected

Form 1 Data Sheet - Semivolatiles

CTEH

Houston Wood Preserving Works Site

SDG: L368483

COC Sample ID: **HOTX0227PNAH004** Sample Matrix : **Air** Total/Dissolved: **T**

Location ID: **NA** Sample Date: **02/27/2016** Lab: **GALSON**

Lab Sample ID: **L368483-4** Analysis Date: **03/02/2016 7:20**

Sample Type: **Field Blank**

Method: **mod. NIOSH 5506; HPLC/UV**

CAS	Parameter Name	DF	RL	Lab Result	Lab Qualifier	Verified Result	Verified Qualifier	Units
5522-43-0	1-NITROPYRENE	1	0.4	0.4	U	0.4	U	UG
83-32-9	ACENAPHTHENE	1	0.3	0.3	U	0.3	U	UG
208-96-8	ACENAPHTHYLENE	1	0.3	0.3	U	0.3	U	UG
120-12-7	ANTHRACENE	1	0.4	0.4	U	0.4	U	UG
56-55-3	BENZO(A)ANTHRACENE	1	0.4	0.4	U	0.4	U	UG
50-32-8	BENZO(A)PYRENE	1	0.5	0.5	U	0.5	U	UG
205-99-2	BENZO(B)FLUORANTHENE	1	0.4	0.4	U	0.4	U	UG
192-97-2	BENZO(E)PYRENE	1	0.4	0.4	U	0.4	U	UG
191-24-2	BENZO(G,H,I)PERYLENE	1	0.5	0.5	U	0.5	U	UG
207-08-9	BENZO(K)FLUORANTHENE	1	0.4	0.4	U	0.4	U	UG
218-01-9	CHRYSENE	1	0.4	0.4	U	0.4	U	UG
53-70-3	DIBENZ(A,H)ANTHRACENE	1	0.4	0.4	U	0.4	U	UG
206-44-0	FLUORANTHENE	1	0.4	0.4	U	0.4	U	UG
86-73-7	FLUORENE	1	0.3	0.3	U	0.3	U	UG
193-39-5	INDENO-1,2,3-CD-PYRENE	1	0.5	0.5	U	0.5	U	UG
91-20-3	NAPHTHALENE	1	0.3	0.3	U	0.3	U	UG
85-01-8	PHENANTHRENE	1	0.3	0.3	U	0.3	U	UG
129-00-0	PYRENE	1	0.4	0.4	U	0.4	U	UG

DF = Dilution Factor RL = Reporting Limit

* = Modified by Validation

U = Non-Detect J = Estimated R = Rejected

eDATApro ENVIRONMENTAL DATA PROFESSIONAL, LLC

Appendix II
Chain of Custody

1180

5120 North Shore Drive
North Little Rock, AR 72118
Phone: (501) 801-8500
Fax: (501) 801-8501
Website: www.cteh.com

Center for Toxicology and Environmental Health L.L.C.

SAMPLE CHAIN OF CUSTODY AND ANALYSIS REQUEST FORM

Page ___ of ___

	Send Report To:	Send Invoice To:
Name	cconnolly@cteh.com;mberg@cteh.co	
Company	CTEH	CTEH
Address	5120 North Shore Drive North Little Rock, AR 72118	5120 North Shore Drive North Little Rock, AR 72118
Phone	(501)801-8500	(501)801-8500
Fax	(501)801-8501	(501)801-8501
e-mail	labresults@cteh.com	

CTEH Project #: 107907

Turnaround Requested:
Same Day __Next Day (24 hour) _X_ Normal
__Other (Specify) _____

Complete Data Packet Requested X Yes ☐No

Lab Contact Information:
Galson Laboratories
6601 Kirkville Road
E. Syracuse, NY 13057

Client Sample Identification	Other Sample Identification	Sample Size	Units (Check one) ___L ___cm^2 ___	Sample Date	Sample Time (for non-air samples)	Initials	NIOSH 5506 PNAH	Mod EPA IP-10A PM10								**Matrix** A = air B = bulk S = soil SW = wipe T = tape W = water
HOTX0227PNAH001	AS12	975.2	L	02/27/16		PWW	X				pulled on 3/1/16	ORB043				A
HOTX0227PNAH002	AS07	969.5	L	02/27/16		PWW	X									A
HOTX0227PNAH003	AS16	952.9	L	02/27/16		PWW	X									A
HOTX0227PNAH004	BL	0	L	02/27/16		PWW	X				SK 3/1/16					A

775754982387
Date:03/01/16
Shipper:FEDEX
Initials:SK
Prep:UNKNOWN

Samples Received in Light Sensitve Material: Yes or No

RELINQUISHED BY	DATE/TIME	RECEIVED BY	DATE/TIME
Justin Langley	14:00 02/29/16	Fed Ex	
		M. Krause	3/1/16 0737

Rec'd intact & all accounted for? Yes or No SK
Rec'd w/custody seals intact? Yes or No NA
Rec'd in light sensitive packaging? Yes or No SK
Rec'd with ice pack? Yes or No SK
Rec'd temperature compliant? Yes or No SK

Data Verification Report (Level 2)

Project: 107907 - Houston Wood Preserving Works Site

Client: CTEH

Report #: L368670 Date: March 8, 2016

Environmental Data Professional, LLC
1432 Watkins St.• Lake Charles, LA 70601 • phone: 337-540-0036 • fax: 337-478-6061

Disclaimer:

The review performed and reported herein is based on specifications and procedures presented to eDATApro with the associated data package. Any qualifications or review not specified with package requirements was based on USEPA National Functional Guidelines for Inorganic and Organic Data Review.

Information contained in this report is based solely on the hardcopy and/or electronic deliverables that were submitted to eDATApro. eDATApro reserves the rights to modify or change the report if new information is presented or if this report is determined to be inaccurate or incomplete.

The following parameters were reviewed during the verification process:

Chain-of-Custody (COC): Completeness and sample custody

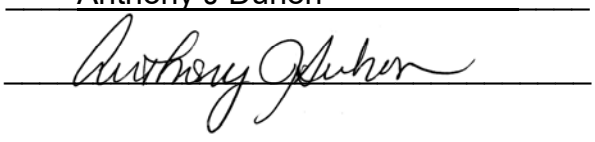
Holding time: Compare collection date versus preparation and/or analysis date

Blank Contamination: Laboratory and field blanks

Matrix/Precision/Recovery: Surrogates, Internal Standards, Duplicates, Blank spike and blank spike duplicate samples (when applicable)

Standards: Detection limit standard and continuing calibration verification (when applicable)

Reviewed by: Anthony J Duhon

Signature: 

INTRODUCTION:

Project Name: 107907 - Houston Wood Preserving Works Site
Laboratory: Galson Laboratories
Laboratory Package No.: L368670
Matrix: Air

Environmental Data Professional, LLC (eDATApro) received one electronic Level II data package containing the results for three field samples and one field blank. Level II verification was performed on the data utilizing *USEPA National Functional Guidelines for Organic Data Review* and the analytical method.

The following samples were reviewed:

Sample ID	Lab ID	Collection Date	Analyses
HOTXO301PNAH001	L368670-1	03/01/2016	[1]
HOTXO301PNAH002	L368670-2	03/01/2016	[1]
HOTXO301PNAH003	L368670-3	03/01/2016	[1]
HOTXO301PNAH004	L368670-4	03/01/2016	[1]

Analyses Performed Codes:

[1] Semivolatile Organics; PAHs (mod. NIOSH 5506; HPLC/UV)

DATA REVIEW FINDINGS SUMMARY

I. General Package:

The data package was complete and no resubmissions were requested.

II. Semivolatile Organics; PAHs – mod. NIOSH 5506; HPLC/UV:

The laboratory reported the results in both ug and mg/m3 units.

All quality assurance and quality control (QA/QC) components presented by the laboratory satisfied method and data review acceptance criteria; therefore, no data qualifications were necessary.

Appendix I
Form 1 Data (Qualified)

Form 1 Data Sheet - Semivolatiles

CTEH

Houston Wood Preserving Works Site

SDG: L368670

COC Sample ID: **HOTXO301PNAH001** | Sample Matrix : **Air** | Total/Dissolved: **T**

Location ID: **NA** | Sample Date: **03/01/2016** | Lab: **GALSON**

Lab Sample ID: **L368670-1** | Analysis Date: **03/04/2016 8:19**

Sample Type: **Site Sample**

Method: **mod. NIOSH 5506; HPLC/UV**

CAS	Parameter Name	DF	RL	Lab Result	Lab Qualifier	Verified Result	Verified Qualifier	Units
5522-43-0	1-NITROPYRENE	1	0.4	0.4	U	0.4	U	UG
5522-43-0	1-NITROPYRENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
83-32-9	ACENAPHTHENE	1	0.3	0.3	U	0.3	U	UG
83-32-9	ACENAPHTHENE	1	0.0003	0.0003	U	0.0003	U	MG/M3
208-96-8	ACENAPHTHYLENE	1	0.3	0.3	U	0.3	U	UG
208-96-8	ACENAPHTHYLENE	1	0.0003	0.0003	U	0.0003	U	MG/M3
120-12-7	ANTHRACENE	1	0.4	0.4	U	0.4	U	UG
120-12-7	ANTHRACENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
56-55-3	BENZO(A)ANTHRACENE	1	0.4	0.4	U	0.4	U	UG
56-55-3	BENZO(A)ANTHRACENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
50-32-8	BENZO(A)PYRENE	1	0.5	0.5	U	0.5	U	UG
50-32-8	BENZO(A)PYRENE	1	0.0005	0.0005	U	0.0005	U	MG/M3
205-99-2	BENZO(B)FLUORANTHENE	1	0.4	0.4	U	0.4	U	UG
205-99-2	BENZO(B)FLUORANTHENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
192-97-2	BENZO(E)PYRENE	1	0.4	0.4	U	0.4	U	UG
192-97-2	BENZO(E)PYRENE	1	0.0005	0.0005	U	0.0005	U	MG/M3
191-24-2	BENZO(G,H,I)PERYLENE	1	0.5	0.5	U	0.5	U	UG
191-24-2	BENZO(G,H,I)PERYLENE	1	0.0005	0.0005	U	0.0005	U	MG/M3
207-08-9	BENZO(K)FLUORANTHENE	1	0.4	0.4	U	0.4	U	UG
207-08-9	BENZO(K)FLUORANTHENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
218-01-9	CHRYSENE	1	0.4	0.4	U	0.4	U	UG
218-01-9	CHRYSENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
53-70-3	DIBENZ(A,H)ANTHRACENE	1	0.4	0.4	U	0.4	U	UG
53-70-3	DIBENZ(A,H)ANTHRACENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
206-44-0	FLUORANTHENE	1	0.4	0.4	U	0.4	U	UG
206-44-0	FLUORANTHENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
86-73-7	FLUORENE	1	0.3	0.3	U	0.3	U	UG
86-73-7	FLUORENE	1	0.0003	0.0003	U	0.0003	U	MG/M3
193-39-5	INDENO-1,2,3-CD-PYRENE	1	0.5	0.5	U	0.5	U	UG
193-39-5	INDENO-1,2,3-CD-PYRENE	1	0.0005	0.0005	U	0.0005	U	MG/M3
91-20-3	NAPHTHALENE	1	0.3	0.3	U	0.3	U	UG
91-20-3	NAPHTHALENE	1	0.0003	0.0003	U	0.0003	U	MG/M3
85-01-8	PHENANTHRENE	1	0.3	0.3	U	0.3	U	UG
85-01-8	PHENANTHRENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
129-00-0	PYRENE	1	0.4	0.4	U	0.4	U	UG
129-00-0	PYRENE	1	0.0004	0.0004	U	0.0004	U	MG/M3

DF = Dilution Factor RL = Reporting Limit

* = Modified by Validation

U = Non-Detect J = Estimated R = Rejected

eDATApro ENVIRONMENTAL DATA PROFESSIONAL, LLC

Form 1 Data Sheet - Semivolatiles

CTEH

Houston Wood Preserving Works Site

SDG: L368670

COC Sample ID: **HOTXO301PNAH002** | Sample Matrix : **Air** | Total/Dissolved: **T**

Location ID: **NA** | Sample Date: **03/01/2016** | Lab: **GALSON**

Lab Sample ID: **L368670-2** | Analysis Date: **03/04/2016 9:18**

Sample Type: **Site Sample**

Method: **mod. NIOSH 5506; HPLC/UV**

CAS	Parameter Name	DF	RL	Lab Result	Lab Qualifier	Verified Result	Verified Qualifier	Units
5522-43-0	1-NITROPYRENE	1	0.4	0.4	U	0.4	U	UG
5522-43-0	1-NITROPYRENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
83-32-9	ACENAPHTHENE	1	0.3	0.3	U	0.3	U	UG
83-32-9	ACENAPHTHENE	1	0.0003	0.0003	U	0.0003	U	MG/M3
208-96-8	ACENAPHTHYLENE	1	0.3	0.3	U	0.3	U	UG
208-96-8	ACENAPHTHYLENE	1	0.0003	0.0003	U	0.0003	U	MG/M3
120-12-7	ANTHRACENE	1	0.4	0.4	U	0.4	U	UG
120-12-7	ANTHRACENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
56-55-3	BENZO(A)ANTHRACENE	1	0.4	0.4	U	0.4	U	UG
56-55-3	BENZO(A)ANTHRACENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
50-32-8	BENZO(A)PYRENE	1	0.5	0.5	U	0.5	U	UG
50-32-8	BENZO(A)PYRENE	1	0.0005	0.0005	U	0.0005	U	MG/M3
205-99-2	BENZO(B)FLUORANTHENE	1	0.4	0.4	U	0.4	U	UG
205-99-2	BENZO(B)FLUORANTHENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
192-97-2	BENZO(E)PYRENE	1	0.4	0.4	U	0.4	U	UG
192-97-2	BENZO(E)PYRENE	1	0.0005	0.0005	U	0.0005	U	MG/M3
191-24-2	BENZO(G,H,I)PERYLENE	1	0.5	0.5	U	0.5	U	UG
191-24-2	BENZO(G,H,I)PERYLENE	1	0.0005	0.0005	U	0.0005	U	MG/M3
207-08-9	BENZO(K)FLUORANTHENE	1	0.4	0.4	U	0.4	U	UG
207-08-9	BENZO(K)FLUORANTHENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
218-01-9	CHRYSENE	1	0.4	0.4	U	0.4	U	UG
218-01-9	CHRYSENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
53-70-3	DIBENZ(A,H)ANTHRACENE	1	0.4	0.4	U	0.4	U	UG
53-70-3	DIBENZ(A,H)ANTHRACENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
206-44-0	FLUORANTHENE	1	0.4	0.4	U	0.4	U	UG
206-44-0	FLUORANTHENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
86-73-7	FLUORENE	1	0.3	0.3	U	0.3	U	UG
86-73-7	FLUORENE	1	0.0003	0.0003	U	0.0003	U	MG/M3
193-39-5	INDENO-1,2,3-CD-PYRENE	1	0.5	0.5	U	0.5	U	UG
193-39-5	INDENO-1,2,3-CD-PYRENE	1	0.0005	0.0005	U	0.0005	U	MG/M3
91-20-3	NAPHTHALENE	1	0.3	0.3	U	0.3	U	UG
91-20-3	NAPHTHALENE	1	0.0003	0.0003	U	0.0003	U	MG/M3
85-01-8	PHENANTHRENE	1	0.3	0.3	U	0.3	U	UG
85-01-8	PHENANTHRENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
129-00-0	PYRENE	1	0.4	0.4	U	0.4	U	UG
129-00-0	PYRENE	1	0.0004	0.0004	U	0.0004	U	MG/M3

DF = Dilution Factor RL = Reporting Limit

* = Modified by Validation

U = Non-Detect J = Estimated R = Rejected

Form 1 Data Sheet - Semivolatiles

CTEH

Houston Wood Preserving Works Site

SDG: L368670

COC Sample ID: **HOTXO301PNAH003** Sample Matrix : **Air** Total/Dissolved: **T**

Location ID: **NA** Sample Date: **03/01/2016** Lab: **GALSON**

Lab Sample ID: **L368670-3** Analysis Date: **03/04/2016 10:18**

Sample Type: **Site Sample**

Method: **mod. NIOSH 5506; HPLC/UV**

CAS	Parameter Name	DF	RL	Lab Result	Lab Qualifier	Verified Result	Verified Qualifier	Units
5522-43-0	1-NITROPYRENE	1	0.4	0.4	U	0.4	U	UG
5522-43-0	1-NITROPYRENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
83-32-9	ACENAPHTHENE	1	0.3	0.3	U	0.3	U	UG
83-32-9	ACENAPHTHENE	1	0.0003	0.0003	U	0.0003	U	MG/M3
208-96-8	ACENAPHTHYLENE	1	0.3	0.3	U	0.3	U	UG
208-96-8	ACENAPHTHYLENE	1	0.0003	0.0003	U	0.0003	U	MG/M3
120-12-7	ANTHRACENE	1	0.4	0.4	U	0.4	U	UG
120-12-7	ANTHRACENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
56-55-3	BENZO(A)ANTHRACENE	1	0.4	0.4	U	0.4	U	UG
56-55-3	BENZO(A)ANTHRACENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
50-32-8	BENZO(A)PYRENE	1	0.5	0.5	U	0.5	U	UG
50-32-8	BENZO(A)PYRENE	1	0.0005	0.0005	U	0.0005	U	MG/M3
205-99-2	BENZO(B)FLUORANTHENE	1	0.4	0.4	U	0.4	U	UG
205-99-2	BENZO(B)FLUORANTHENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
192-97-2	BENZO(E)PYRENE	1	0.4	0.4	U	0.4	U	UG
192-97-2	BENZO(E)PYRENE	1	0.0005	0.0005	U	0.0005	U	MG/M3
191-24-2	BENZO(G,H,I)PERYLENE	1	0.5	0.5	U	0.5	U	UG
191-24-2	BENZO(G,H,I)PERYLENE	1	0.0005	0.0005	U	0.0005	U	MG/M3
207-08-9	BENZO(K)FLUORANTHENE	1	0.4	0.4	U	0.4	U	UG
207-08-9	BENZO(K)FLUORANTHENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
218-01-9	CHRYSENE	1	0.4	0.4	U	0.4	U	UG
218-01-9	CHRYSENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
53-70-3	DIBENZ(A,H)ANTHRACENE	1	0.4	0.4	U	0.4	U	UG
53-70-3	DIBENZ(A,H)ANTHRACENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
206-44-0	FLUORANTHENE	1	0.4	0.4	U	0.4	U	UG
206-44-0	FLUORANTHENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
86-73-7	FLUORENE	1	0.3	0.3	U	0.3	U	UG
86-73-7	FLUORENE	1	0.0003	0.0003	U	0.0003	U	MG/M3
193-39-5	INDENO-1,2,3-CD-PYRENE	1	0.5	0.5	U	0.5	U	UG
193-39-5	INDENO-1,2,3-CD-PYRENE	1	0.0005	0.0005	U	0.0005	U	MG/M3
91-20-3	NAPHTHALENE	1	0.3	0.3	U	0.3	U	UG
91-20-3	NAPHTHALENE	1	0.0003	0.0003	U	0.0003	U	MG/M3
85-01-8	PHENANTHRENE	1	0.3	0.3	U	0.3	U	UG
85-01-8	PHENANTHRENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
129-00-0	PYRENE	1	0.4	0.4	U	0.4	U	UG
129-00-0	PYRENE	1	0.0004	0.0004	U	0.0004	U	MG/M3

DF = Dilution Factor RL = Reporting Limit

* = Modified by Validation

U = Non-Detect J = Estimated R = Rejected

Form 1 Data Sheet - Semivolatiles

CTEH

Houston Wood Preserving Works Site

SDG: L368670

COC Sample ID: **HOTXO301PNAH004** Sample Matrix : **Air** Total/Dissolved: **T**

Location ID: **NA** Sample Date: **03/01/2016** Lab: **GALSON**

Lab Sample ID: **L368670-4** Analysis Date: **03/04/2016 11:18**

Sample Type: **Field Blank**

Method: **mod. NIOSH 5506; HPLC/UV**

CAS	Parameter Name	DF	RL	Lab Result	Lab Qualifier	Verified Result	Verified Qualifier	Units
5522-43-0	1-NITROPYRENE	1	0.4	0.4	U	0.4	U	UG
83-32-9	ACENAPHTHENE	1	0.3	0.3	U	0.3	U	UG
208-96-8	ACENAPHTHYLENE	1	0.3	0.3	U	0.3	U	UG
120-12-7	ANTHRACENE	1	0.4	0.4	U	0.4	U	UG
56-55-3	BENZO(A)ANTHRACENE	1	0.4	0.4	U	0.4	U	UG
50-32-8	BENZO(A)PYRENE	1	0.5	0.5	U	0.5	U	UG
205-99-2	BENZO(B)FLUORANTHENE	1	0.4	0.4	U	0.4	U	UG
192-97-2	BENZO(E)PYRENE	1	0.4	0.4	U	0.4	U	UG
191-24-2	BENZO(G,H,I)PERYLENE	1	0.5	0.5	U	0.5	U	UG
207-08-9	BENZO(K)FLUORANTHENE	1	0.4	0.4	U	0.4	U	UG
218-01-9	CHRYSENE	1	0.4	0.4	U	0.4	U	UG
53-70-3	DIBENZ(A,H)ANTHRACENE	1	0.4	0.4	U	0.4	U	UG
206-44-0	FLUORANTHENE	1	0.4	0.4	U	0.4	U	UG
86-73-7	FLUORENE	1	0.3	0.3	U	0.3	U	UG
193-39-5	INDENO-1,2,3-CD-PYRENE	1	0.5	0.5	U	0.5	U	UG
91-20-3	NAPHTHALENE	1	0.3	0.3	U	0.3	U	UG
85-01-8	PHENANTHRENE	1	0.3	0.3	U	0.3	U	UG
129-00-0	PYRENE	1	0.4	0.4	U	0.4	U	UG

DF = Dilution Factor RL = Reporting Limit

* = Modified by Validation

U = Non-Detect J = Estimated R = Rejected

eDATApro ENVIRONMENTAL DATA PROFESSIONAL, LLC

Appendix II
Chain of Custody

L3688670

R118

5120 North Shore Drive
North Little Rock, AR 72118
Phone: (501) 801-8500
Fax: (501) 801-8501
Website: www.cteh.com

Center for Toxicology and Environmental Health L.L.C.

SAMPLE CHAIN OF CUSTODY AND ANALYSIS REQUEST FORM

Page 1 of 1

	Send Report To:	Send Invoice To:
Name	cconnolly@cteh.com;mberg@cteh.co	
Company	CTEH	CTEH
Address	5120 North Shore Drive North Little Rock, AR 72118	5120 North Shore Drive North Little Rock, AR 72118
Phone	(501)801-8500	(501)801-8500
Fax	(501)801-8501	(501)801-8501
e-mail	labresults@cteh.com	

CTEH Project #: 107907 [redacted]

Turnaround Requested:
Same Day __Next Day (24 hour) ___ Normal
X Other (Specify) 2 Day

Complete Data Packet Requested X Yes ☐No

Lab Contact Information:
Galson Laboratories
6601 Kirkville Road
E. Syracuse, NY 13057

Client Sample Identification	Other Sample Identification	Sample Size	Units (Check one) ✓L / cm²	Sample Date	Sample Time (for non-air samples)	Initials	NIOSH 5506 PNAH	Matrix (A = air, B = bulk, S = soil, SW = wipe, T = tape, W = water)
HOTX0301PNAH001	AS12	971.3	L	03/01/16		JA	X	A
HOTX0301PNAH002	AS16	957	L	03/01/16		JA	X	A
HOTX0301PNAH003	AS07	959.2	L	03/01/16		JA	X	A
HOTX0301PNAH004	BL	0	L	03/01/16		JA	X	A

cancelled 3/3/16 per in vivo SK 3/3/16

Samples Received in Light Sensitive Material: Yes or No

RELINQUISHED BY	DATE/TIME	RECEIVED BY	DATE/TIME
Justin Langley	03/02/16 16:00	FedEx	
		M. Sowle	3/3/16 1055

COMMENTS
Rec'd intact & all accounted for? Yes or No SK
Rec'd w/custody seals intact? Yes or No DA
Rec'd in light sensitive packaging? Yes or No SK
Rec'd with ice pack? Yes or No SK
Rec'd temperature compliant? Yes or No SK

Data Verification Report (Level 2)

Project: 107907 - Houston Wood Preserving Works Site

Client: CTEH

Report #: L368739 Date: March 9, 2016

Environmental Data Professional, LLC
1432 Watkins St.• Lake Charles, LA 70601 • phone: 337-540-0036 • fax: 337-478-6061

Disclaimer:

The review performed and reported herein is based on specifications and procedures presented to eDATApro with the associated data package. Any qualifications or review not specified with package requirements was based on USEPA National Functional Guidelines for Inorganic and Organic Data Review.

Information contained in this report is based solely on the hardcopy and/or electronic deliverables that were submitted to eDATApro. eDATApro reserves the rights to modify or change the report if new information is presented or if this report is determined to be inaccurate or incomplete.

The following parameters were reviewed during the verification process:

Chain-of-Custody (COC): Completeness and sample custody

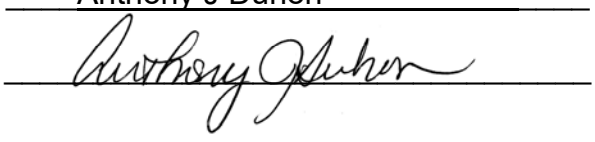
Holding time: Compare collection date versus preparation and/or analysis date

Blank Contamination: Laboratory and field blanks

Matrix/Precision/Recovery: Surrogates, Internal Standards, Duplicates, Blank spike and blank spike duplicate samples (when applicable)

Standards: Detection limit standard and continuing calibration verification (when applicable)

Reviewed by: Anthony J Duhon

Signature: 

INTRODUCTION:

Project Name: 107907 - Houston Wood Preserving Works Site
Laboratory: Galson Laboratories
Laboratory Package No.: L368739
Matrix: Air

Environmental Data Professional, LLC (eDATApro) received one electronic Level II data package containing the results for three field samples and one field blank. Level II verification was performed on the data utilizing *USEPA National Functional Guidelines for Organic Data Review* and the analytical method.

The following samples were reviewed:

Sample ID	Lab ID	Collection Date	Analyses
HOTX0302PNAH001	L368739-1	03/02/2016	[1]
HOTX0302PNAH002	L368739-2	03/02/2016	[1]
HOTX0302PNAH003	L368739-3	03/02/2016	[1]
HOTX0302PNAH004	L368739-4	03/02/2016	[1]

Analyses Performed Codes:

[1] Semivolatile Organics; PAHs (mod. NIOSH 5506; HPLC/UV)

DATA REVIEW FINDINGS SUMMARY

I. General Package:

The data package was complete and no resubmissions were requested.

II. Semivolatile Organics; PAHs – mod. NIOSH 5506; HPLC/UV:

The laboratory reported the results in both ug and mg/m^3.

Fluoranthene and Benzo(b)fluoranthene were present in method blank sample WG340892-2. These analytes were not detected in the associated field samples. No data qualifications were necessary.

Comparisons between measurements of Benzo(k)fluoranthene, Benzo(a)pyrene and Benzo(g,h,i)perylene in the blank spike/duplicate analyses (BS/BSD) analyses exceeded acceptance criteria. These analytes were not detected in the field samples. No data qualifications were necessary.

All other quality assurance and quality control (QA/QC) components presented by the laboratory satisfied method and data review acceptance criteria.

Appendix I
Form 1 Data (Qualified)

Form 1 Data Sheet - Semivolatiles

CTEH

Houston Wood Preserving Works Site

SDG: L368739

COC Sample ID: **HOTX0302PNAH001** | Sample Matrix : **Air** | Total/Dissolved: **T**

Location ID: **NA** | Sample Date: **03/02/2016** | Lab: **GALSON**

Lab Sample ID: **L368739-1** | Analysis Date: **03/08/2016 11:23**

Sample Type: **Site Sample**

Method: **mod. NIOSH 5506; HPLC/UV**

CAS	Parameter Name	DF	RL	Lab Result	Lab Qualifier	Verified Result	Verified Qualifier	Units
5522-43-0	1-NITROPYRENE	1	0.4	0.4	U	0.4	U	UG
5522-43-0	1-NITROPYRENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
83-32-9	ACENAPHTHENE	1	0.3	0.3	U	0.3	U	UG
83-32-9	ACENAPHTHENE	1	0.0003	0.0003	U	0.0003	U	MG/M3
208-96-8	ACENAPHTHYLENE	1	0.3	0.3	U	0.3	U	UG
208-96-8	ACENAPHTHYLENE	1	0.0003	0.0003	U	0.0003	U	MG/M3
120-12-7	ANTHRACENE	1	0.4	0.4	U	0.4	U	UG
120-12-7	ANTHRACENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
56-55-3	BENZO(A)ANTHRACENE	1	0.4	0.4	U	0.4	U	UG
56-55-3	BENZO(A)ANTHRACENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
50-32-8	BENZO(A)PYRENE	1	0.5	0.5	U	0.5	U	UG
50-32-8	BENZO(A)PYRENE	1	0.0005	0.0005	U	0.0005	U	MG/M3
205-99-2	BENZO(B)FLUORANTHENE	1	0.4	0.4	U	0.4	U	UG
205-99-2	BENZO(B)FLUORANTHENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
192-97-2	BENZO(E)PYRENE	1	0.4	0.4	U	0.4	U	UG
192-97-2	BENZO(E)PYRENE	1	0.0005	0.0005	U	0.0005	U	MG/M3
191-24-2	BENZO(G,H,I)PERYLENE	1	0.5	0.5	U	0.5	U	UG
191-24-2	BENZO(G,H,I)PERYLENE	1	0.0005	0.0005	U	0.0005	U	MG/M3
207-08-9	BENZO(K)FLUORANTHENE	1	0.4	0.4	U	0.4	U	UG
207-08-9	BENZO(K)FLUORANTHENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
218-01-9	CHRYSENE	1	0.4	0.4	U	0.4	U	UG
218-01-9	CHRYSENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
53-70-3	DIBENZ(A,H)ANTHRACENE	1	0.4	0.4	U	0.4	U	UG
53-70-3	DIBENZ(A,H)ANTHRACENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
206-44-0	FLUORANTHENE	1	0.4	0.4	U	0.4	U	UG
206-44-0	FLUORANTHENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
86-73-7	FLUORENE	1	0.3	0.3	U	0.3	U	UG
86-73-7	FLUORENE	1	0.0003	0.0003	U	0.0003	U	MG/M3
193-39-5	INDENO-1,2,3-CD-PYRENE	1	0.5	0.5	U	0.5	U	UG
193-39-5	INDENO-1,2,3-CD-PYRENE	1	0.0005	0.0005	U	0.0005	U	MG/M3
91-20-3	NAPHTHALENE	1	0.3	0.3	U	0.3	U	UG
91-20-3	NAPHTHALENE	1	0.0003	0.0003	U	0.0003	U	MG/M3
85-01-8	PHENANTHRENE	1	0.3	0.3	U	0.3	U	UG
85-01-8	PHENANTHRENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
129-00-0	PYRENE	1	0.4	0.4	U	0.4	U	UG
129-00-0	PYRENE	1	0.0004	0.0004	U	0.0004	U	MG/M3

DF = Dilution Factor RL = Reporting Limit

* = Modified by Validation

U = Non-Detect J = Estimated R = Rejected

eDATApro ENVIRONMENTAL DATA PROFESSIONAL, LLC

Form 1 Data Sheet - Semivolatiles

CTEH

Houston Wood Preserving Works Site

SDG: L368739

COC Sample ID: **HOTX0302PNAH002** Sample Matrix : **Air** Total/Dissolved: **T**

Location ID: **NA** Sample Date: **03/02/2016** Lab: **GALSON**

Lab Sample ID: **L368739-2** Analysis Date: **03/07/2016 9:08**

Sample Type: **Site Sample**

Method: **mod. NIOSH 5506; HPLC/UV**

CAS	Parameter Name	DF	RL	Lab Result	Lab Qualifier	Verified Result	Verified Qualifier	Units
5522-43-0	1-NITROPYRENE	1	0.4	0.4	U	0.4	U	UG
5522-43-0	1-NITROPYRENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
83-32-9	ACENAPHTHENE	1	0.3	0.3	U	0.3	U	UG
83-32-9	ACENAPHTHENE	1	0.0003	0.0003	U	0.0003	U	MG/M3
208-96-8	ACENAPHTHYLENE	1	0.3	0.3	U	0.3	U	UG
208-96-8	ACENAPHTHYLENE	1	0.0003	0.0003	U	0.0003	U	MG/M3
120-12-7	ANTHRACENE	1	0.4	0.4	U	0.4	U	UG
120-12-7	ANTHRACENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
56-55-3	BENZO(A)ANTHRACENE	1	0.4	0.4	U	0.4	U	UG
56-55-3	BENZO(A)ANTHRACENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
50-32-8	BENZO(A)PYRENE	1	0.5	0.5	U	0.5	U	UG
50-32-8	BENZO(A)PYRENE	1	0.0005	0.0005	U	0.0005	U	MG/M3
205-99-2	BENZO(B)FLUORANTHENE	1	0.4	0.4	U	0.4	U	UG
205-99-2	BENZO(B)FLUORANTHENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
192-97-2	BENZO(E)PYRENE	1	0.4	0.4	U	0.4	U	UG
192-97-2	BENZO(E)PYRENE	1	0.0005	0.0005	U	0.0005	U	MG/M3
191-24-2	BENZO(G,H,I)PERYLENE	1	0.5	0.5	U	0.5	U	UG
191-24-2	BENZO(G,H,I)PERYLENE	1	0.0005	0.0005	U	0.0005	U	MG/M3
207-08-9	BENZO(K)FLUORANTHENE	1	0.4	0.4	U	0.4	U	UG
207-08-9	BENZO(K)FLUORANTHENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
218-01-9	CHRYSENE	1	0.4	0.4	U	0.4	U	UG
218-01-9	CHRYSENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
53-70-3	DIBENZ(A,H)ANTHRACENE	1	0.4	0.4	U	0.4	U	UG
53-70-3	DIBENZ(A,H)ANTHRACENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
206-44-0	FLUORANTHENE	1	0.4	0.4	U	0.4	U	UG
206-44-0	FLUORANTHENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
86-73-7	FLUORENE	1	0.3	0.3	U	0.3	U	UG
86-73-7	FLUORENE	1	0.0003	0.0003	U	0.0003	U	MG/M3
193-39-5	INDENO-1,2,3-CD-PYRENE	1	0.5	0.5	U	0.5	U	UG
193-39-5	INDENO-1,2,3-CD-PYRENE	1	0.0005	0.0005	U	0.0005	U	MG/M3
91-20-3	NAPHTHALENE	1	0.3	0.3	U	0.3	U	UG
91-20-3	NAPHTHALENE	1	0.0003	0.0003	U	0.0003	U	MG/M3
85-01-8	PHENANTHRENE	1	0.3	0.3	U	0.3	U	UG
85-01-8	PHENANTHRENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
129-00-0	PYRENE	1	0.4	0.4	U	0.4	U	UG
129-00-0	PYRENE	1	0.0004	0.0004	U	0.0004	U	MG/M3

DF = Dilution Factor RL = Reporting Limit

* = Modified by Validation

U = Non-Detect J = Estimated R = Rejected

eDATApro ENVIRONMENTAL DATA PROFESSIONAL, LLC

Form 1 Data Sheet - Semivolatiles

CTEH

Houston Wood Preserving Works Site

SDG: L368739

COC Sample ID: **HOTX0302PNAH003** | Sample Matrix : **Air** | Total/Dissolved: **T**

Location ID: **NA** | Sample Date: **03/02/2016** | Lab: **GALSON**

Lab Sample ID: **L368739-3** | Analysis Date: **03/07/2016 10:08**

Sample Type: **Site Sample**

Method: **mod. NIOSH 5506; HPLC/UV**

CAS	Parameter Name	DF	RL	Lab Result	Lab Qualifier	Verified Result	Verified Qualifier	Units
5522-43-0	1-NITROPYRENE	1	0.4	0.4	U	0.4	U	UG
5522-43-0	1-NITROPYRENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
83-32-9	ACENAPHTHENE	1	0.3	0.3	U	0.3	U	UG
83-32-9	ACENAPHTHENE	1	0.0003	0.0003	U	0.0003	U	MG/M3
208-96-8	ACENAPHTHYLENE	1	0.3	0.3	U	0.3	U	UG
208-96-8	ACENAPHTHYLENE	1	0.0003	0.0003	U	0.0003	U	MG/M3
120-12-7	ANTHRACENE	1	0.4	0.4	U	0.4	U	UG
120-12-7	ANTHRACENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
56-55-3	BENZO(A)ANTHRACENE	1	0.4	0.4	U	0.4	U	UG
56-55-3	BENZO(A)ANTHRACENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
50-32-8	BENZO(A)PYRENE	1	0.5	0.5	U	0.5	U	UG
50-32-8	BENZO(A)PYRENE	1	0.0005	0.0005	U	0.0005	U	MG/M3
205-99-2	BENZO(B)FLUORANTHENE	1	0.4	0.4	U	0.4	U	UG
205-99-2	BENZO(B)FLUORANTHENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
192-97-2	BENZO(E)PYRENE	1	0.4	0.4	U	0.4	U	UG
192-97-2	BENZO(E)PYRENE	1	0.0005	0.0005	U	0.0005	U	MG/M3
191-24-2	BENZO(G,H,I)PERYLENE	1	0.5	0.5	U	0.5	U	UG
191-24-2	BENZO(G,H,I)PERYLENE	1	0.0005	0.0005	U	0.0005	U	MG/M3
207-08-9	BENZO(K)FLUORANTHENE	1	0.4	0.4	U	0.4	U	UG
207-08-9	BENZO(K)FLUORANTHENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
218-01-9	CHRYSENE	1	0.4	0.4	U	0.4	U	UG
218-01-9	CHRYSENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
53-70-3	DIBENZ(A,H)ANTHRACENE	1	0.4	0.4	U	0.4	U	UG
53-70-3	DIBENZ(A,H)ANTHRACENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
206-44-0	FLUORANTHENE	1	0.4	0.4	U	0.4	U	UG
206-44-0	FLUORANTHENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
86-73-7	FLUORENE	1	0.3	0.3	U	0.3	U	UG
86-73-7	FLUORENE	1	0.0003	0.0003	U	0.0003	U	MG/M3
193-39-5	INDENO-1,2,3-CD-PYRENE	1	0.5	0.5	U	0.5	U	UG
193-39-5	INDENO-1,2,3-CD-PYRENE	1	0.0005	0.0005	U	0.0005	U	MG/M3
91-20-3	NAPHTHALENE	1	0.3	0.3	U	0.3	U	UG
91-20-3	NAPHTHALENE	1	0.0003	0.0003	U	0.0003	U	MG/M3
85-01-8	PHENANTHRENE	1	0.3	0.3	U	0.3	U	UG
85-01-8	PHENANTHRENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
129-00-0	PYRENE	1	0.4	0.4	U	0.4	U	UG
129-00-0	PYRENE	1	0.0004	0.0004	U	0.0004	U	MG/M3

DF = Dilution Factor RL = Reporting Limit

* = Modified by Validation

U = Non-Detect J = Estimated R = Rejected

eDATApro ENVIRONMENTAL DATA PROFESSIONAL, LLC

Form 1 Data Sheet - Semivolatiles

CTEH

Houston Wood Preserving Works Site

SDG: L368739

COC Sample ID: **HOTX0302PNAH004** Sample Matrix : **Air** Total/Dissolved: **T**

Location ID: **NA** Sample Date: **03/02/2016** Lab: **GALSON**

Lab Sample ID: **L368739-4** Analysis Date: **03/07/2016 11:28**

Sample Type: **Field Blank**

Method: **mod. NIOSH 5506; HPLC/UV**

CAS	Parameter Name	DF	RL	Lab Result	Lab Qualifier	Verified Result	Verified Qualifier	Units
5522-43-0	1-NITROPYRENE	1	0.4	0.4	U	0.4	U	UG
83-32-9	ACENAPHTHENE	1	0.3	0.3	U	0.3	U	UG
208-96-8	ACENAPHTHYLENE	1	0.3	0.3	U	0.3	U	UG
120-12-7	ANTHRACENE	1	0.4	0.4	U	0.4	U	UG
56-55-3	BENZO(A)ANTHRACENE	1	0.4	0.4	U	0.4	U	UG
50-32-8	BENZO(A)PYRENE	1	0.5	0.5	U	0.5	U	UG
205-99-2	BENZO(B)FLUORANTHENE	1	0.4	0.4	U	0.4	U	UG
192-97-2	BENZO(E)PYRENE	1	0.4	0.4	U	0.4	U	UG
191-24-2	BENZO(G,H,I)PERYLENE	1	0.5	0.5	U	0.5	U	UG
207-08-9	BENZO(K)FLUORANTHENE	1	0.4	0.4	U	0.4	U	UG
218-01-9	CHRYSENE	1	0.4	0.4	U	0.4	U	UG
53-70-3	DIBENZ(A,H)ANTHRACENE	1	0.4	0.4	U	0.4	U	UG
206-44-0	FLUORANTHENE	1	0.4	0.4	U	0.4	U	UG
86-73-7	FLUORENE	1	0.3	0.3	U	0.3	U	UG
193-39-5	INDENO-1,2,3-CD-PYRENE	1	0.5	0.5	U	0.5	U	UG
91-20-3	NAPHTHALENE	1	0.3	0.3	U	0.3	U	UG
85-01-8	PHENANTHRENE	1	0.3	0.3	U	0.3	U	UG
129-00-0	PYRENE	1	0.4	0.4	U	0.4	U	UG

DF = Dilution Factor RL = Reporting Limit

* = Modified by Validation

U = Non-Detect J = Estimated R = Rejected

eDATApro ENVIRONMENTAL DATA PROFESSIONAL, LLC

Appendix II
Chain of Custody

R118

5120 North Shore Drive
North Little Rock, AR 72118
Phone: (501) 801-8500
Fax: (501) 801-8501
Website: www.cteh.com

Center for Toxicology and Environmental Health L.L.C.

SAMPLE CHAIN OF CUSTODY AND ANALYSIS REQUEST FORM

	Send Report To:	Send Invoice To:
Name	cconnolly@cteh.com;mberg@cteh.co	
Company	CTEH	CTEH
Address	5120 North Shore Drive North Little Rock, AR 72118	5120 North Shore Drive North Little Rock, AR 72118
Phone	(501)801-8500	(501)801-8500
Fax	(501)801-8501	(501)801-8501
e-mail	labresults@cteh.com	

CTEH Project #: 107907

Turnaround Requested:
Same Day __Next Day (24 hour) ___ Normal
X Other (Specify) 2 Day

Complete Data Packet Requested X Yes ☐No

Lab Contact Information:
Galson Laboratories
6601 Kirkville Road
E. Syracuse, NY 13057

Client Sample Identification	Other Sample Identification	Sample Size	Units (Check one) ✓ L / cm²	Sample Date	Sample Time (for non-air samples)	Initials	NIOSH 5506 PNAH	Matrix (A = air, B = bulk, S = soil, SW = wipe, T = tape, W = water)
HOTX0302PNAH001	AS12	972.3	L	03/02/16		JA	X	A
HOTX0302PNAH002	AS16	961.8	L	03/02/16		JA	X	A
HOTX0302PNAH003	AS07	960.8	L	03/02/16		JA	X	A
HOTX0302PNAH004	BL	0	L	03/02/16		JA	X	A

Extension requested 03/04/16 SK 3/4/16

Samples Received in Light Sensitve Material: (Yes) or No

Not used Peter

775787729420
Date:03/04/16
Shipper:FEDEX
Initials:SK
Prep:UNKNOWN

RELINQUISHED BY	DATE/TIME	RECEIVED BY	DATE/TIME	COMMENTS
Justin Langley	3/3/16 16:00	Fed Ex		Rec'd intact & all accounted for? (Yes) or No SK
		M. Krause	3/4/16 0739	Rec'd w/custody seals intact? Yes or No NA
				Rec'd in light sensitive packaging? (Yes) or No SK
				Rec'd with ice pack? (Yes) or No SK
				Rec'd temperature compliant? (Yes) or No SK

Data Verification Report (Level 2)

Project: 107907 - Houston Wood Preserving Works Site

Client: CTEH

Report #: L368884 Date: March 9, 2016

Environmental Data Professional, LLC
1432 Watkins St.• Lake Charles, LA 70601 • phone: 337-540-0036 • fax: 337-478-6061

Disclaimer:

The review performed and reported herein is based on specifications and procedures presented to eDATApro with the associated data package. Any qualifications or review not specified with package requirements was based on USEPA National Functional Guidelines for Inorganic and Organic Data Review.

Information contained in this report is based solely on the hardcopy and/or electronic deliverables that were submitted to eDATApro. eDATApro reserves the rights to modify or change the report if new information is presented or if this report is determined to be inaccurate or incomplete.

The following parameters were reviewed during the verification process:

Chain-of-Custody (COC): Completeness and sample custody

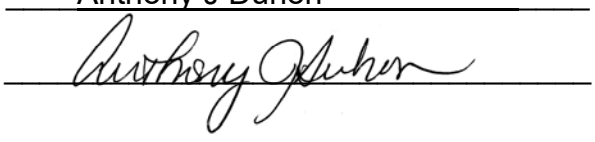
Holding time: Compare collection date versus preparation and/or analysis date

Blank Contamination: Laboratory and field blanks

Matrix/Precision/Recovery: Surrogates, Internal Standards, Duplicates, Blank spike and blank spike duplicate samples (when applicable)

Standards: Detection limit standard and continuing calibration verification (when applicable)

Reviewed by: Anthony J Duhon

Signature: 

INTRODUCTION:

Project Name: 107907 - Houston Wood Preserving Works Site
Laboratory: Galson Laboratories
Laboratory Package No.: L368884
Matrix: Air

Environmental Data Professional, LLC (eDATApro) received one electronic Level II data package containing the results for three field samples and one field blank. Level II verification was performed on the data utilizing *USEPA National Functional Guidelines for Organic Data Review* and the analytical method.

The following samples were reviewed:

Sample ID	Lab ID	Collection Date	Analyses
HOTX0303PNAH001	L368884-1	03/03/2016	[1]
HOTX0303PNAH002	L368884-2	03/03/2016	[1]
HOTX0303PNAH003	L368884-3	03/03/2016	[1]
HOTX0303PNAH004	L368884-4	03/03/2016	[1]

Analyses Performed Codes:

[1] Semivolatile Organics; PAHs (mod. NIOSH 5506; HPLC/UV)

DATA REVIEW FINDINGS SUMMARY

I. General Package:

The data package was complete and no resubmissions were requested.

II. Semivolatile Organics; PAHs – mod. NIOSH 5506; HPLC/UV:

The laboratory reported the results in both ug and mg/m^3.

The measurement of Naphthalene in the back filter of sample HOTX0303PNAH001 indicated probable breakthrough from the front filter. The reported mass and concentration values may be biased low; therefore, were qualified as estimate (J).

Fluoranthene and Benzo(b)fluoranthene were present in method blank sample WG340892-2. These analytes were not detected in the associated field samples. No data qualifications were necessary.

Comparisons between measurements of Benzo(k)fluoranthene, Benzo(a)pyrene and Benzo(g,h,i)perylene in the blank spike/duplicate (BS/BSD) analyses exceeded upper acceptance criteria. These analytes were not detected in the field samples. No data qualifications were necessary.

All other quality assurance and quality control (QA/QC) components presented by the laboratory satisfied method and data review acceptance criteria.

Appendix I
Form 1 Data (Qualified)

Form 1 Data Sheet - Semivolatiles

CTEH

Houston Wood Preserving Works Site

SDG: L368884

COC Sample ID: **HOTX0303PNAH001** | Sample Matrix : **Air** | Total/Dissolved: **T**

Location ID: **NA** | Sample Date: **03/03/2016** | Lab: **GALSON**

Lab Sample ID: **L368884-1** | Analysis Date: **03/08/2016 12:28**

Sample Type: **Site Sample**

Method: **mod. NIOSH 5506; HPLC/UV**

CAS	Parameter Name	DF	RL	Lab Result	Lab Qualifier	Verified Result	Verified Qualifier	Units	
5522-43-0	1-NITROPYRENE	1	0.4	0.4	U	0.4	U	UG	
5522-43-0	1-NITROPYRENE	1	0.0004	0.0004	U	0.0004	U	MG/M3	
83-32-9	ACENAPHTHENE	1	0.3	0.9		0.9		UG	
83-32-9	ACENAPHTHENE	1	0.0003	0.0009		0.0009		MG/M3	
208-96-8	ACENAPHTHYLENE	1	0.3	0.3	U	0.3	U	UG	
208-96-8	ACENAPHTHYLENE	1	0.0003	0.0003	U	0.0003	U	MG/M3	
120-12-7	ANTHRACENE	1	0.4	0.4	U	0.4	U	UG	
120-12-7	ANTHRACENE	1	0.0004	0.0004	U	0.0004	U	MG/M3	
56-55-3	BENZO(A)ANTHRACENE	1	0.4	0.4	U	0.4	U	UG	
56-55-3	BENZO(A)ANTHRACENE	1	0.0004	0.0004	U	0.0004	U	MG/M3	
50-32-8	BENZO(A)PYRENE	1	0.5	0.5	U	0.5	U	UG	
50-32-8	BENZO(A)PYRENE	1	0.0005	0.0005	U	0.0005	U	MG/M3	
205-99-2	BENZO(B)FLUORANTHENE	1	0.4	0.4	U	0.4	U	UG	
205-99-2	BENZO(B)FLUORANTHENE	1	0.0004	0.0004	U	0.0004	U	MG/M3	
192-97-2	BENZO(E)PYRENE	1	0.4	0.4	U	0.4	U	UG	
192-97-2	BENZO(E)PYRENE	1	0.0005	0.0005	U	0.0005	U	MG/M3	
191-24-2	BENZO(G,H,I)PERYLENE	1	0.5	0.5	U	0.5	U	UG	
191-24-2	BENZO(G,H,I)PERYLENE	1	0.0005	0.0005	U	0.0005	U	MG/M3	
207-08-9	BENZO(K)FLUORANTHENE	1	0.4	0.4	U	0.4	U	UG	
207-08-9	BENZO(K)FLUORANTHENE	1	0.0004	0.0004	U	0.0004	U	MG/M3	
218-01-9	CHRYSENE	1	0.4	0.4	U	0.4	U	UG	
218-01-9	CHRYSENE	1	0.0004	0.0004	U	0.0004	U	MG/M3	
53-70-3	DIBENZ(A,H)ANTHRACENE	1	0.4	0.4	U	0.4	U	UG	
53-70-3	DIBENZ(A,H)ANTHRACENE	1	0.0004	0.0004	U	0.0004	U	MG/M3	
206-44-0	FLUORANTHENE	1	0.4	0.4	U	0.4	U	UG	
206-44-0	FLUORANTHENE	1	0.0004	0.0004	U	0.0004	U	MG/M3	
86-73-7	FLUORENE	1	0.3	0.3	U	0.3	U	UG	
86-73-7	FLUORENE	1	0.0003	0.0003	U	0.0003	U	MG/M3	
193-39-5	INDENO-1,2,3-CD-PYRENE	1	0.5	0.5	U	0.5	U	UG	
193-39-5	INDENO-1,2,3-CD-PYRENE	1	0.0005	0.0005	U	0.0005	U	MG/M3	
91-20-3	NAPHTHALENE	1	0.3	11	*	11	J	UG	*
91-20-3	NAPHTHALENE	1	0.0003	0.012	*	0.012	J	MG/M3	*
85-01-8	PHENANTHRENE	1	0.3	0.3	U	0.3	U	UG	
85-01-8	PHENANTHRENE	1	0.0004	0.0004	U	0.0004	U	MG/M3	
129-00-0	PYRENE	1	0.4	0.4	U	0.4	U	UG	
129-00-0	PYRENE	1	0.0004	0.0004	U	0.0004	U	MG/M3	

DF = Dilution Factor RL = Reporting Limit

* = Modified by Validation

U = Non-Detect J = Estimated R = Rejected

eDATApro ENVIRONMENTAL DATA PROFESSIONAL, LLC

Form 1 Data Sheet - Semivolatiles

CTEH

Houston Wood Preserving Works Site

SDG: L368884

COC Sample ID: **HOTX0303PNAH002** Sample Matrix : **Air** Total/Dissolved: **T**

Location ID: **NA** Sample Date: **03/03/2016** Lab: **GALSON**

Lab Sample ID: **L368884-2** Analysis Date: **03/08/2016 1:28**

Sample Type: **Site Sample**

Method: **mod. NIOSH 5506; HPLC/UV**

CAS	Parameter Name	DF	RL	Lab Result	Lab Qualifier	Verified Result	Verified Qualifier	Units
5522-43-0	1-NITROPYRENE	1	0.4	0.4	U	0.4	U	UG
5522-43-0	1-NITROPYRENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
83-32-9	ACENAPHTHENE	1	0.3	0.3	U	0.3	U	UG
83-32-9	ACENAPHTHENE	1	0.0003	0.0003	U	0.0003	U	MG/M3
208-96-8	ACENAPHTHYLENE	1	0.3	0.3	U	0.3	U	UG
208-96-8	ACENAPHTHYLENE	1	0.0003	0.0003	U	0.0003	U	MG/M3
120-12-7	ANTHRACENE	1	0.4	0.4	U	0.4	U	UG
120-12-7	ANTHRACENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
56-55-3	BENZO(A)ANTHRACENE	1	0.4	0.4	U	0.4	U	UG
56-55-3	BENZO(A)ANTHRACENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
50-32-8	BENZO(A)PYRENE	1	0.5	0.5	U	0.5	U	UG
50-32-8	BENZO(A)PYRENE	1	0.0005	0.0005	U	0.0005	U	MG/M3
205-99-2	BENZO(B)FLUORANTHENE	1	0.4	0.4	U	0.4	U	UG
205-99-2	BENZO(B)FLUORANTHENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
192-97-2	BENZO(E)PYRENE	1	0.4	0.4	U	0.4	U	UG
192-97-2	BENZO(E)PYRENE	1	0.0005	0.0005	U	0.0005	U	MG/M3
191-24-2	BENZO(G,H,I)PERYLENE	1	0.5	0.5	U	0.5	U	UG
191-24-2	BENZO(G,H,I)PERYLENE	1	0.0005	0.0005	U	0.0005	U	MG/M3
207-08-9	BENZO(K)FLUORANTHENE	1	0.4	0.4	U	0.4	U	UG
207-08-9	BENZO(K)FLUORANTHENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
218-01-9	CHRYSENE	1	0.4	0.4	U	0.4	U	UG
218-01-9	CHRYSENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
53-70-3	DIBENZ(A,H)ANTHRACENE	1	0.4	0.4	U	0.4	U	UG
53-70-3	DIBENZ(A,H)ANTHRACENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
206-44-0	FLUORANTHENE	1	0.4	0.4	U	0.4	U	UG
206-44-0	FLUORANTHENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
86-73-7	FLUORENE	1	0.3	0.3	U	0.3	U	UG
86-73-7	FLUORENE	1	0.0003	0.0003	U	0.0003	U	MG/M3
193-39-5	INDENO-1,2,3-CD-PYRENE	1	0.5	0.5	U	0.5	U	UG
193-39-5	INDENO-1,2,3-CD-PYRENE	1	0.0005	0.0005	U	0.0005	U	MG/M3
91-20-3	NAPHTHALENE	1	0.3	0.3	U	0.3	U	UG
91-20-3	NAPHTHALENE	1	0.0003	0.0003	U	0.0003	U	MG/M3
85-01-8	PHENANTHRENE	1	0.3	0.3	U	0.3	U	UG
85-01-8	PHENANTHRENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
129-00-0	PYRENE	1	0.4	0.4	U	0.4	U	UG
129-00-0	PYRENE	1	0.0004	0.0004	U	0.0004	U	MG/M3

DF = Dilution Factor RL = Reporting Limit

* = Modified by Validation

U = Non-Detect J = Estimated R = Rejected

eDATApro ENVIRONMENTAL DATA PROFESSIONAL, LLC

Form 1 Data Sheet - Semivolatiles

CTEH

Houston Wood Preserving Works Site

SDG: L368884

COC Sample ID: **HOTX0303PNAH003** | Sample Matrix : **Air** | Total/Dissolved: **T**

Location ID: **NA** | Sample Date: **03/03/2016** | Lab: **GALSON**

Lab Sample ID: **L368884-3** | Analysis Date: **03/08/2016 12:03**

Sample Type: **Site Sample**

Method: **mod. NIOSH 5506; HPLC/UV**

CAS	Parameter Name	DF	RL	Lab Result	Lab Qualifier	Verified Result	Verified Qualifier	Units
5522-43-0	1-NITROPYRENE	1	0.4	0.4	U	0.4	U	UG
5522-43-0	1-NITROPYRENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
83-32-9	ACENAPHTHENE	1	0.3	0.3	U	0.3	U	UG
83-32-9	ACENAPHTHENE	1	0.0003	0.0003	U	0.0003	U	MG/M3
208-96-8	ACENAPHTHYLENE	1	0.3	0.3	U	0.3	U	UG
208-96-8	ACENAPHTHYLENE	1	0.0003	0.0003	U	0.0003	U	MG/M3
120-12-7	ANTHRACENE	1	0.4	0.4	U	0.4	U	UG
120-12-7	ANTHRACENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
56-55-3	BENZO(A)ANTHRACENE	1	0.4	0.4	U	0.4	U	UG
56-55-3	BENZO(A)ANTHRACENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
50-32-8	BENZO(A)PYRENE	1	0.5	0.5	U	0.5	U	UG
50-32-8	BENZO(A)PYRENE	1	0.0005	0.0005	U	0.0005	U	MG/M3
205-99-2	BENZO(B)FLUORANTHENE	1	0.4	0.4	U	0.4	U	UG
205-99-2	BENZO(B)FLUORANTHENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
192-97-2	BENZO(E)PYRENE	1	0.4	0.4	U	0.4	U	UG
192-97-2	BENZO(E)PYRENE	1	0.0005	0.0005	U	0.0005	U	MG/M3
191-24-2	BENZO(G,H,I)PERYLENE	1	0.5	0.5	U	0.5	U	UG
191-24-2	BENZO(G,H,I)PERYLENE	1	0.0005	0.0005	U	0.0005	U	MG/M3
207-08-9	BENZO(K)FLUORANTHENE	1	0.4	0.4	U	0.4	U	UG
207-08-9	BENZO(K)FLUORANTHENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
218-01-9	CHRYSENE	1	0.4	0.4	U	0.4	U	UG
218-01-9	CHRYSENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
53-70-3	DIBENZ(A,H)ANTHRACENE	1	0.4	0.4	U	0.4	U	UG
53-70-3	DIBENZ(A,H)ANTHRACENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
206-44-0	FLUORANTHENE	1	0.4	0.4	U	0.4	U	UG
206-44-0	FLUORANTHENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
86-73-7	FLUORENE	1	0.3	0.3	U	0.3	U	UG
86-73-7	FLUORENE	1	0.0003	0.0003	U	0.0003	U	MG/M3
193-39-5	INDENO-1,2,3-CD-PYRENE	1	0.5	0.5	U	0.5	U	UG
193-39-5	INDENO-1,2,3-CD-PYRENE	1	0.0005	0.0005	U	0.0005	U	MG/M3
91-20-3	NAPHTHALENE	1	0.3	0.3	U	0.3	U	UG
91-20-3	NAPHTHALENE	1	0.0003	0.0003	U	0.0003	U	MG/M3
85-01-8	PHENANTHRENE	1	0.3	0.3	U	0.3	U	UG
85-01-8	PHENANTHRENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
129-00-0	PYRENE	1	0.4	0.4	U	0.4	U	UG
129-00-0	PYRENE	1	0.0004	0.0004	U	0.0004	U	MG/M3

DF = Dilution Factor RL = Reporting Limit

* = Modified by Validation

U = Non-Detect J = Estimated R = Rejected

Form 1 Data Sheet - Semivolatiles

CTEH

Houston Wood Preserving Works Site

SDG: L368884

COC Sample ID: **HOTX0303PNAH004** Sample Matrix : **Air** Total/Dissolved: **T**

Location ID: **NA** Sample Date: **03/03/2016** Lab: **GALSON**

Lab Sample ID: **L368884-4** Analysis Date: **03/08/2016 3:28**

Sample Type: **Field Blank**

Method: **mod. NIOSH 5506; HPLC/UV**

CAS	Parameter Name	DF	RL	Lab Result	Lab Qualifier	Verified Result	Verified Qualifier	Units
5522-43-0	1-NITROPYRENE	1	0.4	0.4	U	0.4	U	UG
83-32-9	ACENAPHTHENE	1	0.3	0.3	U	0.3	U	UG
208-96-8	ACENAPHTHYLENE	1	0.3	0.3	U	0.3	U	UG
120-12-7	ANTHRACENE	1	0.4	0.4	U	0.4	U	UG
56-55-3	BENZO(A)ANTHRACENE	1	0.4	0.4	U	0.4	U	UG
50-32-8	BENZO(A)PYRENE	1	0.5	0.5	U	0.5	U	UG
205-99-2	BENZO(B)FLUORANTHENE	1	0.4	0.4	U	0.4	U	UG
192-97-2	BENZO(E)PYRENE	1	0.4	0.4	U	0.4	U	UG
191-24-2	BENZO(G,H,I)PERYLENE	1	0.5	0.5	U	0.5	U	UG
207-08-9	BENZO(K)FLUORANTHENE	1	0.4	0.4	U	0.4	U	UG
218-01-9	CHRYSENE	1	0.4	0.4	U	0.4	U	UG
53-70-3	DIBENZ(A,H)ANTHRACENE	1	0.4	0.4	U	0.4	U	UG
206-44-0	FLUORANTHENE	1	0.4	0.4	U	0.4	U	UG
86-73-7	FLUORENE	1	0.3	0.3	U	0.3	U	UG
193-39-5	INDENO-1,2,3-CD-PYRENE	1	0.5	0.5	U	0.5	U	UG
91-20-3	NAPHTHALENE	1	0.3	0.3	U	0.3	U	UG
85-01-8	PHENANTHRENE	1	0.3	0.3	U	0.3	U	UG
129-00-0	PYRENE	1	0.4	0.4	U	0.4	U	UG

DF = Dilution Factor RL = Reporting Limit

* = Modified by Validation

U = Non-Detect J = Estimated R = Rejected

eDATApro
ENVIRONMENTAL DATA PROFESSIONAL, LLC

Appendix II
Chain of Custody

L368884

5120 North Shore Drive
North Little Rock, AR 72118
Phone: (501) 801-8500
Fax: (501) 801-8501
Website: www.cteh.com

Center for Toxicology and Environmental Health L.L.C.

SAMPLE CHAIN OF CUSTODY AND ANALYSIS REQUEST FORM

	Send Report To:	Send Invoice To:
Name	cconnolly@cteh.com;mberg@cteh.co	
Company	CTEH	CTEH
Address	5120 North Shore Drive North Little Rock, AR 72118	5120 North Shore Drive North Little Rock, AR 72118
Phone	(501)801-8500	(501)801-8500
Fax	(501)801-8501	(501)801-8501
e-mail	labresults@cteh.com	

CTEH Project #: 107907

Turnaround Requested:
Same Day __Next Day (24 hour) ___ Normal
_X_Other (Specify) 2 Day

Complete Data Packet Requested X Yes ☐No

Lab Contact Information:
Galson Laboratories
6601 Kirkville Road
E. Syracuse, NY 13057

775799537139
Date:03/05/16
Shipper:FEDEX
Initials:GMB
Prep:UNKNOWN

Client Sample Identification	Other Sample Identification	Sample Size	Units (Check one) ____L ___cm² ____	Sample Date	Sample Time (for non-air samples)	Initials	NIOSH 5506 PNAH	Matrix
HOTX0303PNAH001	AS17	961.1	L	03/03/16		PW	X	A
HOTX0303PNAH002	AS12	966.9	L	03/03/16		PW	X	A
HOTX0303PNAH003	AS07	963.9	L	03/03/16		PW	X	A
HOTX0303PNAH004	BL	0	L	03/03/16		PW	X	A

Samples Received in Light Sensitive Material: Yes or No

Rec'd intact & all accounted for? Yes or No
Rec'd w/custody seals intact? Yes or No
Rec'd in light sensitive packaging? Yes or No
Rec'd with ice pack? Yes or No
Rec'd temperature compliant? Yes or No

Not Used

RELINQUISHED BY	DATE/TIME	RECEIVED BY	DATE/TIME	COMMENTS
Justin Langley	03/03/16 16:00	Fed Ex		
		Gretchen BBS	3/5/16 920	

Data Verification Report (Level 2)

Project: 107907 - Houston Wood Preserving Works Site

Client: CTEH

Report #: 022616R1 Date: March 14, 2016

Environmental Data Professional, LLC
1432 Watkins St.• Lake Charles, LA 70601 • phone: 337-540-0036 • fax: 337-478-6061

Disclaimer:

The review performed and reported herein is based on specifications and procedures presented to eDATApro with the associated data package. Any qualifications or review not specified with package requirements was based on USEPA National Functional Guidelines for Inorganic and Organic Data Review.

Information contained in this report is based solely on the hardcopy and/or electronic deliverables that were submitted to eDATApro. eDATApro reserves the rights to modify or change the report if new information is presented or if this report is determined to be inaccurate or incomplete.

The following parameters were reviewed during the verification process:

Chain-of-Custody (COC): Completeness and sample custody

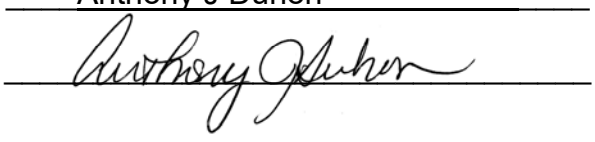
Holding time: Compare collection date versus preparation and/or analysis date

Blank Contamination: Laboratory and field blanks

Matrix/Precision/Recovery: Surrogates, Internal Standards, Duplicates, Blank spike and blank spike duplicate samples (when applicable)

Standards: Detection limit standard and continuing calibration verification (when applicable)

Reviewed by: Anthony J Duhon

Signature: 

INTRODUCTION:

Project Name: 107907 - Houston Wood Preserving Works Site
Laboratory: Inter-Mountain Laboratories
Laboratory Package No.: 022616R1
Matrix: Air

Environmental Data Professional, LLC (eDATApro) received one electronic Level II data package containing the results for three field samples and one field blank. Level II verification was performed on the data utilizing *USEPA National Functional Guidelines for Inorganic Data Review* and requirements from the project specific Sampling and Analysis Plan (SAP), the laboratory standard operating procedure (SOP) and the analytical method.

The following samples were reviewed:

Sample ID	Lab ID	Collection Date	Analyses
HOTX0226PM001	P2928758	02/26/2016	[1]
HOTX0226PM002	P2928759	02/26/2016	[1]
HOTX0226PM003	P2928760	02/26/2016	[1]
HOTX0226PM004	P2928764	02/26/2016	[1]

Analyses Performed Codes:

[1] Particulate Matter; PM_{10} (*EPA 40 CFR 50 Appendix O; Reference Method for the Determination of Coarse Particulate Matter $PM_{10-2.5}$ in the Atmosphere*) - modified

DATA REVIEW FINDINGS SUMMARY

I. General Package:

The chain of custody (COC) was not signed and dated as relinquished to the laboratory.

II. Particulate Matter; PM_{10} (modified) – EPA 40 CFR 50 Appendix O:

The laboratory reported the results in both mg and ug/m^3 units.

Samples were not received chilled per method temperature preservation requirements. Results for samples from this SDG were qualified as estimate (J).

The laboratory noted for samples HOTX0226PM001, HOTX0226PM002 and HOTX0226PM003; “Elapsed sample period differed by more than ±1 hour of programmed period.” and “Sample was not collected from midnight to midnight.” These comments were not applicable based on the details of the project SAP. No data qualifiers were necessary.

Field blank sample HOTX0226PM004 had a measurable mass difference; however, it was below the maximum allowed. The reporting limit was calculated from the maximum allowable mass difference of the field blank. The field sample data were not affected.

All other quality assurance and quality control (QA/QC) components presented by the laboratory satisfied method and data review acceptance criteria.

Appendix I
Form 1 Data (Qualified)

Form 1 Data Sheet - Conventionals

CTEH

Houston Wood Preserving Works Site

SDG: 022616R1

COC Sample ID: **HOTX0226PM001** Sample Matrix : **Air**

Location ID: **NA**

Lab Sample ID: **P2928758** Lab Code: **IML**

Sample Type: **Site Sample**

Parameter Name	Collection Date	Analysis Date	DF	RL	Lab Result	Lab Qualifier	Verified Result	Verified Qualifier	Units	
Method: EPA 40 CFR 50 Appendix O										
PARTICULATE MATTER/PM10	02/26/2016	03/01/2016 10:43	1	2	22.3		22.3	J	ug/m3	*
PARTICULATE MATTER/PM10	02/26/2016	03/01/2016 10:43	1		0.22		0.22	J	mg	*

DF = Dilution Factor RL = Reporting Limit

* = Modified by Validation

U = Non-Detect J = Estimated R = Rejected

eDATApro

Form 1 Data Sheet - Conventionals

CTEH

Houston Wood Preserving Works Site

SDG: 022616R1

COC Sample ID: **HOTX0226PM002** Sample Matrix : **Air**

Location ID: **NA**

Lab Sample ID: **P2928759** Lab Code: **IML**

Sample Type: **Site Sample**

Parameter Name	Collection Date	Analysis Date	DF	RL	Lab Result	Lab Qualifier	Verified Result	Verified Qualifier	Units	
Method: EPA 40 CFR 50 Appendix O										
PARTICULATE MATTER/PM10	02/26/2016	03/01/2016 10:43	1	2	51		51	J	ug/m3	*
PARTICULATE MATTER/PM10	02/26/2016	03/01/2016 10:43	1		0.26		0.26	J	mg	*

DF = Dilution Factor RL = Reporting Limit

* = Modified by Validation

U = Non-Detect J = Estimated R = Rejected

eDATApro

Form 1 Data Sheet - Conventionals

CTEH

Houston Wood Preserving Works Site

SDG: 022616R1

COC Sample ID: **HOTX0226PM003** Sample Matrix : **Air**

Location ID: **NA**

Lab Sample ID: **P2928760** Lab Code: **IML**

Sample Type: **Site Sample**

Parameter Name	Collection Date	Analysis Date	DF	RL	Lab Result	Lab Qualifier	Verified Result	Verified Qualifier	Units	
Method: EPA 40 CFR 50 Appendix O										
PARTICULATE MATTER/PM10	02/26/2016	03/01/2016 10:44	1	2	50.1		50.1	J	ug/m3	*
PARTICULATE MATTER/PM10	02/26/2016	03/01/2016 10:44	1		0.472		0.472	J	mg	*

DF = Dilution Factor RL = Reporting Limit

* = Modified by Validation

U = Non-Detect J = Estimated R = Rejected

eDATApro

Form 1 Data Sheet - Conventionals

CTEH

Houston Wood Preserving Works Site

SDG: 022616R1

COC Sample ID: **HOTX0226PM004** Sample Matrix : **Air**

Location ID: **NA**

Lab Sample ID: **P2928764** Lab Code: **IML**

Sample Type: **Field Blank**

Parameter Name	Collection Date	Analysis Date	DF	RL	Lab Result	Lab Qualifier	Verified Result	Verified Qualifier	Units	
Method: EPA 40 CFR 50 Appendix O										
PARTICULATE MATTER/PM10	02/26/2016	03/01/2016 10:44	1		0.005		0.005	J	mg	*

DF = Dilution Factor RL = Reporting Limit

* = Modified by Validation

U = Non-Detect J = Estimated R = Rejected

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Appendix II
Chain of Custody

Inter-Mountain Labs

Sheridan, WY and Gillette, WY

- CHAIN OF CUSTODY RECORD -

Page 1 of 1

All shaded fields must be completed.
This is a legal document: any misrepresentation may be construed as fraud.

166168

Client Name	Project Identification	Sampler (Signature/Attestation of Authenticity)	Telephone #
UPRR	107907	Debbi Apple	832 808 0102

Report Address	Contact Name	Email	Phone
5120 North Shore Drive North Little Rock AR 72118	Mike Berg ; Charles Connolly	mberg@cteh.com ; CConnolly@cteh.com	

Invoice Address: Accounts Payable: See above

Purchase Order #:

Quote #:

ITEM	LAB ID (Lab Use Only)	DATE SAMPLED	TIME SAMPLED	SAMPLE IDENTIFICATION	Matrix	# of Containers	ANALYSES / PARAMETERS: PM10	REMARKS
1	P2928758	2/26/16		70 HOTX 0226 PM001	FT	1	X	
2	P2928759	2/26/16		71 HOTX 0226 PM002	FT	1	X	
3	P2928760	2/26/16		72 HOTX 0226 PM003	FT	1	X	
4	P2928764	2/26/16		76 HOTX 0226 PM004	FT	1	X	
5								
6								
7								
8								
9								
10								
11								
12								
13								
14								

LAB COMMENTS	Relinquished By (Signature/Printed)	DATE	TIME	Received By (Signature/Printed)	DATE	TIME
4				Lynn Kilpatrick/IML	2/29/16	1025
					recd in box	

SHIPPING INFO
- ☐ UPS
- ☒ Fed Express
- ☐ US Mail
- ☐ Hand Carried
- ☐ Other _____

MATRIX CODES

Water	WT
Soil	SL
Solid	SD
Filter	FT
Other	OT

TURNAROUND TIMES

Check desired service
- ☒ Standard turnaround
- ☐ **RUSH - 5 Working Days**
- ☐ **URGENT** - < 2 Working Days

Rush & Urgent Surcharges will be applied

COMPLIANCE INFORMATION
- Compliance Monitoring? Y / (N)
- Program (SDWA, NPDES,...) —
- PWSID / Permit #
- Chlorinated? Y / (N)
- Sample Disposal: Lab ✓ Client

ADDITIONAL REMARKS

Inter-Mountain Laboratories, Inc., 555 Absaraka St, Sheridan, WY 82801 phone: (307) 674-7506

Air Science Division

Condition Upon Receipt (Attach to Chain of Custody)

Sample Receipt

Client and location: CTEH - Houston

Date Received: 2/29/16 Time Received: 1025

Sample(s) Received By: LK Chain Of Custody Number: 166168

IR Temperature Gun SN: 111720654 Number of Samples Received: 4

Check one:

Infrared Temperature Gun: _____ Min/Max Thermometer: _____

Sample Conditions

1.	Custody seals intact	☐ Yes	☑ No	Comment: NA
2.	Sample arrival temperature between 0°C and 4°C Temperature: _____°C	☑ Yes	☐ No	Comment: Recd in a box - use ambient temp.
3.	Contents match Chain of Custody (sample ID's, number of samples, etc.)	☑ Yes	☐ No	Comment:
4.	Chain of custody properly completed (legible, complete, signed)	☐ Yes	☑ No	Comment: No relinquished signature date/time
5.	Sample(s) received intact (no tears, moisture, contamination, etc.)	☑ Yes	☐ No	Comment:
6.	Sample(s) in correct anti-static bag (cassette number, bag label and filter ID all must match)	☑ Yes	☐ No	Comment:
7.	Rush or turn around time checked and accepted	☑ Yes	☐ No	Comment:
8.	All requested analyses understood and appropriate	☑ Yes	☐ No	Comment:
9.	Sample(s) exposed before the tare expiration date	☑ Yes	☐ No	Comment:

Discrepancy Documentation ***(attach additional sheets if necessary)***

Any items listed above with a response of "No" must be resolved.

Person Contacted: _____ Telephone Number: _____

Initiated By: _____ Date/Time: _____

Problem:

Resolution:

Data Verification Report (Level 2)

Project: 107907 - Houston Wood Preserving Works Site

Client: CTEH

Report #: 022716R1 Date: March 14, 2016

Environmental Data Professional, LLC
1432 Watkins St.• Lake Charles, LA 70601 • phone: 337-540-0036 • fax: 337-478-6061

Disclaimer:

The review performed and reported herein is based on specifications and procedures presented to eDATApro with the associated data package. Any qualifications or review not specified with package requirements was based on USEPA National Functional Guidelines for Inorganic and Organic Data Review.

Information contained in this report is based solely on the hardcopy and/or electronic deliverables that were submitted to eDATApro. eDATApro reserves the rights to modify or change the report if new information is presented or if this report is determined to be inaccurate or incomplete.

The following parameters were reviewed during the verification process:

Chain-of-Custody (COC): Completeness and sample custody

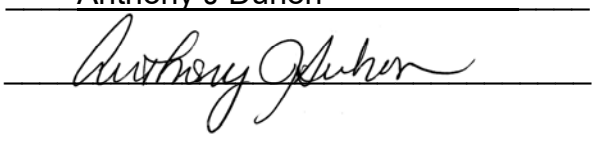
Holding time: Compare collection date versus preparation and/or analysis date

Blank Contamination: Laboratory and field blanks

Matrix/Precision/Recovery: Surrogates, Internal Standards, Duplicates, Blank spike and blank spike duplicate samples (when applicable)

Standards: Detection limit standard and continuing calibration verification (when applicable)

Reviewed by: Anthony J Duhon

Signature: 

INTRODUCTION:

Project Name: 107907 - Houston Wood Preserving Works Site
Laboratory: Inter-Mountain Laboratories
Laboratory Package No.: 022716R1
Matrix: Air

Environmental Data Professional, LLC (eDATApro) received one electronic Level II data package containing the results for three field samples and one field blank. Level II verification was performed on the data utilizing *USEPA National Functional Guidelines for Inorganic Data Review* and requirements from the project specific Sampling and Analysis Plan (SAP), the laboratory standard operating procedure (SOP) and the analytical method.

The following samples were reviewed:

Sample ID	Lab ID	Collection Date	Analyses
HOTX0227PM001	P2928761	02/27/2016	[1]
HOTX0227PM002	P2928762	02/27/2016	[1]
HOTX0227PM003	P2928763	02/27/2016	[1]
HOTX0227PM004	P2928765	02/27/2016	[1]

Analyses Performed Codes:

[1] Particulate Matter; PM_{10} (*EPA 40 CFR 50 Appendix O; Reference Method for the Determination of Coarse Particulate Matter $PM_{10-2.5}$ in the Atmosphere*) - modified

DATA REVIEW FINDINGS SUMMARY

I. General Package:

The laboratory noted at time of receipt; “No sample ID’s used”. Comments regarding resolution of this statement were not recorded.

II. Particulate Matter; PM_{10} (modified) – EPA 40 CFR 50 Appendix O:

The laboratory reported the results in both mg and ug/m^3 units.

The laboratory noted for samples HOTX0227PM001, HOTX0227PM002 and HOTX0227PM003; “Elapsed sample period differed by more than ±1 hour of programmed period.” and “Sample was not collected from midnight to midnight.” These comments were not applicable based on the details of the project SAP. No data qualifiers were necessary.

The laboratory noted for sample HOTX0227PM002; “Power outage of >60 sec. Occurred during sampling” and “Measured temperature of filter exceeded the measured ambient temperature by more than 5°C for more than 30 minutes.” Results for this sample were qualified as estimate (J).

Field blank sample HOTX0227PM004 had a measurable mass difference; however, it was below the maximum allowed. The reporting limit was calculated from the maximum allowable mass difference of the field blank. The field sample data were not affected.

All other quality assurance and quality control (QA/QC) components presented by the laboratory satisfied method and data review acceptance criteria.

Appendix I
Form 1 Data (Qualified)

Form 1 Data Sheet - Conventionals

CTEH

Houston Wood Preserving Works Site

SDG: 022716R1

COC Sample ID: **HOTX0227PM001** Sample Matrix : **Air**

Location ID: **NA**

Lab Sample ID: **P2928761** Lab Code: **IML**

Sample Type: **Site Sample**

Parameter Name	Collection Date	Analysis Date	DF	RL	Lab Result	Lab Qualifier	Verified Result	Verified Qualifier	Units
Method: EPA 40 CFR 50 Appendix O									
PARTICULATE MATTER/PM10	02/27/2016	03/02/2016 11:12	1	2	39.8		39.8		ug/m3
PARTICULATE MATTER/PM10	02/27/2016	03/02/2016 11:12	1		0.389		0.389		mg

DF = Dilution Factor RL = Reporting Limit

* = Modified by Validation

U = Non-Detect J = Estimated R = Rejected

eDATApro

Form 1 Data Sheet - Conventionals

CTEH

Houston Wood Preserving Works Site

SDG: 022716R1

COC Sample ID: **HOTX0227PM002** Sample Matrix : **Air**

Location ID: **NA**

Lab Sample ID: **P2928762** Lab Code: **IML**

Sample Type: **Site Sample**

Parameter Name	Collection Date	Analysis Date	DF	RL	Lab Result	Lab Qualifier	Verified Result	Verified Qualifier	Units	
Method: EPA 40 CFR 50 Appendix O										
PARTICULATE MATTER/PM10	02/27/2016	03/02/2016 11:12	1	2	54.1		54.1	J	ug/m3	*
PARTICULATE MATTER/PM10	02/27/2016	03/02/2016 11:12	1		0.303		0.303	J	mg	*

DF = Dilution Factor RL = Reporting Limit

* = Modified by Validation

U = Non-Detect J = Estimated R = Rejected

eDATApro

Form 1 Data Sheet - Conventionals

CTEH

Houston Wood Preserving Works Site

SDG: 022716R1

COC Sample ID: **HOTX0227PM003** Sample Matrix : **Air**

Location ID: **NA**

Lab Sample ID: **P2928763** Lab Code: **IML**

Sample Type: **Site Sample**

Parameter Name	Collection Date	Analysis Date	DF	RL	Lab Result	Lab Qualifier	Verified Result	Verified Qualifier	Units
Method: EPA 40 CFR 50 Appendix O									
PARTICULATE MATTER/PM10	02/27/2016	03/02/2016 11:12	1	2	29		29		ug/m3
PARTICULATE MATTER/PM10	02/27/2016	03/02/2016 11:12	1		0.272		0.272		mg

DF = Dilution Factor RL = Reporting Limit

* = Modified by Validation

U = Non-Detect J = Estimated R = Rejected

eDATApro

Form 1 Data Sheet - Conventionals

CTEH

Houston Wood Preserving Works Site

SDG: 022716R1

COC Sample ID: **HOTX0227PM004** Sample Matrix : **Air**

Location ID: **NA**

Lab Sample ID: **P2928765** Lab Code: **IML**

Sample Type: **Field Blank**

Parameter Name	Collection Date	Analysis Date	DF	RL	Lab Result	Lab Qualifier	Verified Result	Verified Qualifier	Units
Method: EPA 40 CFR 50 Appendix O									
PARTICULATE MATTER/PM10	02/27/2016	03/02/2016 11:13	1		0.007		0.007		mg

DF = Dilution Factor RL = Reporting Limit

* = Modified by Validation

U = Non-Detect J = Estimated R = Rejected

eDATApro

Appendix II
Chain of Custody

Inter-Mountain Labs

Sheridan, WY and Gillette, WY

- CHAIN OF CUSTODY RECORD -

Page of

All shaded fields must be completed.
This is a legal document: any misrepresentation may be construed as fraud.

166167

Client Name	Project Identification	Sampler (Signature/Attestation of Authenticity)	Telephone #
UPRR	107907		

Report Address	Contact Name	Email	Phone
5120 North Shore Dr. North Little Rock AR 72118	Mike Berg; Charles Connolly	mberg@cteh.com; cconnolly@cteh.com	

Invoice Address: Accounts Recievable Same as above

Purchase Order #:

Quote #:

ITEM	LAB ID (Lab Use Only)	DATE SAMPLED	TIME SAMPLED	SAMPLE IDENTIFICATION	Matrix	# of Containers	PM10								REMARKS
1	P2928761	02/27/16		73 HOTX 0227PM001	FT	1	X								
2	P2928762	02/27/16		74 HOTX 0227PM002	FT	1	X								
3	P2928763	02/27/16		75 HOTX 0227PM003	FT	1	X								
4	P2928765	02/27/16		77 HOTX 0227PM004	FT	1	X								
5															
6															
7															
8															
9															
10															
11															
12															
13															
14															

ANALYSES / PARAMETERS

LAB COMMENTS	Relinquished By (Signature/Printed)	DATE	TIME	Received By (Signature/Printed)	DATE	TIME
(4)	/charles Connolly	2/29/16	1400	FedEx		
				Carol Bredin / IML	3/1/16	9:50
						Corrected to 1°c

SHIPPING INFO	MATRIX CODES		TURNAROUND TIMES	COMPLIANCE INFORMATION	ADDITIONAL REMARKS
☐ UPS	Water	WT	**Check desired service**	Compliance Monitoring? Y / (N)	
☒ Fed Express	Soil	SL	☒ Standard turnaround	Program (SDWA, NPDES,...) —	
☐ US Mail	Solid	SD	☐ **RUSH - 5 Working Days**	PWSID / Permit #	
☐ Hand Carried	Filter	FT	☐ **URGENT** - < 2 Working Days	Chlorinated? Y / (N)	
☐ Other _____	Other	OT	***Rush & Urgent Surcharges will be applied***	Sample Disposal: Lab X Client	

Inter-Mountain Laboratories, Inc., 555 Absaraka St, Sheridan, WY 82801 phone: (307) 674-7506

Air Science Division

Condition Upon Receipt (Attach to Chain of Custody)

Sample Receipt

Client and location: CTEH Houston

Date Received: 3/1/16 Time Received: 9:50

Sample(s) Received By: CB Chain Of Custody Number: 166167

IR Temperature Gun SN: 111720654 Number of Samples Received: 4

Check one:

Infrared Temperature Gun: ✓ Min/Max Thermometer: _____

Came in box with ice & zipped cooler

Sample Conditions

1.	Custody seals intact	0.8°c corrected to 0.8°c	☐ Yes	☑ No	Comment: NA
2.	Sample arrival temperature between 0°C and 4°C	Temperature: 1 °C	☑ Yes	☐ No	Comment: 1 solid ice
3.	Contents match Chain of Custody (sample ID's, number of samples, etc.)		☑ Yes	☐ No	Comment: NO Sample ID's used
4.	Chain of custody properly completed (legible, complete, signed)		☑ Yes	☐ No	Comment: " " " "
5.	Sample(s) received intact (no tears, moisture, contamination, etc.)		☑ Yes	☐ No	Comment:
6.	Sample(s) in correct anti-static bag (cassette number, bag label and filter ID all must match)		☑ Yes	☐ No	Comment:
7.	Rush or turn around time checked and accepted		☑ Yes	☐ No	Comment:
8.	All requested analyses understood and appropriate		☑ Yes	☐ No	Comment:
9.	Sample(s) exposed before the tare expiration date		☑ Yes	☐ No	Comment:

Discrepancy Documentation ***(attach additional sheets if necessary)***

Any items listed above with a response of "No" must be resolved.

Person Contacted: _____ Telephone Number: _____

Initiated By: _____ Date/Time: _____

Problem:

Resolution:

Data Verification Report (Level 2)

Project: 107907 - Houston Wood Preserving Works Site

Client: CTEH

Report #: 030116 Date: March 14, 2016

Environmental Data Professional, LLC
1432 Watkins St.• Lake Charles, LA 70601 • phone: 337-540-0036 • fax: 337-478-6061

Disclaimer:

The review performed and reported herein is based on specifications and procedures presented to eDATApro with the associated data package. Any qualifications or review not specified with package requirements was based on USEPA National Functional Guidelines for Inorganic and Organic Data Review.

Information contained in this report is based solely on the hardcopy and/or electronic deliverables that were submitted to eDATApro. eDATApro reserves the rights to modify or change the report if new information is presented or if this report is determined to be inaccurate or incomplete.

The following parameters were reviewed during the verification process:

Chain-of-Custody (COC): Completeness and sample custody

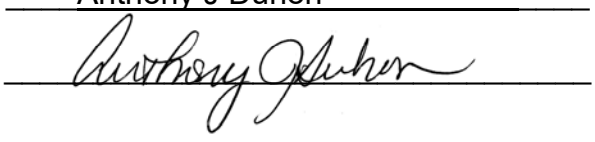
Holding time: Compare collection date versus preparation and/or analysis date

Blank Contamination: Laboratory and field blanks

Matrix/Precision/Recovery: Surrogates, Internal Standards, Duplicates, Blank spike and blank spike duplicate samples (when applicable)

Standards: Detection limit standard and continuing calibration verification (when applicable)

Reviewed by: Anthony J Duhon

Signature: 

INTRODUCTION:

Project Name: 107907 - Houston Wood Preserving Works Site
Laboratory: Inter-Mountain Laboratories
Laboratory Package No.: 030116
Matrix: Air

Environmental Data Professional, LLC (eDATApro) received one electronic Level II data package containing the results for three field samples and one field blank. Level II verification was performed on the data utilizing *USEPA National Functional Guidelines for Inorganic Data Review* and requirements from the project specific Sampling and Analysis Plan (SAP), the laboratory standard operating procedure (SOP) and the analytical method.

The following samples were reviewed:

Sample ID	Lab ID	Collection Date	Analyses
HOTX0301PM001	P2928770	03/01/2016	[1]
HOTX0301PM002	P2928771	03/01/2016	[1]
HOTX0301PM003	P2928772	03/01/2016	[1]
HOTX0301PM004	P2928773	03/01/2016	[1]

Analyses Performed Codes:

[1] Particulate Matter; PM_{10} (*EPA 40 CFR 50 Appendix O; Reference Method for the Determination of Coarse Particulate Matter $PM_{10-2.5}$ in the Atmosphere*) - modified

DATA REVIEW FINDINGS SUMMARY

I. General Package:

The chain of custody (COC) was not signed and dated as relinquished to the laboratory.

The laboratory noted at time of receipt; “No Id numbers”. Comments regarding resolution of this statement were not recorded.

The laboratory commented that sampler data was incorrect or not loaded for sample HOTX0301PM003. The sample information was transcribed from the bag label.

II. Particulate Matter; PM_{10} (modified) – EPA 40 CFR 50 Appendix O:

The laboratory reported the results in both mg and ug/m^3 units.

The laboratory noted for samples HOTX0301PM001, HOTX0301PM002 and HOTX0301PM003; “Elapsed sample period differed by more than ±1 hour of programmed period.” and “Sample was not collected from midnight to midnight.” These comments were not applicable based on the details of the project SAP. No data qualifiers were necessary.

Field blank sample HOTX0301PM004 had a measurable mass difference; however, it was below the maximum allowed. The reporting limit was calculated from the maximum allowable mass difference of the field blank. The field sample data were not affected.

All quality assurance and quality control (QA/QC) components presented by the laboratory satisfied method and data review acceptance criteria. No data qualifications were necessary.

Appendix I
Form 1 Data (Qualified)

Form 1 Data Sheet - Conventionals

CTEH

Houston Wood Preserving Works Site

SDG: 030116

COC Sample ID: **HOTX0301PM001** Sample Matrix : **Air**

Location ID: **NA**

Lab Sample ID: **P2928770** Lab Code: **IML**

Sample Type: **Site Sample**

Parameter Name	Collection Date	Analysis Date	DF	RL	Lab Result	Lab Qualifier	Verified Result	Verified Qualifier	Units
Method: EPA 40 CFR 50 Appendix O									
PARTICULATE MATTER/PM10	03/01/2016	03/04/2016 10:32	1	2	38.9		38.9		ug/m3
PARTICULATE MATTER/PM10	03/01/2016	03/04/2016 10:32	1		0.373		0.373		mg

DF = Dilution Factor RL = Reporting Limit

* = Modified by Validation

U = Non-Detect J = Estimated R = Rejected

eDATApro

Form 1 Data Sheet - Conventionals

CTEH

Houston Wood Preserving Works Site

SDG: 030116

COC Sample ID: **HOTX0301PM002** Sample Matrix : **Air**

Location ID: **NA**

Lab Sample ID: **P2928771** Lab Code: **IML**

Sample Type: **Site Sample**

Parameter Name	Collection Date	Analysis Date	DF	RL	Lab Result	Lab Qualifier	Verified Result	Verified Qualifier	Units
Method: EPA 40 CFR 50 Appendix O									
PARTICULATE MATTER/PM10	03/01/2016	03/04/2016 10:33	1	2	61.8		61.8		ug/m3
PARTICULATE MATTER/PM10	03/01/2016	03/04/2016 10:33	1		0.583		0.583		mg

DF = Dilution Factor RL = Reporting Limit

* = Modified by Validation

U = Non-Detect J = Estimated R = Rejected

eDATApro

Form 1 Data Sheet - Conventionals

CTEH

Houston Wood Preserving Works Site

SDG: 030116

COC Sample ID: **HOTX0301PM003** Sample Matrix : **Air**

Location ID: **NA**

Lab Sample ID: **P2928772** Lab Code: **IML**

Sample Type: **Site Sample**

Parameter Name	Collection Date	Analysis Date	DF	RL	Lab Result	Lab Qualifier	Verified Result	Verified Qualifier	Units
Method: EPA 40 CFR 50 Appendix O									
PARTICULATE MATTER/PM10	03/01/2016	03/04/2016 10:33	1	2	62.7		62.7		ug/m3
PARTICULATE MATTER/PM10	03/01/2016	03/04/2016 10:33	1		0.441		0.441		mg

DF = Dilution Factor RL = Reporting Limit

* = Modified by Validation

U = Non-Detect J = Estimated R = Rejected

eDATApro

Form 1 Data Sheet - Conventionals

CTEH

Houston Wood Preserving Works Site

SDG: 030116

COC Sample ID: **HOTX0301PM004** Sample Matrix : **Air**

Location ID: **NA**

Lab Sample ID: **P2928773** Lab Code: **IML**

Sample Type: **Field Blank**

Parameter Name	Collection Date	Analysis Date	DF	RL	Lab Result	Lab Qualifier	Verified Result	Verified Qualifier	Units
Method: EPA 40 CFR 50 Appendix O									
PARTICULATE MATTER/PM10	03/01/2016	03/04/2016 10:34	1		0.01		0.01		mg

DF = Dilution Factor RL = Reporting Limit

* = Modified by Validation

U = Non-Detect J = Estimated R = Rejected

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Appendix II
Chain of Custody

Inter-Mountain Labs

Sheridan, WY and Gillette, WY

- CHAIN OF CUSTODY RECORD -

Page 1 of 1

All shaded fields must be completed.
This is a legal document: any misrepresentation may be construed as fraud.

166165

Client Name	Project Identification	Sampler (Signature/Attestation of Authenticity)	Telephone #
~~UPRR~~ CTEH	107907	Pen	

Report Address	Contact Name	Email	Phone
5120 Northshore Dr. N. Little Rock, AR 72118	Mike Berg; Charles Connolly	MBerg@cteh.com; cconnolly@cteh.com	

Invoice Address: Same

Purchase Order #:

Quote #:

ITEM	LAB ID (Lab Use Only)	DATE SAMPLED	TIME SAMPLED	SAMPLE IDENTIFICATION	Matrix	# of Containers	ANALYSES / PARAMETERS: PM10	REMARKS
1	P2928772	3/1/16		HOTX030(PM003 - 84	FT	1	X	
2	P2928770	3/1/16		HOTX030(PM001 - 82	FT	1	X	
3	P2928771	3/1/16		HOTX030(PM002 - 83	FT	1	X	
4	P2928773	3/1/16		HOTX030(PM004 - 85	FT	1	X	
5								
6								
7								
8								
9								
10				Not Used				
11								
12								
13								
14								

LAB COMMENTS	Relinquished By (Signature/Printed)	DATE	TIME	Received By (Signature/Printed)	DATE	TIME
(4)				Joyce Burnett - IML	3-3-16	9:35
					Corrected to	10c

SHIPPING INFO	MATRIX CODES		TURNAROUND TIMES	COMPLIANCE INFORMATION	ADDITIONAL REMARKS
❑ UPS	Water	WT	**Check desired service**	Compliance Monitoring? Y / N	
❑ Fed Express	Soil	SL	❑ Standard turnaround	Program (SDWA, NPDES,...)	
❑ US Mail	Solid	SD	❑ **RUSH - 5 Working Days**	PWSID / Permit #	
❑ Hand Carried	Filter	FT	❑ **URGENT** - < 2 Working Days	Chlorinated? Y / N	
❑ Other _____	Other	OT	***Rush & Urgent Surcharges will be applied***	Sample Disposal: Lab / Client	

Inter-Mountain Laboratories, Inc., 555 Absaraka St, Sheridan, WY 82801 phone: (307) 674-7506

Air Science Division

Condition Upon Receipt (Attach to Chain of Custody)

Sample Receipt

Client and location: CTEH - Houston

Date Received: 3-3-16 Time Received: 9:35

Sample(s) Received By: JB Chain Of Custody Number: 166165

IR Temperature Gun SN: 111720654 Number of Samples Received: 4

Check one:

Infrared Temperature Gun: ✓ Min/Max Thermometer: _____

Sample Conditions

1.	Custody seals intact 1.1 Corrected to 1°C	☐ Yes	☑ No	Comment: n/a
2.	Sample arrival temperature between 0°C and 4°C Temperature: 1 °C	☑ Yes	☐ No	Comment: 1 melted 1 Solid
3.	Contents match Chain of Custody (sample ID's, number of samples, etc.)	☐ Yes	☑ No	Comment: no Id numbers
4.	Chain of custody properly completed (legible, complete, signed)	☐ Yes	☑ No	Comment: no Relinquish Signature, date, time
5.	Sample(s) received intact (no tears, moisture, contamination, etc.)	☑ Yes	☐ No	Comment:
6.	Sample(s) in correct anti-static bag (cassette number, bag label and filter ID all must match)	☑ Yes	☐ No	Comment:
7.	Rush or turn around time checked and accepted	☑ Yes	☐ No	Comment:
8.	All requested analyses understood and appropriate	☑ Yes	☐ No	Comment:
9.	Sample(s) exposed before the tare expiration date	☑ Yes	☐ No	Comment:

Discrepancy Documentation ***(attach additional sheets if necessary)***

Any items listed above with a response of "No" must be resolved.

Person Contacted: _____ Telephone Number: _____

Initiated By: _____ Date/Time: _____

Problem:

Resolution:

Data Verification Report (Level 2)

Project: 107907 - Houston Wood Preserving Works Site

Client: CTEH

Report #: 030216 Date: March 14, 2016

Environmental Data Professional, LLC
1432 Watkins St.• Lake Charles, LA 70601 • phone: 337-540-0036 • fax: 337-478-6061

Disclaimer:

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Information contained in this report is based solely on the hardcopy and/or electronic deliverables that were submitted to eDATApro. eDATApro reserves the rights to modify or change the report if new information is presented or if this report is determined to be inaccurate or incomplete.

The following parameters were reviewed during the verification process:

Chain-of-Custody (COC): Completeness and sample custody

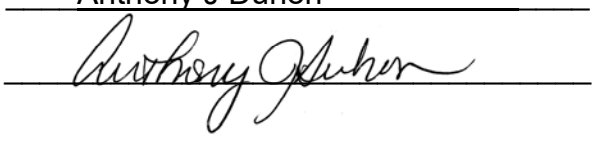
Holding time: Compare collection date versus preparation and/or analysis date

Blank Contamination: Laboratory and field blanks

Matrix/Precision/Recovery: Surrogates, Internal Standards, Duplicates, Blank spike and blank spike duplicate samples (when applicable)

Standards: Detection limit standard and continuing calibration verification (when applicable)

Reviewed by: Anthony J Duhon

Signature: 

INTRODUCTION:

Project Name: 107907 - Houston Wood Preserving Works Site
Laboratory: Inter-Mountain Laboratories
Laboratory Package No.: 030216
Matrix: Air

Environmental Data Professional, LLC (eDATApro) received one electronic Level II data package containing the results for three field samples and one field blank. Level II verification was performed on the data utilizing *USEPA National Functional Guidelines for Inorganic Data Review* and requirements from the project specific Sampling and Analysis Plan (SAP), the laboratory standard operating procedure (SOP) and the analytical method.

The following samples were reviewed:

Sample ID	Lab ID	Collection Date	Analyses
HOTX0302PM004	P2928587	03/02/2016	[1]
HOTX0302PM001	P2928774	03/02/2016	[1]
HOTX0302PM002	P2928775	03/02/2016	[1]
HOTX0302PM003	P2928776	03/02/2016	[1]

Analyses Performed Codes:

[1] Particulate Matter; PM_{10} (*EPA 40 CFR 50 Appendix O; Reference Method for the Determination of Coarse Particulate Matter $PM_{10-2.5}$ in the Atmosphere*) - modified

DATA REVIEW FINDINGS SUMMARY

I. General Package:

The laboratory noted at time of receipt; “No sample ID’s used”. Comments regarding resolution of this statement were not recorded.

II. Particulate Matter; PM_{10} (modified) – EPA 40 CFR 50 Appendix O:

The laboratory reported the results in both mg and ug/m^3 units.

The laboratory noted for samples HOTX0302PM001, HOTX0302PM002 and HOTX0302PM003; “Elapsed sample period differed by more than ±1 hour of programmed period.” and “Sample was not collected from midnight to midnight.” These comments were not applicable based on the details of the project SAP. No data qualifiers were necessary.

Field blank sample HOTX0302PM004 had a measurable mass difference; however, it was below the maximum allowed. The reporting limit was calculated from the maximum allowable mass difference of the field blank. The field sample data were not affected.

All quality assurance and quality control (QA/QC) components presented by the laboratory satisfied method and data review acceptance criteria. No data qualifiers were necessary.

Appendix I
Form 1 Data (Qualified)

Form 1 Data Sheet - Conventionals

CTEH

Houston Wood Preserving Works Site

SDG: 030216

COC Sample ID: **HOTX0302PM004** Sample Matrix : **Air**

Location ID: **NA**

Lab Sample ID: **P2928587** Lab Code: **IML**

Sample Type: **Field Blank**

Parameter Name	Collection Date	Analysis Date	DF	RL	Lab Result	Lab Qualifier	Verified Result	Verified Qualifier	Units
Method: EPA 40 CFR 50 Appendix O									
PARTICULATE MATTER/PM10	03/02/2016	03/08/2016 7:57	1		0.003		0.003		mg

DF = Dilution Factor RL = Reporting Limit

* = Modified by Validation

U = Non-Detect J = Estimated R = Rejected

eDATApro

Form 1 Data Sheet - Conventionals

CTEH

Houston Wood Preserving Works Site

SDG: 030216

COC Sample ID: **HOTX0302PM001** Sample Matrix : **Air**

Location ID: **NA**

Lab Sample ID: **P2928774** Lab Code: **IML**

Sample Type: **Site Sample**

Parameter Name	Collection Date	Analysis Date	DF	RL	Lab Result	Lab Qualifier	Verified Result	Verified Qualifier	Units
Method: EPA 40 CFR 50 Appendix O									
PARTICULATE MATTER/PM10	03/02/2016	03/08/2016 7:56	1	2	60.3		60.3		ug/m3
PARTICULATE MATTER/PM10	03/02/2016	03/08/2016 7:56	1		0.593		0.593		mg

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eDATApro

Form 1 Data Sheet - Conventionals

CTEH

Houston Wood Preserving Works Site

SDG: 030216

COC Sample ID: **HOTX0302PM002** Sample Matrix : **Air**

Location ID: **NA**

Lab Sample ID: **P2928775** Lab Code: **IML**

Sample Type: **Site Sample**

Parameter Name	Collection Date	Analysis Date	DF	RL	Lab Result	Lab Qualifier	Verified Result	Verified Qualifier	Units
Method: EPA 40 CFR 50 Appendix O									
PARTICULATE MATTER/PM10	03/02/2016	03/08/2016 7:56	1	2	95.3		95.3		ug/m3
PARTICULATE MATTER/PM10	03/02/2016	03/08/2016 7:56	1		0.926		0.926		mg

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* = Modified by Validation

U = Non-Detect J = Estimated R = Rejected

eDATApro

Form 1 Data Sheet - Conventionals

CTEH

Houston Wood Preserving Works Site

SDG: 030216

COC Sample ID: **HOTX0302PM003** Sample Matrix : **Air**

Location ID: **NA**

Lab Sample ID: **P2928776** Lab Code: **IML**

Sample Type: **Site Sample**

Parameter Name	Collection Date	Analysis Date	DF	RL	Lab Result	Lab Qualifier	Verified Result	Verified Qualifier	Units
Method: EPA 40 CFR 50 Appendix O									
PARTICULATE MATTER/PM10	03/02/2016	03/08/2016 7:57	1	2	53.4		53.4		ug/m3
PARTICULATE MATTER/PM10	03/02/2016	03/08/2016 7:57	1		0.329		0.329		mg

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eDATApro

Appendix II
Chain of Custody

Inter-Mountain Labs

Sheridan, WY and Gillette, WY

- CHAIN OF CUSTODY RECORD -

Page of

All shaded fields must be completed.
This is a legal document: any misrepresentation may be construed as fraud.

166206

Client Name	Project Identification	Sampler (Signature/Attestation of Authenticity)	Telephone #
CTEH / UP	107907		

Report Address	Contact Name
5120 North Shore Dr. North Little Rock, AR 72118	Mike Berg; Charles Connolly
	Email mberg@cteh.com; CConnolly@cteh.com
	Phone

Invoice Address	Purchase Order #	Quote #
Same as above		

ITEM	LAB ID (Lab Use Only)	DATE SAMPLED	TIME SAMPLED	SAMPLE IDENTIFICATION	Matrix	# of Containers	21 VOC	REMARKS
1	P2928774	03/02/16		HOTX0302PM001 - 86	FT	1	X	
2	P2928775	03/02/16		HOTX0302PM002 - 87	FT	1	X	
3	P2928776	03/02/16		HOTX0302PM003 - 88	FT	1	X	
4	P2928587	03/02/16		HOTX0302PM004 - 89	FT	1	X	
5								
6								
7								
8								
9								
10								
11								
12								
13								
14								

LAB COMMENTS	Relinquished By (Signature/Printed)	DATE	TIME	Received By (Signature/Printed)	DATE	TIME
(4)	Justin Langley	3/3/16	1600	Fed Ex		
				Carol Bredin / IML	3/4/16	10:15
						corrected to 0°c

SHIPPING INFO	MATRIX CODES		TURNAROUND TIMES	COMPLIANCE INFORMATION	ADDITIONAL REMARKS
☐ UPS	Water	WT	**Check desired service**	Compliance Monitoring? Y / (N)	
☐ Fed Express	Soil	SL	☑ Standard turnaround	Program (SDWA, NPDES,...) NA	
☐ US Mail	Solid	SD	☐ **RUSH - 5 Working Days**	PWSID / Permit #	
☐ Hand Carried	Filter	FT	☐ **URGENT** - < 2 Working Days	Chlorinated? Y / (N)	
☐ Other _____	Other	OT	***Rush & Urgent Surcharges will be applied***	Sample Disposal: Lab X Client	

Inter-Mountain Laboratories, Inc., 555 Absaraka St, Sheridan, WY 82801 phone: (307) 674-7506

Air Science Division

Condition Upon Receipt (Attach to Chain of Custody)

Sample Receipt

Client and location: CTEH - Houston

Date Received: 3/4/16 Time Received: 10:15

Sample(s) Received By: CB Chain Of Custody Number: 166206

IR Temperature Gun SN: 111720654 Number of Samples Received: 4

Check one:

Infrared Temperature Gun: ✓ Min/Max Thermometer: _____

Sample Conditions

1.	Custody seals intact	0.2°c corrected to 0.2°c	☐ Yes	☑ No	Comment: NA
2.	Sample arrival temperature between 0°C and 4°C	Temperature: 0 °C	☑ Yes	☐ No	Comment: 2 ice in Lunch bag cooler in box
3.	Contents match Chain of Custody (sample ID's, number of samples, etc.)		☐ Yes	☑ No	Comment: NO Sample ID's used
4.	Chain of custody properly completed (legible, complete, signed)		☐ Yes	☑ No	Comment: " " " "
5.	Sample(s) received intact (no tears, moisture, contamination, etc.)		☑ Yes	☐ No	Comment:
6.	Sample(s) in correct anti-static bag (cassette number, bag label and filter ID all must match)		☑ Yes	☐ No	Comment:
7.	Rush or turn around time checked and accepted		☑ Yes	☐ No	Comment:
8.	All requested analyses understood and appropriate		☑ Yes	☐ No	Comment:
9.	Sample(s) exposed before the tare expiration date		☑ Yes	☐ No	Comment:

Discrepancy Documentation *(attach additional sheets if necessary)*

Any items listed above with a response of "No" must be resolved.

Person Contacted: _____ Telephone Number: _____

Initiated By: _____ Date/Time: _____

Problem:

Resolution:

Data Verification Report (Level 2)

Project: 107907 - Houston Wood Preserving Works Site

Client: CTEH

Report #: 030316 Date: March 14, 2016

Environmental Data Professional, LLC
1432 Watkins St.• Lake Charles, LA 70601 • phone: 337-540-0036 • fax: 337-478-6061

Disclaimer:

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The following parameters were reviewed during the verification process:

Chain-of-Custody (COC): Completeness and sample custody

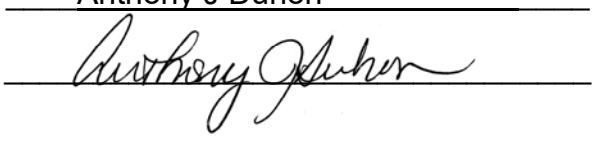
Holding time: Compare collection date versus preparation and/or analysis date

Blank Contamination: Laboratory and field blanks

Matrix/Precision/Recovery: Surrogates, Internal Standards, Duplicates, Blank spike and blank spike duplicate samples (when applicable)

Standards: Detection limit standard and continuing calibration verification (when applicable)

Reviewed by: Anthony J Duhon

Signature: 

INTRODUCTION:

Project Name: 107907 - Houston Wood Preserving Works Site
Laboratory: Inter-Mountain Laboratories
Laboratory Package No.: 030316
Matrix: Air

Environmental Data Professional, LLC (eDATApro) received one electronic Level II data package containing the results for three field samples and one field blank. Level II verification was performed on the data utilizing *USEPA National Functional Guidelines for Inorganic Data Review* and requirements from the project specific Sampling and Analysis Plan (SAP), the laboratory standard operating procedure (SOP) and the analytical method.

The following samples were reviewed:

Sample ID	Lab ID	Collection Date	Analyses
HOTX0303PM001	P2928588	03/03/2016	[1]
HOTX0303PM002	P2928589	03/03/2016	[1]
HOTX0303PM003	P2928590	03/03/2016	[1]
HOTX0303PM004	P2928591	03/03/2016	[1]

Analyses Performed Codes:

[1] Particulate Matter; PM_{10} (*EPA 40 CFR 50 Appendix O; Reference Method for the Determination of Coarse Particulate Matter $PM_{10-2.5}$ in the Atmosphere*) - modified

DATA REVIEW FINDINGS SUMMARY

I. General Package:

A data package compliant for verification was received from the laboratory.

II. Particulate Matter; PM_{10} (modified) – EPA 40 CFR 50 Appendix O:

The laboratory reported the results in both mg and ug/m^3 units.

Samples were not received chilled per method temperature preservation requirements. Results for samples from this SDG were qualified as estimate (J).

The laboratory noted for samples HOTX0303PM001, HOTX0303PM002 and HOTX0303PM003; “Elapsed sample period differed by more than ±1 hour of programmed period.” and “Sample was not collected from midnight to midnight.” These comments were not applicable based on the details of the project SAP. No data qualifiers were necessary.

Field blank sample HOTX0303PM004 had a measurable mass difference; however, it was below the maximum allowed. The reporting limit was calculated from the maximum allowable mass difference of the field blank. The field sample data were not affected.

All other quality assurance and quality control (QA/QC) components presented by the laboratory satisfied method and data review acceptance criteria.

Appendix I
Form 1 Data (Qualified)

Form 1 Data Sheet - Conventionals

CTEH

Houston Wood Preserving Works Site

SDG: 030316

COC Sample ID: **HOTX0303PM001** Sample Matrix : **Air**

Location ID: **NA**

Lab Sample ID: **P2928588** Lab Code: **IML**

Sample Type: **Site Sample**

Parameter Name	Collection Date	Analysis Date	DF	RL	Lab Result	Lab Qualifier	Verified Result	Verified Qualifier	Units	
Method: EPA 40 CFR 50 Appendix O										
PARTICULATE MATTER/PM10	03/03/2016	03/08/2016 11:12	1	2	59.1		59.1	J	ug/m3	*
PARTICULATE MATTER/PM10	03/03/2016	03/08/2016 11:12	1		0.567		0.567	J	mg	*

DF = Dilution Factor RL = Reporting Limit

* = Modified by Validation

U = Non-Detect J = Estimated R = Rejected

eDATApro

Form 1 Data Sheet - Conventionals

CTEH

Houston Wood Preserving Works Site

SDG: 030316

COC Sample ID: **HOTX0303PM002** Sample Matrix : **Air**

Location ID: **NA**

Lab Sample ID: **P2928589** Lab Code: **IML**

Sample Type: **Site Sample**

Parameter Name	Collection Date	Analysis Date	DF	RL	Lab Result	Lab Qualifier	Verified Result	Verified Qualifier	Units	
Method: EPA 40 CFR 50 Appendix O										
PARTICULATE MATTER/PM10	03/03/2016	03/08/2016 11:14	1	2	46.3		46.3	J	ug/m3	*
PARTICULATE MATTER/PM10	03/03/2016	03/08/2016 11:14	1		0.442		0.442	J	mg	*

DF = Dilution Factor RL = Reporting Limit

* = Modified by Validation

U = Non-Detect J = Estimated R = Rejected

eDATApro

Form 1 Data Sheet - Conventionals

CTEH

Houston Wood Preserving Works Site

SDG: 030316

COC Sample ID: **HOTX0303PM003** Sample Matrix : **Air**

Location ID: **NA**

Lab Sample ID: **P2928590** Lab Code: **IML**

Sample Type: **Site Sample**

Parameter Name	Collection Date	Analysis Date	DF	RL	Lab Result	Lab Qualifier	Verified Result	Verified Qualifier	Units	
Method: EPA 40 CFR 50 Appendix O										
PARTICULATE MATTER/PM10	03/03/2016	03/08/2016 11:14	1	2	32.1		32.1	J	ug/m3	*
PARTICULATE MATTER/PM10	03/03/2016	03/08/2016 11:14	1		0.305		0.305	J	mg	*

DF = Dilution Factor RL = Reporting Limit

* = Modified by Validation

U = Non-Detect J = Estimated R = Rejected

eDATApro

Form 1 Data Sheet - Conventionals

CTEH

Houston Wood Preserving Works Site

SDG: 030316

COC Sample ID: **HOTX0303PM004** Sample Matrix : **Air**

Location ID: **NA**

Lab Sample ID: **P2928591** Lab Code: **IML**

Sample Type: **Field Blank**

Parameter Name	Collection Date	Analysis Date	DF	RL	Lab Result	Lab Qualifier	Verified Result	Verified Qualifier	Units	
Method: EPA 40 CFR 50 Appendix O										
PARTICULATE MATTER/PM10	03/03/2016	03/08/2016 11:15	1		0.005		0.005	J	mg	*

DF = Dilution Factor RL = Reporting Limit

* = Modified by Validation

U = Non-Detect J = Estimated R = Rejected

eDATApro

Appendix II
Chain of Custody

Inter-Mountain Labs

Sheridan, WY and Gillette, WY

- CHAIN OF CUSTODY RECORD -

Page 1 of 1

All shaded fields must be completed.
This is a legal document: any misrepresentation may be construed as fraud.

166212

Client Name	Project Identification	Sampler (Signature/Attestation of Authenticity)	Telephone #
CTEH / NP	107907		

Report Address	Contact Name	Email	Phone
5120 North Shore Dr. North Little Rock, AR 72118	Mike Berg ; Charles Connolly	mberg@cteh.com ; cconnolly@cteh.com	

Invoice Address	Purchase Order #	Quote #
Same as above		

ITEM	LAB ID (Lab Use Only)	DATE SAMPLED	TIME SAMPLED	SAMPLE IDENTIFICATION	Matrix	# of Containers	PM10	REMARKS
1	P2928588	03/03/16		HOTX0303PM0001-90	FT	1	X	
2	P2928589	03/03/16		HOTX0303PM0002-91	FT	1	X	
3	P2928590	03/03/16		HOTX0303PM0003-92	FT	1	X	
4	P2928591	03/03/16		HOTX0303PM0004-93	FT	1	X	
5								
6								
7								
8								
9								
10								
11								
12								
13								
14								

ANALYSES / PARAMETERS

LAB COMMENTS	Relinquished By (Signature/Printed)	DATE	TIME	Received By (Signature/Printed)	DATE	TIME
4	Justin Langley	3/3/16	1600	Fed Ex		
				Lynn Kirkpatrick / IML	3/7/16	1030
						corrected to 14°

SHIPPING INFO	MATRIX CODES		TURNAROUND TIMES	COMPLIANCE INFORMATION	ADDITIONAL REMARKS
☐ UPS	Water	WT	**Check desired service**	Compliance Monitoring? Y / ⊘	
☐ Fed Express	Soil	SL	☒ Standard turnaround	Program (SDWA, NPDES,...) N/A	
☐ US Mail	Solid	SD	☐ **RUSH - 5 Working Days**	PWSID / Permit # N/A	
☐ Hand Carried	Filter	FT	☐ **URGENT** - < 2 Working Days	Chlorinated? Y / ⊘	
☐ Other _____	Other	OT	***Rush & Urgent Surcharges will be applied***	Sample Disposal: Lab ☒ Client	

Inter-Mountain Laboratories, Inc., 555 Absaraka St, Sheridan, WY 82801 phone: (307) 674-7506

Air Science Division

Condition Upon Receipt (Attach to Chain of Custody)

Sample Receipt

Client and location: C+E H.

Date Received: 3/7/16 Time Received: 1630

Sample(s) Received By: LK Chain Of Custody Number: 1166212

IR Temperature Gun SN: 111720654 Number of Samples Received: 4

Was sent - Saturday delivery

Check one:

Infrared Temperature Gun: ✓ Min/Max Thermometer: _____

Sample Conditions

1.	Custody seals intact	14°C corrected to	☐ Yes	☑ No	Comment: NA
2.	Sample arrival temperature between 0°C and 4°C	Temperature: 14 °C	☐ Yes	☑ No	Comment: 2 soft ice
3.	Contents match Chain of Custody (sample ID's, number of samples, etc.)		☑ Yes	☐ No	Comment:
4.	Chain of custody properly completed (legible, complete, signed)		☑ Yes	☐ No	Comment:
5.	Sample(s) received intact (no tears, moisture, contamination, etc.)		☑ Yes	☐ No	Comment:
6.	Sample(s) in correct anti-static bag (cassette number, bag label and filter ID all must match)		☑ Yes	☐ No	Comment:
7.	Rush or turn around time checked and accepted		☑ Yes	☐ No	Comment:
8.	All requested analyses understood and appropriate		☑ Yes	☐ No	Comment:
9.	Sample(s) exposed before the tare expiration date		☑ Yes	☐ No	Comment:

Discrepancy Documentation *(attach additional sheets if necessary)*

Any items listed above with a response of "No" must be resolved.

Person Contacted: _____ Telephone Number: _____

Initiated By: _____ Date/Time: _____

Problem:

Resolution:

Data Verification Report (Level 2)

Project: 107907 - Houston Wood Preserving Works Site

Client: CTEH

Report #: 030516 Date: March 14, 2016

Environmental Data Professional, LLC
1432 Watkins St.• Lake Charles, LA 70601 • phone: 337-540-0036 • fax: 337-478-6061

Disclaimer:

The review performed and reported herein is based on specifications and procedures presented to eDATApro with the associated data package. Any qualifications or review not specified with package requirements was based on USEPA National Functional Guidelines for Inorganic and Organic Data Review.

Information contained in this report is based solely on the hardcopy and/or electronic deliverables that were submitted to eDATApro. eDATApro reserves the rights to modify or change the report if new information is presented or if this report is determined to be inaccurate or incomplete.

The following parameters were reviewed during the verification process:

Chain-of-Custody (COC): Completeness and sample custody

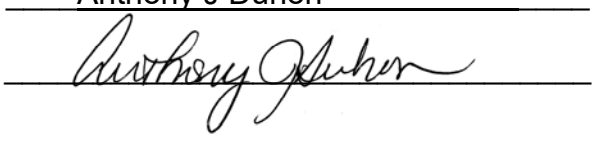
Holding time: Compare collection date versus preparation and/or analysis date

Blank Contamination: Laboratory and field blanks

Matrix/Precision/Recovery: Surrogates, Internal Standards, Duplicates, Blank spike and blank spike duplicate samples (when applicable)

Standards: Detection limit standard and continuing calibration verification (when applicable)

Reviewed by: Anthony J Duhon

Signature: 

INTRODUCTION:

Project Name: 107907 - Houston Wood Preserving Works Site
Laboratory: Inter-Mountain Laboratories
Laboratory Package No.: 030516
Matrix: Air

Environmental Data Professional, LLC (eDATApro) received one electronic Level II data package containing the results for three field samples and one field blank. Level II verification was performed on the data utilizing *USEPA National Functional Guidelines for Inorganic Data Review* and requirements from the project specific Sampling and Analysis Plan (SAP), the laboratory standard operating procedure (SOP) and the analytical method.

The following samples were reviewed:

Sample ID	Lab ID	Collection Date	Analyses
HOTX0305PM001	P2928596	03/05/2016	[1]
HOTX0305PM002	P2928597	03/05/2016	[1]
HOTX0305PM003	P2928598	03/05/2016	[1]
HOTX0305PM004	P2928599	03/05/2016	[1]

Analyses Performed Codes:

[1] Particulate Matter; PM_{10} (*EPA 40 CFR 50 Appendix O; Reference Method for the Determination of Coarse Particulate Matter $PM_{10-2.5}$ in the Atmosphere*) - modified

DATA REVIEW FINDINGS SUMMARY

I. General Package:

The laboratory noted at time of receipt; “No Id numbers”. Comments regarding resolution of this statement were not recorded.

II. Particulate Matter; PM_{10} (modified) – EPA 40 CFR 50 Appendix O:

The laboratory reported the results in both mg and ug/m^3 units.

The laboratory noted for samples HOTX0305PM001, HOTX0305PM002 and HOTX0305PM003; “Elapsed sample period differed by more than ±1 hour of programmed period.” and “Sample was not collected from midnight to midnight.” These comments were not applicable based on the details of the project SAP. No data qualifiers were necessary.

All quality assurance and quality control (QA/QC) components presented by the laboratory satisfied method and data review acceptance criteria. No data qualifiers were necessary.

Appendix I
Form 1 Data (Qualified)

Form 1 Data Sheet - Conventionals

CTEH

Houston Wood Preserving Works Site

SDG: 030516

COC Sample ID: **HOTX0305PM001** Sample Matrix : **Air**

Location ID: **NA**

Lab Sample ID: **P2928596** Lab Code: **IML**

Sample Type: **Site Sample**

Parameter Name	Collection Date	Analysis Date	DF	RL	Lab Result	Lab Qualifier	Verified Result	Verified Qualifier	Units
Method: EPA 40 CFR 50 Appendix O									
PARTICULATE MATTER/PM10	03/05/2016	03/09/2016 12:34	1	2	94.1		94.1		ug/m3
PARTICULATE MATTER/PM10	03/05/2016	03/09/2016 12:34	1		0.503		0.503		mg

DF = Dilution Factor RL = Reporting Limit

* = Modified by Validation

U = Non-Detect J = Estimated R = Rejected

eDATApro

Form 1 Data Sheet - Conventionals

CTEH

Houston Wood Preserving Works Site

SDG: 030516

COC Sample ID: **HOTX0305PM002** Sample Matrix : **Air**

Location ID: **NA**

Lab Sample ID: **P2928597** Lab Code: **IML**

Sample Type: **Site Sample**

Parameter Name	Collection Date	Analysis Date	DF	RL	Lab Result	Lab Qualifier	Verified Result	Verified Qualifier	Units
Method: EPA 40 CFR 50 Appendix O									
PARTICULATE MATTER/PM10	03/05/2016	03/09/2016 12:34	1	2	30.3		30.3		ug/m3
PARTICULATE MATTER/PM10	03/05/2016	03/09/2016 12:34	1		0.291		0.291		mg

DF = Dilution Factor RL = Reporting Limit

* = Modified by Validation

U = Non-Detect J = Estimated R = Rejected

eDATApro

Form 1 Data Sheet - Conventionals

CTEH

Houston Wood Preserving Works Site

SDG: 030516

COC Sample ID: **HOTX0305PM003** Sample Matrix : **Air**

Location ID: **NA**

Lab Sample ID: **P2928598** Lab Code: **IML**

Sample Type: **Site Sample**

Parameter Name	Collection Date	Analysis Date	DF	RL	Lab Result	Lab Qualifier	Verified Result	Verified Qualifier	Units
Method: EPA 40 CFR 50 Appendix O									
PARTICULATE MATTER/PM10	03/05/2016	03/09/2016 12:35	1	2	46.8		46.8		ug/m3
PARTICULATE MATTER/PM10	03/05/2016	03/09/2016 12:35	1		0.285		0.285		mg

DF = Dilution Factor RL = Reporting Limit

* = Modified by Validation

U = Non-Detect J = Estimated R = Rejected

eDATApro

Form 1 Data Sheet - Conventionals

CTEH

Houston Wood Preserving Works Site

SDG: 030516

COC Sample ID: **HOTX0305PM004** Sample Matrix : **Air**

Location ID: **NA**

Lab Sample ID: **P2928599** Lab Code: **IML**

Sample Type: **Field Blank**

Parameter Name	Collection Date	Analysis Date	DF	RL	Lab Result	Lab Qualifier	Verified Result	Verified Qualifier	Units
Method: EPA 40 CFR 50 Appendix O									
PARTICULATE MATTER/PM10	03/05/2016	03/09/2016 12:35	1		0		0		mg

DF = Dilution Factor RL = Reporting Limit

* = Modified by Validation

U = Non-Detect J = Estimated R = Rejected

eDATApro

Appendix II
Chain of Custody

Inter-Mountain Labs

Sheridan, WY and Gillette, WY

- CHAIN OF CUSTODY RECORD -

Page 1 of 1

All shaded fields must be completed.
This is a legal document: any misrepresentation may be construed as fraud.

166210

Client Name	Project Identification	Sampler (Signature/Attestation of Authenticity)	Telephone #
CTEH/UP	107907		

Report Address	Contact Name	Email	Phone
5120 North Shore Dr. North Little Rock AR 72118	Mike Bers; Charles Connolly	mbers@cteh.com; cconnolly@cteh.com	

Invoice Address	Purchase Order #	Quote #
Same as above		

ANALYSES / PARAMETERS: PM10

ITEM	LAB ID (Lab Use Only)	DATE SAMPLED	TIME SAMPLED	SAMPLE IDENTIFICATION	Matrix	# of Containers	PM10	REMARKS
1	P2928596	03/05/16		HOTX0305PM001 - 98	FT	1	X	205068
2	P2928597	03/05/16		HOTX0305PM002 - 99	FT	1	X	205345
3	P2928598	03/05/16		HOTX0305PM003 - 100	FT	1	X	203878
4	P2928599	03/05/16		HOTX0305PM004 - 101	FT	1	X	203878
5								
6								
7								
8								
9								
10								
11								
12								
13								
14								

LAB COMMENTS	Relinquished By (Signature/Printed)	DATE	TIME	Received By (Signature/Printed)	DATE	TIME
	Justin Langley	3/7/16	16:00	FedEx		
				Joyce Burnett - IML	3-8-16	10:00
				Corrected to		7

SHIPPING INFO	MATRIX CODES		TURNAROUND TIMES	COMPLIANCE INFORMATION	ADDITIONAL REMARKS
☐ UPS	Water	WT	**Check desired service**	Compliance Monitoring? (Y) / N	
☐ Fed Express	Soil	SL	☑ Standard turnaround	Program (SDWA, NPDES,...) N/A	
☐ US Mail	Solid	SD	☐ **RUSH - 5 Working Days**	PWSID / Permit # N/A	
☐ Hand Carried	Filter	FT	☐ **URGENT** - < 2 Working Days	Chlorinated? Y / (N)	
☐ Other _____	Other	OT	***Rush & Urgent Surcharges will be applied***	Sample Disposal: Lab ☒ Client	

Inter-Mountain Laboratories, Inc., 555 Absaraka St, Sheridan, WY 82801 phone: (307) 674-7506

Air Science Division

Condition Upon Receipt (Attach to Chain of Custody)

Sample Receipt

Client and location: CTEH Houston

Date Received: 3/8/16 Time Received: 10:50

Sample(s) Received By: CB Chain Of Custody Number: 166210

IR Temperature Gun SN: 111720654 Number of Samples Received: 4

Check one:

Infrared Temperature Gun: ✓ Min/Max Thermometer: _____

Sample Conditions

1.	Custody seals intact	7.3°c corrected to 7.4°c ☐ Yes	☑ No	Comment: NA
2.	Sample arrival temperature between 0°C and 4°C	Temperature: 7 °C ☐ Yes	☑ No	Comment: 2 small blue ice in Lunch bag cooler in box
3.	Contents match Chain of Custody (sample ID's, number of samples, etc.)	☐ Yes	☑ No	Comment: no Id numbers
4.	Chain of custody properly completed (legible, complete, signed)	☐ Yes	☑ No	Comment: no Id numbers
5.	Sample(s) received intact (no tears, moisture, contamination, etc.)	☑ Yes	☐ No	Comment:
6.	Sample(s) in correct anti-static bag (cassette number, bag label and filter ID all must match)	☑ Yes	☐ No	Comment:
7.	Rush or turn around time checked and accepted	☑ Yes	☐ No	Comment:
8.	All requested analyses understood and appropriate	☑ Yes	☐ No	Comment:
9.	Sample(s) exposed before the tare expiration date	☑ Yes	☐ No	Comment:

Discrepancy Documentation ***(attach additional sheets if necessary)***

Any items listed above with a response of "No" must be resolved.

Person Contacted: _____ Telephone Number: _____

Initiated By: _____ Date/Time: _____

Problem:

Resolution:

Data Verification Report (Level 2)

Project: 107907 - Houston Wood Preserving Works Site

Client: CTEH

Report #: 022916 Date: March 15, 2016

Environmental Data Professional, LLC
1432 Watkins St.• Lake Charles, LA 70601 • phone: 337-540-0036 • fax: 337-478-6061

Disclaimer:

The review performed and reported herein is based on specifications and procedures presented to eDATApro with the associated data package. Any qualifications or review not specified with package requirements was based on USEPA National Functional Guidelines for Inorganic and Organic Data Review.

Information contained in this report is based solely on the hardcopy and/or electronic deliverables that were submitted to eDATApro. eDATApro reserves the rights to modify or change the report if new information is presented or if this report is determined to be inaccurate or incomplete.

The following parameters were reviewed during the verification process:

Chain-of-Custody (COC): Completeness and sample custody

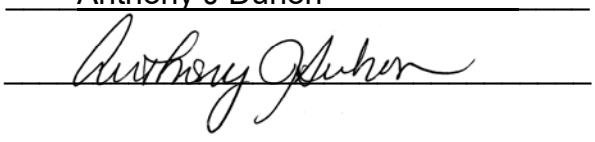
Holding time: Compare collection date versus preparation and/or analysis date

Blank Contamination: Laboratory and field blanks

Matrix/Precision/Recovery: Surrogates, Internal Standards, Duplicates, Blank spike and blank spike duplicate samples (when applicable)

Standards: Detection limit standard and continuing calibration verification (when applicable)

Reviewed by: Anthony J Duhon

Signature: 

INTRODUCTION:

Project Name: 107907 - Houston Wood Preserving Works Site
Laboratory: Inter-Mountain Laboratories
Laboratory Package No.: 022916
Matrix: Air

Environmental Data Professional, LLC (eDATApro) received one electronic Level II data package containing the results for three field samples and one field blank. Level II verification was performed on the data utilizing *USEPA National Functional Guidelines for Inorganic Data Review* and requirements from the project specific Sampling and Analysis Plan (SAP), the laboratory standard operating procedure (SOP) and the analytical method.

The following samples were reviewed:

Sample ID	Lab ID	Collection Date	Analyses
HOTX0229PM001	P2928766	02/29/2016	[1]
HOTX0229PM002	P2928767	02/29/2016	[1]
HOTX0229PM003	P2928768	02/29/2016	[1]
HOTX0229PM004	P2928769	02/29/2016	[1]

Analyses Performed Codes:

[1] Particulate Matter; PM_{10} (*EPA 40 CFR 50 Appendix O; Reference Method for the Determination of Coarse Particulate Matter $PM_{10-2.5}$ in the Atmosphere*) - modified

DATA REVIEW FINDINGS SUMMARY

I. General Package:

The laboratory noted at time of receipt; “No sample ID’s used”. Comments regarding resolution of this statement were not recorded.

II. Particulate Matter; PM_{10} (modified) – EPA 40 CFR 50 Appendix O:

The laboratory reported the results in both mg and ug/m^3 units.

The laboratory commented; “Temperature Probe for HOTX0229PM002 and HOTX0229PM003 failed.” The ug/m^3 results could not be calculated; therefore, the laboratory reported no result with a qualifier “AN”. The lab qualifiers were removed, and the PM10 ug/m^3 results for these samples were qualified as unusable (R).

The laboratory noted for sample HOTX0229PM001; “Elapsed sample period differed by more than ±1 hour of programmed period.” and “Sample was not collected from midnight to midnight.” These comments were not applicable based on the details of the project SAP. No data qualifiers were necessary.

Field blank sample HOTX0229PM004 had a measurable mass difference; however, it was below the maximum allowed. The reporting limit was calculated from the maximum allowable mass difference of the field blank. The field sample data were not affected.

All other quality assurance and quality control (QA/QC) components presented by the laboratory satisfied method and data review acceptance criteria.

Appendix I
Form 1 Data (Qualified)

Form 1 Data Sheet - Conventionals

CTEH

Houston Wood Preserving Works Site

SDG: 022916

COC Sample ID: **HOTX0229PM001** Sample Matrix : **Air**

Location ID: **NA**

Lab Sample ID: **P2928766** Lab Code: **IML**

Sample Type: **Site Sample**

Parameter Name	Collection Date	Analysis Date	DF	RL	Lab Result	Lab Qualifier	Verified Result	Verified Qualifier	Units
Method: EPA 40 CFR 50 Appendix O									
PARTICULATE MATTER/PM10	02/29/2016	03/03/2016 11:03	1	2	58		58		ug/m3
PARTICULATE MATTER/PM10	02/29/2016	03/03/2016 11:03	1		0.554		0.554		mg

DF = Dilution Factor RL = Reporting Limit

* = Modified by Validation

U = Non-Detect J = Estimated R = Rejected

Form 1 Data Sheet - Conventionals

CTEH

Houston Wood Preserving Works Site

SDG: 022916

COC Sample ID: **HOTX0229PM002** Sample Matrix : **Air**

Location ID: **NA**

Lab Sample ID: **P2928767** Lab Code: **IML**

Sample Type: **Site Sample**

Parameter Name	Collection Date	Analysis Date	DF	RL	Lab Result	Lab Qualifier	Verified Result	Verified Qualifier	Units	
Method: EPA 40 CFR 50 Appendix O										
PARTICULATE MATTER/PM10	02/29/2016	03/03/2016 11:03	1	2	0	AN		R	ug/m3	*
PARTICULATE MATTER/PM10	02/29/2016	03/03/2016 11:03	1		0.496		0.496		mg	

DF = Dilution Factor RL = Reporting Limit

* = Modified by Validation

U = Non-Detect J = Estimated R = Rejected

eDATApro

Form 1 Data Sheet - Conventionals

CTEH

Houston Wood Preserving Works Site

SDG: 022916

COC Sample ID: **HOTX0229PM003** Sample Matrix : **Air**

Location ID: **NA**

Lab Sample ID: **P2928768** Lab Code: **IML**

Sample Type: **Site Sample**

Parameter Name	Collection Date	Analysis Date	DF	RL	Lab Result	Lab Qualifier	Verified Result	Verified Qualifier	Units	
Method: EPA 40 CFR 50 Appendix O										
PARTICULATE MATTER/PM10	02/29/2016	03/03/2016 11:03	1	2	0	AN		R	ug/m3	*
PARTICULATE MATTER/PM10	02/29/2016	03/03/2016 11:03	1		0.236		0.236		mg	

DF = Dilution Factor RL = Reporting Limit

* = Modified by Validation

U = Non-Detect J = Estimated R = Rejected

eDATApro

Form 1 Data Sheet - Conventionals

CTEH

Houston Wood Preserving Works Site

SDG: 022916

COC Sample ID: **HOTX0229PM004** Sample Matrix : **Air**

Location ID: **NA**

Lab Sample ID: **P2928769** Lab Code: **IML**

Sample Type: **Field Blank**

Parameter Name	Collection Date	Analysis Date	DF	RL	Lab Result	Lab Qualifier	Verified Result	Verified Qualifier	Units
Method: EPA 40 CFR 50 Appendix O									
PARTICULATE MATTER/PM10	02/29/2016	03/03/2016 11:04	1		0.001		0.001		mg

DF = Dilution Factor RL = Reporting Limit

* = Modified by Validation

U = Non-Detect J = Estimated R = Rejected

Appendix II
Chain of Custody

Inter-Mountain Labs

Sheridan, WY and Gillette, WY

- CHAIN OF CUSTODY RECORD -

Page 1 of 1

All shaded fields must be completed.
This is a legal document: any misrepresentation may be construed as fraud.

166166

Client Name	Project Identification	Sampler (Signature/Attestation of Authenticity)	Telephone #
UPRR	107907	Pete Cannon	

Report Address	Contact Name
5120 Northshore Dr. N. Little Rock, AR 72118	Mike Berg; Charles Connolly
Invoice Address	Email mberg@itch.com; cconnolly@itch.com
Same as above	Phone

Purchase Order # | Quote #

ANALYSES / PARAMETERS: PMO

ITEM	LAB ID (Lab Use Only)	DATE SAMPLED	TIME	SAMPLE IDENTIFICATION	Matrix	# of Containers	PMO	REMARKS
1	P2928766	2/29/16		HOTX0229PM0001-78	FT	1	X	
2	P2928767	2/29/16		HOTX0229PM0002-79	FT	1	X	
3	P2928768	2/29/16		HOTX0229PM0003-80	FT	1	X	
4	P2928769	2/29/16		HOTX0229PM0004-81	FT	1	X	
5								
6								
7								
8								
9								
10				Not Used Pete				
11								
12								
13								
14								

LAB COMMENTS	Relinquished By (Signature/Printed)	DATE	TIME	Received By (Signature/Printed)	DATE	TIME
4	Justin Langley	3/1/16	16:00	Fed Ex		
				Lynn Kirkpatrick / IML	3/2/16	9:50
						corrected to 3°

SHIPPING INFO	MATRIX CODES		TURNAROUND TIMES	COMPLIANCE INFORMATION	ADDITIONAL REMARKS
☐ UPS	Water	WT	**Check desired service**	Compliance Monitoring? Y / N	
☐ Fed Express	Soil	SL	☐ Standard turnaround	Program (SDWA, NPDES,...)	
☐ US Mail	Solid	SD	☐ **RUSH - 5 Working Days**	PWSID / Permit #	
☐ Hand Carried	Filter	FT	☐ **URGENT** - < 2 Working Days	Chlorinated? Y / N	
☐ Other _____	Other	OT	***Rush & Urgent Surcharges will be applied***	Sample Disposal: Lab / Client	

Inter-Mountain Laboratories, Inc., 555 Absaraka St, Sheridan, WY 82801 phone: (307) 674-7506

Air Science Division

Condition Upon Receipt (Attach to Chain of Custody)

Sample Receipt

Client and location: CTEH - Houston

Date Received: 3/2/16 Time Received: 9:50

Sample(s) Received By: LK Chain Of Custody Number: 1661166

IR Temperature Gun SN: 111720654 Number of Samples Received: 4

Check one:

Infrared Temperature Gun: ✓ Min/Max Thermometer: _____

Sample Conditions

1.	Custody seals intact	3°C corrected to	☐ Yes	☑ No	Comment: NA
2.	Sample arrival temperature between 0°C and 4°C	Temperature: 3 °C	☑ Yes	☐ No	Comment: small lunch box type cooler with 2 small soft ice in box
3.	Contents match Chain of Custody (sample ID's, number of samples, etc.)		☐ Yes	☑ No	Comment: NO Sample IDs used
4.	Chain of custody properly completed (legible, complete, signed)		☐ Yes	☑ No	Comment: " " " "
5.	Sample(s) received intact (no tears, moisture, contamination, etc.)		☑ Yes	☐ No	Comment:
6.	Sample(s) in correct anti-static bag (cassette number, bag label and filter ID all must match)		☑ Yes	☐ No	Comment:
7.	Rush or turn around time checked and accepted		☑ Yes	☐ No	Comment:
8.	All requested analyses understood and appropriate		☑ Yes	☐ No	Comment:
9.	Sample(s) exposed before the tare expiration date		☑ Yes	☐ No	Comment:

Discrepancy Documentation ***(attach additional sheets if necessary)***

Any items listed above with a response of "No" must be resolved.

Person Contacted: _____ Telephone Number: _____

Initiated By: _____ Date/Time: _____

Problem:

Resolution:

Data Verification Report (Level 2)

Project: 107907 - Houston Wood Preserving Works Site

Client: CTEH

Report #: 030716 Date: March 15, 2016

Environmental Data Professional, LLC
1432 Watkins St.• Lake Charles, LA 70601 • phone: 337-540-0036 • fax: 337-478-6061

Disclaimer:

The review performed and reported herein is based on specifications and procedures presented to eDATApro with the associated data package. Any qualifications or review not specified with package requirements was based on USEPA National Functional Guidelines for Inorganic and Organic Data Review.

Information contained in this report is based solely on the hardcopy and/or electronic deliverables that were submitted to eDATApro. eDATApro reserves the rights to modify or change the report if new information is presented or if this report is determined to be inaccurate or incomplete.

The following parameters were reviewed during the verification process:

Chain-of-Custody (COC): Completeness and sample custody

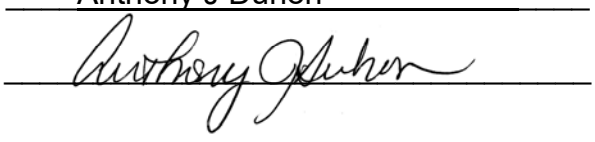
Holding time: Compare collection date versus preparation and/or analysis date

Blank Contamination: Laboratory and field blanks

Matrix/Precision/Recovery: Surrogates, Internal Standards, Duplicates, Blank spike and blank spike duplicate samples (when applicable)

Standards: Detection limit standard and continuing calibration verification (when applicable)

Reviewed by: Anthony J Duhon

Signature: 

INTRODUCTION:

Project Name: 107907 - Houston Wood Preserving Works Site
Laboratory: Inter-Mountain Laboratories
Laboratory Package No.: 030716
Matrix: Air

Environmental Data Professional, LLC (eDATApro) received one electronic Level II data package containing the results for three field samples and one field blank. Level II verification was performed on the data utilizing *USEPA National Functional Guidelines for Inorganic Data Review* and requirements from the project specific Sampling and Analysis Plan (SAP), the laboratory standard operating procedure (SOP) and the analytical method.

The following samples were reviewed:

Sample ID	Lab ID	Collection Date	Analyses
HOTX0307PM001	P2928600	03/07/2016	[1]
HOTX0307PM002	P2928846	03/07/2016	[1]
HOTX0307PM003	P2928847	03/07/2016	[1]
HOTX0307PM004	P2928848	03/07/2016	[1]

Analyses Performed Codes:

[1] Particulate Matter; PM_{10} (*EPA 40 CFR 50 Appendix O; Reference Method for the Determination of Coarse Particulate Matter $PM_{10-2.5}$ in the Atmosphere*) - modified

DATA REVIEW FINDINGS SUMMARY

I. General Package:

A data package compliant for verification was received from the laboratory.

II. Particulate Matter; PM_{10} (modified) – EPA 40 CFR 50 Appendix O:

The laboratory reported the results in both mg and ug/m^3 units.

The laboratory noted for sample HOTX0307PM002; “Measured temperature of filter exceeded the measured ambient temperature by more than 5°C for more than 30 minutes.” Results for this sample were qualified as estimate (J).

The laboratory noted for samples HOTX0307PM001, HOTX0307PM002 and HOTX0307PM003; “Elapsed sample period differed by more than ±1 hour of programmed period.” and “Sample was not collected from midnight to midnight.” These comments were not applicable based on the details of the project SAP. No data qualifiers were necessary.

Field blank sample HOTX0307PM004 had a measurable mass difference; however, it was below the maximum allowed. The reporting limit was calculated from the maximum allowable mass difference of the field blank. The field sample data were not affected.

All other quality assurance and quality control (QA/QC) components presented by the laboratory satisfied method and data review acceptance criteria.

Appendix I
Form 1 Data (Qualified)

Form 1 Data Sheet - Conventionals

CTEH

Houston Wood Preserving Works Site

SDG: 030716

COC Sample ID: **HOTX0307PM001** Sample Matrix : **Air**

Location ID: **NA**

Lab Sample ID: **P2928600** Lab Code: **IML**

Sample Type: **Site Sample**

Parameter Name	Collection Date	Analysis Date	DF	RL	Lab Result	Lab Qualifier	Verified Result	Verified Qualifier	Units
Method: EPA 40 CFR 50 Appendix O									
PARTICULATE MATTER/PM10	03/07/2016	03/10/2016 12:51	1	2	63.7		63.7		ug/m3
PARTICULATE MATTER/PM10	03/07/2016	03/10/2016 12:51	1		0.622		0.622		mg

DF = Dilution Factor RL = Reporting Limit

* = Modified by Validation

U = Non-Detect J = Estimated R = Rejected

eDATApro

Form 1 Data Sheet - Conventionals

CTEH

Houston Wood Preserving Works Site

SDG: 030716

COC Sample ID: **HOTX0307PM002** Sample Matrix : **Air**

Location ID: **NA**

Lab Sample ID: **P2928846** Lab Code: **IML**

Sample Type: **Site Sample**

Parameter Name	Collection Date	Analysis Date	DF	RL	Lab Result	Lab Qualifier	Verified Result	Verified Qualifier	Units	
Method: EPA 40 CFR 50 Appendix O										
PARTICULATE MATTER/PM10	03/07/2016	03/10/2016 12:52	1	2	90.8		90.8	J	ug/m3	*
PARTICULATE MATTER/PM10	03/07/2016	03/10/2016 12:52	1		0.871		0.871	J	mg	*

DF = Dilution Factor RL = Reporting Limit

* = Modified by Validation

U = Non-Detect J = Estimated R = Rejected

eDATApro

Form 1 Data Sheet - Conventionals

CTEH

Houston Wood Preserving Works Site

SDG: 030716

COC Sample ID: **HOTX0307PM003** Sample Matrix : **Air**

Location ID: **NA**

Lab Sample ID: **P2928847** Lab Code: **IML**

Sample Type: **Site Sample**

Parameter Name	Collection Date	Analysis Date	DF	RL	Lab Result	Lab Qualifier	Verified Result	Verified Qualifier	Units
Method: EPA 40 CFR 50 Appendix O									
PARTICULATE MATTER/PM10	03/07/2016	03/10/2016 12:52	1	2	79.2		79.2		ug/m3
PARTICULATE MATTER/PM10	03/07/2016	03/10/2016 12:52	1		0.748		0.748		mg

DF = Dilution Factor RL = Reporting Limit

* = Modified by Validation

U = Non-Detect J = Estimated R = Rejected

eDATApro

Form 1 Data Sheet - Conventionals

CTEH

Houston Wood Preserving Works Site

SDG: 030716

COC Sample ID: **HOTX0307PM004** Sample Matrix : **Air**

Location ID: **NA**

Lab Sample ID: **P2928848** Lab Code: **IML**

Sample Type: **Field Blank**

Parameter Name	Collection Date	Analysis Date	DF	RL	Lab Result	Lab Qualifier	Verified Result	Verified Qualifier	Units
Method: EPA 40 CFR 50 Appendix O									
PARTICULATE MATTER/PM10	03/07/2016	03/10/2016 12:53	1		0.001		0.001		mg

DF = Dilution Factor RL = Reporting Limit

* = Modified by Validation

U = Non-Detect J = Estimated R = Rejected

eDATApro

Appendix II
Chain of Custody

Inter-Mountain Labs

Sheridan, WY and Gillette, WY

- CHAIN OF CUSTODY RECORD -

Page 1 of 1

All shaded fields must be completed.
This is a legal document: any misrepresentation may be construed as fraud.

166208

Client Name	Project Identification	Sampler (Signature/Attestation of Authenticity)	Telephone #
CTEH	107907	Peter Crum	281-413-5513

Report Address	Contact Name
5120 North Shore Dr. N. Little Rock, AR 72118	Mike Berg; Charles Connolly Email mberg@cteh.com; cconnolly@cteh.com Phone 501-801-8500 labresults@cteh.com

Invoice Address: same as above

Purchase Order #:

Quote #:

ANALYSES / PARAMETERS

ITEM	LAB ID (Lab Use Only)	DATE SAMPLED	TIME SAMPLED	SAMPLE IDENTIFICATION	Matrix	# of Containers	PM10	REMARKS
1		3/7/16		~~HOTX03007PMA100~~ Not Used	FT		X	
2	P2928600	3/7/16		HOTX03007PM0001 - 102	FT	1	X	
3	P2928846	3/7/16		HOTX03007PM0002 - 103	FT	1	X	
4	P2928847	3/7/16		HOTX03007PM0003 - 104	FT	1	X	
5	P2928848	3/7/16		HOTX03007PM0004 - 105	FT	1	X	
6								
7								
8								
9								
10								
11								
12								
13								
14								

LAB COMMENTS	Relinquished By (Signature/Printed)	DATE	TIME	Received By (Signature/Printed)	DATE	TIME
(4)	Justin Langley	3/8/16	16:00	Fed Ex		
				Lynn Kirkpatrick / IML	3/9/16	1150
						corrected to 2°C

SHIPPING INFO	MATRIX CODES		TURNAROUND TIMES	COMPLIANCE INFORMATION	ADDITIONAL REMARKS
☐ UPS	Water	WT	**Check desired service**	Compliance Monitoring? Y / N	
☑ Fed Express	Soil	SL	☑ Standard turnaround	Program (SDWA, NPDES,...)	
☐ US Mail	Solid	SD	☐ **RUSH - 5 Working Days**	PWSID / Permit #	
☐ Hand Carried	Filter	FT	☐ **URGENT** - < 2 Working Days	Chlorinated? Y / N	
☐ Other _____	Other	OT	***Rush & Urgent Surcharges will be applied***	Sample Disposal: Lab / Client	

Inter-Mountain Laboratories, Inc., 555 Absaraka St, Sheridan, WY 82801 phone: (307) 674-7506

Air Science Division

Condition Upon Receipt (Attach to Chain of Custody)

Sample Receipt

Client and location: CTEH Houston

Date Received: 3/9/16 Time Received: 1150

Sample(s) Received By: CB Chain Of Custody Number: 166208

IR Temperature Gun SN: 111720654 Number of Samples Received: 4

Check one:

Infrared Temperature Gun: ✓ Min/Max Thermometer: _____

Sample Conditions

1.	Custody seals intact	2.1°c corrected to 2.2°c	☐ Yes	☑ No	Comment: NA
2.	Sample arrival temperature between 0°C and 4°C	Temperature: 2 °C	☑ Yes	☐ No	Comment: 2 soft ice in lunchbox cooler in box
3.	Contents match Chain of Custody (sample ID's, number of samples, etc.)		☑ Yes	☐ No	Comment:
4.	Chain of custody properly completed (legible, complete, signed)		☑ Yes	☐ No	Comment:
5.	Sample(s) received intact (no tears, moisture, contamination, etc.)		☑ Yes	☐ No	Comment:
6.	Sample(s) in correct anti-static bag (cassette number, bag label and filter ID all must match)		☑ Yes	☐ No	Comment:
7.	Rush or turn around time checked and accepted		☑ Yes	☐ No	Comment:
8.	All requested analyses understood and appropriate		☑ Yes	☐ No	Comment:
9.	Sample(s) exposed before the tare expiration date		☑ Yes	☐ No	Comment:

Discrepancy Documentation ***(attach additional sheets if necessary)***

Any items listed above with a response of "No" must be resolved.

Person Contacted: _____ Telephone Number: _____

Initiated By: _____ Date/Time: _____

Problem:

Resolution:

Data Verification Report (Level 2)

Project: 107907 - Houston Wood Preserving Works Site

Client: CTEH

Report #: L368322 Date: March 15, 2016

Environmental Data Professional, LLC
1432 Watkins St.• Lake Charles, LA 70601 • phone: 337-540-0036 • fax: 337-478-6061

Disclaimer:

The review performed and reported herein is based on specifications and procedures presented to eDATApro with the associated data package. Any qualifications or review not specified with package requirements was based on USEPA National Functional Guidelines for Inorganic and Organic Data Review.

Information contained in this report is based solely on the hardcopy and/or electronic deliverables that were submitted to eDATApro. eDATApro reserves the rights to modify or change the report if new information is presented or if this report is determined to be inaccurate or incomplete.

The following parameters were reviewed during the verification process:

Chain-of-Custody (COC): Completeness and sample custody

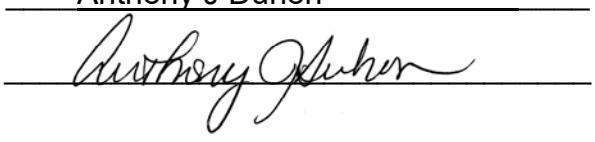
Holding time: Compare collection date versus preparation and/or analysis date

Blank Contamination: Laboratory and field blanks

Matrix/Precision/Recovery: Surrogates, Internal Standards, Duplicates, Blank spike and blank spike duplicate samples (when applicable)

Standards: Detection limit standard and continuing calibration verification (when applicable)

Reviewed by: Anthony J Duhon

Signature: 

INTRODUCTION:

Project Name: 107907 - Houston Wood Preserving Works Site
Laboratory: Galson Laboratories
Laboratory Package No.: L368322
Matrix: Air

Environmental Data Professional, LLC (eDATApro) received one electronic Level II data package containing the results for six field samples and two field blanks. Level II verification was performed on the data utilizing *USEPA National Functional Guidelines for Inorganic Data Review* and the analytical method.

The following samples were reviewed:

Sample ID	Lab ID	Collection Date	Analyses
HOTX0225RD001	L368322-1	02/25/2016	[1]
HOTX0225RD002	L368322-2	02/25/2016	[1]
HOTX0225RD003	L368322-3	02/25/2016	[1]
HOTX0225RD004	L368322-4	02/25/2016	[1]
HOTX0225TD001	L368322-5	02/25/2016	[2]
HOTX0225TD002	L368322-6	02/25/2016	[2]
HOTX0225TD003	L368322-7	02/25/2016	[2]
HOTX0225TD004	L368322-8	02/25/2016	[2]

Analyses Performed Codes:

[1] Respirable Dust (mod. NIOSH 0600; Gravimetric)
[2] Total Dust (mod. NIOSH 0500; Gravimetric)

DATA REVIEW FINDINGS SUMMARY

I. General Package:

The data package was received on March 7, 2016. The final database EDD was received on March 14, 2016.

II. Respirable Dust - mod. NIOSH 0600; Gravimetric:

The laboratory reported the results in both mg and mg/m3.

The change in mass of the Respirable Dust for sample HOTX0225RD001 was greater than the negative reporting limit. This result was qualified as non-detect estimate (UJ).

All quality assurance and quality control (QA/QC) components presented by the laboratory satisfied method and data review acceptance criteria.

III. Total Dust - mod. NIOSH 0500; Gravimetric:

The laboratory reported the results in both mg and mg/m3.

All quality assurance and quality control (QA/QC) components presented by the laboratory satisfied method and data review acceptance criteria; therefore, no data qualifications were necessary.

Appendix I
Form 1 Data (Qualified)

Form 1 Data Sheet - Conventionals

CTEH

Houston Wood Preserving Works Site

SDG: L368322

COC Sample ID: **HOTX0225RD001** Sample Matrix : **Air**

Location ID: **NA**

Lab Sample ID: **L368322-1** Lab Code: **GALSON**

Sample Type: **Site Sample**

Parameter Name	Collection Date	Analysis Date	DF	RL	Lab Result	Lab Qualifier	Verified Result	Verified Qualifier	Units	
Method: mod. NIOSH 0600; Gravimetric										
RESPIRABLE DUST	02/25/2016	03/04/2016 12:38	1	0.037	0.037	U	0.037	UJ	MG/M3	*
RESPIRABLE DUST	02/25/2016	03/04/2016 12:38	1	0.05	-0.077		-0.077	J	MG	*

DF = Dilution Factor RL = Reporting Limit

* = Modified by Validation

U = Non-Detect J = Estimated R = Rejected

eDATApro

Form 1 Data Sheet - Conventionals

CTEH

Houston Wood Preserving Works Site

SDG: L368322

COC Sample ID: **HOTX0225RD002** Sample Matrix : **Air**

Location ID: **NA**

Lab Sample ID: **L368322-2** Lab Code: **GALSON**

Sample Type: **Site Sample**

Parameter Name	Collection Date	Analysis Date	DF	RL	Lab Result	Lab Qualifier	Verified Result	Verified Qualifier	Units
Method: mod. NIOSH 0600; Gravimetric									
RESPIRABLE DUST	02/25/2016	03/03/2016 1:01	1	0.037	0.037	U	0.037	U	MG/M3
RESPIRABLE DUST	02/25/2016	03/03/2016 1:01	1	0.05	0.05	U	0.05	U	MG

DF = Dilution Factor RL = Reporting Limit

* = Modified by Validation

U = Non-Detect J = Estimated R = Rejected

eDATApro

Form 1 Data Sheet - Conventionals

CTEH

Houston Wood Preserving Works Site

SDG: L368322

COC Sample ID: **HOTX0225RD003** Sample Matrix : **Air**

Location ID: **NA**

Lab Sample ID: **L368322-3** Lab Code: **GALSON**

Sample Type: **Site Sample**

Parameter Name	Collection Date	Analysis Date	DF	RL	Lab Result	Lab Qualifier	Verified Result	Verified Qualifier	Units
Method: mod. NIOSH 0600; Gravimetric									
RESPIRABLE DUST	02/25/2016	03/04/2016 12:40	1	0.037	0.037	U	0.037	U	MG/M3
RESPIRABLE DUST	02/25/2016	03/04/2016 12:40	1	0.05	0.05	U	0.05	U	MG

DF = Dilution Factor RL = Reporting Limit

* = Modified by Validation

U = Non-Detect J = Estimated R = Rejected

eDATApro

Form 1 Data Sheet - Conventionals

CTEH

Houston Wood Preserving Works Site

SDG: L368322

COC Sample ID: **HOTX0225RD004** Sample Matrix : **Air**

Location ID: **NA**

Lab Sample ID: **L368322-4** Lab Code: **GALSON**

Sample Type: **Field Blank**

Parameter Name	Collection Date	Analysis Date	DF	RL	Lab Result	Lab Qualifier	Verified Result	Verified Qualifier	Units
Method: mod. NIOSH 0600; Gravimetric									
RESPIRABLE DUST	02/25/2016	03/03/2016 1:02	1	0.05	0.05	U	0.05	U	MG

DF = Dilution Factor RL = Reporting Limit

* = Modified by Validation

U = Non-Detect J = Estimated R = Rejected

eDATApro

Form 1 Data Sheet - Conventionals

CTEH

Houston Wood Preserving Works Site

SDG: L368322

COC Sample ID: **HOTX0225TD001** Sample Matrix : **Air**

Location ID: **NA**

Lab Sample ID: **L368322-5** Lab Code: **GALSON**

Sample Type: **Site Sample**

Parameter Name	Collection Date	Analysis Date	DF	RL	Lab Result	Lab Qualifier	Verified Result	Verified Qualifier	Units
Method: mod. NIOSH 0500; Gravimetric									
TOTAL DUST	02/25/2016	03/04/2016 2:59	1	0.045	0.045	U	0.045	U	MG/M3
TOTAL DUST	02/25/2016	03/04/2016 2:59	1	0.05	0.05	U	0.05	U	MG

DF = Dilution Factor RL = Reporting Limit

* = Modified by Validation

U = Non-Detect J = Estimated R = Rejected

Form 1 Data Sheet - Conventionals

CTEH

Houston Wood Preserving Works Site

SDG: L368322

COC Sample ID: **HOTX0225TD002** Sample Matrix : **Air**

Location ID: **NA**

Lab Sample ID: **L368322-6** Lab Code: **GALSON**

Sample Type: **Site Sample**

Parameter Name	Collection Date	Analysis Date	DF	RL	Lab Result	Lab Qualifier	Verified Result	Verified Qualifier	Units
Method: mod. NIOSH 0500; Gravimetric									
TOTAL DUST	02/25/2016	03/04/2016 3:01	1	0.047	0.047	U	0.047	U	MG/M3
TOTAL DUST	02/25/2016	03/04/2016 3:01	1	0.05	0.05	U	0.05	U	MG

DF = Dilution Factor RL = Reporting Limit

* = Modified by Validation

U = Non-Detect J = Estimated R = Rejected

Form 1 Data Sheet - Conventionals

CTEH

Houston Wood Preserving Works Site

SDG: L368322

COC Sample ID: **HOTX0225TD003** Sample Matrix : **Air**

Location ID: **NA**

Lab Sample ID: **L368322-7** Lab Code: **GALSON**

Sample Type: **Site Sample**

Parameter Name	Collection Date	Analysis Date	DF	RL	Lab Result	Lab Qualifier	Verified Result	Verified Qualifier	Units
Method: mod. NIOSH 0500; Gravimetric									
TOTAL DUST	02/25/2016	03/04/2016 3:02	1	0.047	0.047	U	0.047	U	MG/M3
TOTAL DUST	02/25/2016	03/04/2016 3:02	1	0.05	0.05	U	0.05	U	MG

DF = Dilution Factor RL = Reporting Limit

* = Modified by Validation

U = Non-Detect J = Estimated R = Rejected

eDATApro

Form 1 Data Sheet - Conventionals

CTEH

Houston Wood Preserving Works Site

SDG: L368322

COC Sample ID: **HOTX0225TD004** Sample Matrix : **Air**

Location ID: **NA**

Lab Sample ID: **L368322-8** Lab Code: **GALSON**

Sample Type: **Field Blank**

Parameter Name	Collection Date	Analysis Date	DF	RL	Lab Result	Lab Qualifier	Verified Result	Verified Qualifier	Units
Method: mod. NIOSH 0500; Gravimetric									
TOTAL DUST	02/25/2016	03/04/2016 3:02	1	0.05	0.05	U	0.05	U	MG

DF = Dilution Factor RL = Reporting Limit

* = Modified by Validation

U = Non-Detect J = Estimated R = Rejected

eDATApro

Appendix II
Chain of Custody

775741473790
Date:02/27/16
Shipper:FEDEX
Initials:KMM
Prep:UNKNOWN

5120 North Shore Drive
North Little Rock, AR 72118
Phone: (501) 801-8500
Fax: (501) 801-8501
Website: www.cteh.com

or Toxicology and Environmental Health L.L.C.
CHAIN OF CUSTODY AND ANALYSIS REQUEST FORM

Page ___ of ___

	Send Report To:	Send Invoice To:
Name	cconnolly@cteh.com;mberg@cteh.co	
Company	CTEH	CTEH
Address	5120 North Shore Drive North Little Rock, AR 72118	5120 North Shore Drive North Little Rock, AR 72118
Phone	(501)801-8500	(501)801-8500
Fax	(501)801-8501	(501)801-8501
e-mail	labresults@cteh.com	

CTEH Project #: 107907

Turnaround Requested:
Same Day __Next Day (24 hour) _X_ Normal
__Other (Specify) _____

Complete Data Packet Requested X Yes ☐No

Lab Contact Information:
Galson Laboratories
6601 Kirkville Road
E. Syracuse, NY 13057

Client Sample Identification	Other Sample Identification	Sample Size	Units (Check one) ___L ___cm² ___	Sample Date	Sample Time (for non-air samples)	Initials	NIOSH 0600 Resp dust	NIOSH 0500 Total Dust								Matrix A = air B = bulk S = soil SW = wipe T = tape W = water
HOTX0225RD001	AS16	1356.2	L	02/25/16		PWW	X									A
HOTX0225RD002	AS12	1338.1	L	02/25/16		PWW	X									A
HOTX0225RD003	AS07	1343.2	L	02/25/16		PWW	X									A
HOTX0225RD004	BL	0	L	02/25/16		PWW	X									A
HOTX0225TD001	AS16	1121.9	L	02/25/16		PWW		X								A
HOTX0225TD002	AS12	1064.0	L	02/25/16		PWW		X								A
HOTX0225TD003	AS07	1058.9	L	02/25/16		PWW		X								A
HOTX0225TD004	BL	0	L	02/25/16		PWW		X								A

RELINQUISHED BY	DATE/TIME	RECEIVED BY	DATE/TIME	COMMENTS
Justin Langley	2/26/16 16:00	Fed Ex		Rec'd intact & all accounted for? Yes or No KM Rec'd w/custody seals intact? Yes or No NA KM Rec'd in light sensitive packaging? Yes or No NA KM Rec'd with ice pack? Yes or No NA KM Rec'd temperature compliant? Yes or No KM
		Kenneth Kay	2/27/16 1032	

Data Verification Report (Level 2)

Project: 107907 - Houston Wood Preserving Works Site

Client: CTEH

Report #: L368952 Date: March 15, 2016

Environmental Data Professional, LLC
1432 Watkins St.• Lake Charles, LA 70601 • phone: 337-540-0036 • fax: 337-478-6061

Disclaimer:

The review performed and reported herein is based on specifications and procedures presented to eDATApro with the associated data package. Any qualifications or review not specified with package requirements was based on USEPA National Functional Guidelines for Inorganic and Organic Data Review.

Information contained in this report is based solely on the hardcopy and/or electronic deliverables that were submitted to eDATApro. eDATApro reserves the rights to modify or change the report if new information is presented or if this report is determined to be inaccurate or incomplete.

The following parameters were reviewed during the verification process:

Chain-of-Custody (COC): Completeness and sample custody

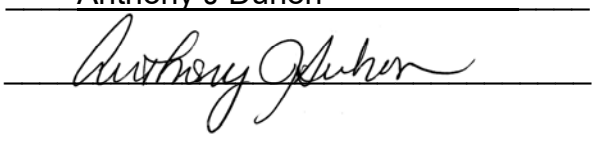
Holding time: Compare collection date versus preparation and/or analysis date

Blank Contamination: Laboratory and field blanks

Matrix/Precision/Recovery: Surrogates, Internal Standards, Duplicates, Blank spike and blank spike duplicate samples (when applicable)

Standards: Detection limit standard and continuing calibration verification (when applicable)

Reviewed by: Anthony J Duhon

Signature: 

INTRODUCTION:

Project Name: 107907 - Houston Wood Preserving Works Site
Laboratory: Galson Laboratories
Laboratory Package No.: L368952
Matrix: Air

Environmental Data Professional, LLC (eDATApro) received one electronic Level II data package containing the results for three field samples and one field blank. Level II verification was performed on the data utilizing *USEPA National Functional Guidelines for Organic Data Review* and the analytical method.

The following samples were reviewed:

Sample ID	Lab ID	Collection Date	Analyses
HOTX0304PNAH001	L368952-1	03/04/2016	[1]
HOTX0304PNAH002	L368952-2	03/04/2016	[1]
HOTX0304PNAH003	L368952-3	03/04/2016	[1]
HOTX0304PNAH004	L368952-4	03/04/2016	[1]

Analyses Performed Codes:

[1] Semivolatile Organics; PAHs (mod. NIOSH 5506; HPLC/UV)

DATA REVIEW FINDINGS SUMMARY

I. General Package:

The data package was complete and no resubmissions were requested.

II. Semivolatile Organics; PAHs – mod. NIOSH 5506; HPLC/UV:

The laboratory reported the results in both ug and mg/m3 units.

Pyrene was present in method blank sample WG341157-2. This analyte was not detected in the associated field samples. No data qualifications were necessary.

Recoveries of numerous target analytes in blank spike (BS) sample WG341157-3 exceeded lower acceptance criteria. Acceptable recoveries of all analytes were achieved in blank spike duplicate (BSD) sample WG341157-4. Comparisons between measurements of several analytes in the BS and BSD analyses exceeded precision acceptance criteria. No detects were reported in the associated samples. No data qualifications were necessary.

Recovery of Pyrene in BS sample WG341157-5 exceeded lower acceptance criteria. Acceptable recovery of this analyte was achieved in the BSD. Recoveries of Fluorene in BS/BSD samples WG341157-5/WG341157-6 exceeded lower acceptance criteria. The Fluorene results were qualified as non-detect estimate (UJ).

All other quality assurance and quality control (QA/QC) components presented by the laboratory satisfied method and data review acceptance criteria.

Appendix I
Form 1 Data (Qualified)

Form 1 Data Sheet - Semivolatiles

CTEH

Houston Wood Preserving Works Site

SDG: L368952

COC Sample ID: **HOTX0304PNAH001** Sample Matrix : **Air** Total/Dissolved: **T**

Location ID: **NA** Sample Date: **03/04/2016** Lab: **GALSON**

Lab Sample ID: **L368952-1** Analysis Date: **03/11/2016 8:19**

Sample Type: **Site Sample**

Method: **mod. NIOSH 5506; HPLC/UV**

CAS	Parameter Name	DF	RL	Lab Result	Lab Qualifier	Verified Result	Verified Qualifier	Units	
5522-43-0	1-NITROPYRENE	1	0.4	0.4	U	0.4	U	UG	
5522-43-0	1-NITROPYRENE	1	0.0004	0.0004	U	0.0004	U	MG/M3	
83-32-9	ACENAPHTHENE	1	0.3	0.3	U	0.3	U	UG	
83-32-9	ACENAPHTHENE	1	0.0003	0.0003	U	0.0003	U	MG/M3	
208-96-8	ACENAPHTHYLENE	1	0.3	0.3	U	0.3	U	UG	
208-96-8	ACENAPHTHYLENE	1	0.0003	0.0003	U	0.0003	U	MG/M3	
120-12-7	ANTHRACENE	1	0.4	0.4	U	0.4	U	UG	
120-12-7	ANTHRACENE	1	0.0004	0.0004	U	0.0004	U	MG/M3	
56-55-3	BENZO(A)ANTHRACENE	1	0.4	0.4	U	0.4	U	UG	
56-55-3	BENZO(A)ANTHRACENE	1	0.0004	0.0004	U	0.0004	U	MG/M3	
50-32-8	BENZO(A)PYRENE	1	0.5	0.5	U	0.5	U	UG	
50-32-8	BENZO(A)PYRENE	1	0.0005	0.0005	U	0.0005	U	MG/M3	
205-99-2	BENZO(B)FLUORANTHENE	1	0.4	0.4	U	0.4	U	UG	
205-99-2	BENZO(B)FLUORANTHENE	1	0.0004	0.0004	U	0.0004	U	MG/M3	
192-97-2	BENZO(E)PYRENE	1	0.4	0.4	U	0.4	U	UG	
192-97-2	BENZO(E)PYRENE	1	0.0004	0.0004	U	0.0004	U	MG/M3	
191-24-2	BENZO(G,H,I)PERYLENE	1	0.5	0.5	U	0.5	U	UG	
191-24-2	BENZO(G,H,I)PERYLENE	1	0.0005	0.0005	U	0.0005	U	MG/M3	
207-08-9	BENZO(K)FLUORANTHENE	1	0.4	0.4	U	0.4	U	UG	
207-08-9	BENZO(K)FLUORANTHENE	1	0.0004	0.0004	U	0.0004	U	MG/M3	
218-01-9	CHRYSENE	1	0.4	0.4	U	0.4	U	UG	
218-01-9	CHRYSENE	1	0.0004	0.0004	U	0.0004	U	MG/M3	
53-70-3	DIBENZ(A,H)ANTHRACENE	1	0.4	0.4	U	0.4	U	UG	
53-70-3	DIBENZ(A,H)ANTHRACENE	1	0.0004	0.0004	U	0.0004	U	MG/M3	
206-44-0	FLUORANTHENE	1	0.4	0.4	U	0.4	U	UG	
206-44-0	FLUORANTHENE	1	0.0004	0.0004	U	0.0004	U	MG/M3	
86-73-7	FLUORENE	1	0.3	0.3	U	0.3	UJ	UG	*
86-73-7	FLUORENE	1	0.0003	0.0003	U	0.0003	UJ	MG/M3	*
193-39-5	INDENO-1,2,3-CD-PYRENE	1	0.5	0.5	U	0.5	U	UG	
193-39-5	INDENO-1,2,3-CD-PYRENE	1	0.0005	0.0005	U	0.0005	U	MG/M3	
91-20-3	NAPHTHALENE	1	0.3	0.3	U	0.3	U	UG	
91-20-3	NAPHTHALENE	1	0.0003	0.0003	U	0.0003	U	MG/M3	
85-01-8	PHENANTHRENE	1	0.3	0.3	U	0.3	U	UG	
85-01-8	PHENANTHRENE	1	0.0004	0.0004	U	0.0004	U	MG/M3	
129-00-0	PYRENE	1	0.4	0.4	U	0.4	U	UG	
129-00-0	PYRENE	1	0.0004	0.0004	U	0.0004	U	MG/M3	

DF = Dilution Factor RL = Reporting Limit

* = Modified by Validation

U = Non-Detect J = Estimated R = Rejected

eDATApro ENVIRONMENTAL DATA PROFESSIONAL, LLC

Form 1 Data Sheet - Semivolatiles

CTEH

Houston Wood Preserving Works Site

SDG: L368952

COC Sample ID: **HOTX0304PNAH002** Sample Matrix : **Air** Total/Dissolved: **T**

Location ID: **NA** Sample Date: **03/04/2016** Lab: **GALSON**

Lab Sample ID: **L368952-2** Analysis Date: **03/11/2016 9:19**

Sample Type: **Site Sample**

Method: **mod. NIOSH 5506; HPLC/UV**

CAS	Parameter Name	DF	RL	Lab Result	Lab Qualifier	Verified Result	Verified Qualifier	Units	
5522-43-0	1-NITROPYRENE	1	0.4	0.4	U	0.4	U	UG	
5522-43-0	1-NITROPYRENE	1	0.0004	0.0004	U	0.0004	U	MG/M3	
83-32-9	ACENAPHTHENE	1	0.3	0.3	U	0.3	U	UG	
83-32-9	ACENAPHTHENE	1	0.0003	0.0003	U	0.0003	U	MG/M3	
208-96-8	ACENAPHTHYLENE	1	0.3	0.3	U	0.3	U	UG	
208-96-8	ACENAPHTHYLENE	1	0.0003	0.0003	U	0.0003	U	MG/M3	
120-12-7	ANTHRACENE	1	0.4	0.4	U	0.4	U	UG	
120-12-7	ANTHRACENE	1	0.0004	0.0004	U	0.0004	U	MG/M3	
56-55-3	BENZO(A)ANTHRACENE	1	0.4	0.4	U	0.4	U	UG	
56-55-3	BENZO(A)ANTHRACENE	1	0.0004	0.0004	U	0.0004	U	MG/M3	
50-32-8	BENZO(A)PYRENE	1	0.5	0.5	U	0.5	U	UG	
50-32-8	BENZO(A)PYRENE	1	0.0005	0.0005	U	0.0005	U	MG/M3	
205-99-2	BENZO(B)FLUORANTHENE	1	0.4	0.4	U	0.4	U	UG	
205-99-2	BENZO(B)FLUORANTHENE	1	0.0004	0.0004	U	0.0004	U	MG/M3	
192-97-2	BENZO(E)PYRENE	1	0.4	0.4	U	0.4	U	UG	
192-97-2	BENZO(E)PYRENE	1	0.0005	0.0005	U	0.0005	U	MG/M3	
191-24-2	BENZO(G,H,I)PERYLENE	1	0.5	0.5	U	0.5	U	UG	
191-24-2	BENZO(G,H,I)PERYLENE	1	0.0005	0.0005	U	0.0005	U	MG/M3	
207-08-9	BENZO(K)FLUORANTHENE	1	0.4	0.4	U	0.4	U	UG	
207-08-9	BENZO(K)FLUORANTHENE	1	0.0004	0.0004	U	0.0004	U	MG/M3	
218-01-9	CHRYSENE	1	0.4	0.4	U	0.4	U	UG	
218-01-9	CHRYSENE	1	0.0004	0.0004	U	0.0004	U	MG/M3	
53-70-3	DIBENZ(A,H)ANTHRACENE	1	0.4	0.4	U	0.4	U	UG	
53-70-3	DIBENZ(A,H)ANTHRACENE	1	0.0004	0.0004	U	0.0004	U	MG/M3	
206-44-0	FLUORANTHENE	1	0.4	0.4	U	0.4	U	UG	
206-44-0	FLUORANTHENE	1	0.0004	0.0004	U	0.0004	U	MG/M3	
86-73-7	FLUORENE	1	0.3	0.3	U	0.3	UJ	UG	*
86-73-7	FLUORENE	1	0.0003	0.0003	U	0.0003	UJ	MG/M3	*
193-39-5	INDENO-1,2,3-CD-PYRENE	1	0.5	0.5	U	0.5	U	UG	
193-39-5	INDENO-1,2,3-CD-PYRENE	1	0.0005	0.0005	U	0.0005	U	MG/M3	
91-20-3	NAPHTHALENE	1	0.3	0.3	U	0.3	U	UG	
91-20-3	NAPHTHALENE	1	0.0003	0.0003	U	0.0003	U	MG/M3	
85-01-8	PHENANTHRENE	1	0.3	0.3	U	0.3	U	UG	
85-01-8	PHENANTHRENE	1	0.0004	0.0004	U	0.0004	U	MG/M3	
129-00-0	PYRENE	1	0.4	0.4	U	0.4	U	UG	
129-00-0	PYRENE	1	0.0004	0.0004	U	0.0004	U	MG/M3	

DF = Dilution Factor RL = Reporting Limit

* = Modified by Validation

U = Non-Detect J = Estimated R = Rejected

eDATApro ENVIRONMENTAL DATA PROFESSIONAL, LLC

Form 1 Data Sheet - Semivolatiles

CTEH

Houston Wood Preserving Works Site

SDG: L368952

COC Sample ID: **HOTX0304PNAH003** Sample Matrix : **Air** Total/Dissolved: **T**

Location ID: **NA** Sample Date: **03/04/2016** Lab: **GALSON**

Lab Sample ID: **L368952-3** Analysis Date: **03/11/2016 10:19**

Sample Type: **Site Sample**

Method: **mod. NIOSH 5506; HPLC/UV**

CAS	Parameter Name	DF	RL	Lab Result	Lab Qualifier	Verified Result	Verified Qualifier	Units	
5522-43-0	1-NITROPYRENE	1	0.4	0.4	U	0.4	U	UG	
5522-43-0	1-NITROPYRENE	1	0.0004	0.0004	U	0.0004	U	MG/M3	
83-32-9	ACENAPHTHENE	1	0.3	0.3	U	0.3	U	UG	
83-32-9	ACENAPHTHENE	1	0.0003	0.0003	U	0.0003	U	MG/M3	
208-96-8	ACENAPHTHYLENE	1	0.3	0.3	U	0.3	U	UG	
208-96-8	ACENAPHTHYLENE	1	0.0003	0.0003	U	0.0003	U	MG/M3	
120-12-7	ANTHRACENE	1	0.4	0.4	U	0.4	U	UG	
120-12-7	ANTHRACENE	1	0.0004	0.0004	U	0.0004	U	MG/M3	
56-55-3	BENZO(A)ANTHRACENE	1	0.4	0.4	U	0.4	U	UG	
56-55-3	BENZO(A)ANTHRACENE	1	0.0004	0.0004	U	0.0004	U	MG/M3	
50-32-8	BENZO(A)PYRENE	1	0.5	0.5	U	0.5	U	UG	
50-32-8	BENZO(A)PYRENE	1	0.0005	0.0005	U	0.0005	U	MG/M3	
205-99-2	BENZO(B)FLUORANTHENE	1	0.4	0.4	U	0.4	U	UG	
205-99-2	BENZO(B)FLUORANTHENE	1	0.0004	0.0004	U	0.0004	U	MG/M3	
192-97-2	BENZO(E)PYRENE	1	0.4	0.4	U	0.4	U	UG	
192-97-2	BENZO(E)PYRENE	1	0.0005	0.0005	U	0.0005	U	MG/M3	
191-24-2	BENZO(G,H,I)PERYLENE	1	0.5	0.5	U	0.5	U	UG	
191-24-2	BENZO(G,H,I)PERYLENE	1	0.0005	0.0005	U	0.0005	U	MG/M3	
207-08-9	BENZO(K)FLUORANTHENE	1	0.4	0.4	U	0.4	U	UG	
207-08-9	BENZO(K)FLUORANTHENE	1	0.0004	0.0004	U	0.0004	U	MG/M3	
218-01-9	CHRYSENE	1	0.4	0.4	U	0.4	U	UG	
218-01-9	CHRYSENE	1	0.0004	0.0004	U	0.0004	U	MG/M3	
53-70-3	DIBENZ(A,H)ANTHRACENE	1	0.4	0.4	U	0.4	U	UG	
53-70-3	DIBENZ(A,H)ANTHRACENE	1	0.0004	0.0004	U	0.0004	U	MG/M3	
206-44-0	FLUORANTHENE	1	0.4	0.4	U	0.4	U	UG	
206-44-0	FLUORANTHENE	1	0.0004	0.0004	U	0.0004	U	MG/M3	
86-73-7	FLUORENE	1	0.3	0.3	U	0.3	UJ	UG	*
86-73-7	FLUORENE	1	0.0003	0.0003	U	0.0003	UJ	MG/M3	*
193-39-5	INDENO-1,2,3-CD-PYRENE	1	0.5	0.5	U	0.5	U	UG	
193-39-5	INDENO-1,2,3-CD-PYRENE	1	0.0005	0.0005	U	0.0005	U	MG/M3	
91-20-3	NAPHTHALENE	1	0.3	0.3	U	0.3	U	UG	
91-20-3	NAPHTHALENE	1	0.0003	0.0003	U	0.0003	U	MG/M3	
85-01-8	PHENANTHRENE	1	0.3	0.3	U	0.3	U	UG	
85-01-8	PHENANTHRENE	1	0.0004	0.0004	U	0.0004	U	MG/M3	
129-00-0	PYRENE	1	0.4	0.4	U	0.4	U	UG	
129-00-0	PYRENE	1	0.0004	0.0004	U	0.0004	U	MG/M3	

DF = Dilution Factor RL = Reporting Limit

* = Modified by Validation

U = Non-Detect J = Estimated R = Rejected

eDATApro ENVIRONMENTAL DATA PROFESSIONAL, LLC

Form 1 Data Sheet - Semivolatiles

CTEH

Houston Wood Preserving Works Site

SDG: L368952

COC Sample ID: **HOTX0304PNAH004** Sample Matrix : **Air** Total/Dissolved: **T**

Location ID: **NA** Sample Date: **03/04/2016** Lab: **GALSON**

Lab Sample ID: **L368952-4** Analysis Date: **03/11/2016 11:39**

Sample Type: **Field Blank**

Method: **mod. NIOSH 5506; HPLC/UV**

CAS	Parameter Name	DF	RL	Lab Result	Lab Qualifier	Verified Result	Verified Qualifier	Units	
5522-43-0	1-NITROPYRENE	1	0.4	0.4	U	0.4	U	UG	
83-32-9	ACENAPHTHENE	1	0.3	0.3	U	0.3	U	UG	
208-96-8	ACENAPHTHYLENE	1	0.3	0.3	U	0.3	U	UG	
120-12-7	ANTHRACENE	1	0.4	0.4	U	0.4	U	UG	
56-55-3	BENZO(A)ANTHRACENE	1	0.4	0.4	U	0.4	U	UG	
50-32-8	BENZO(A)PYRENE	1	0.5	0.5	U	0.5	U	UG	
205-99-2	BENZO(B)FLUORANTHENE	1	0.4	0.4	U	0.4	U	UG	
192-97-2	BENZO(E)PYRENE	1	0.4	0.4	U	0.4	U	UG	
191-24-2	BENZO(G,H,I)PERYLENE	1	0.5	0.5	U	0.5	U	UG	
207-08-9	BENZO(K)FLUORANTHENE	1	0.4	0.4	U	0.4	U	UG	
218-01-9	CHRYSENE	1	0.4	0.4	U	0.4	U	UG	
53-70-3	DIBENZ(A,H)ANTHRACENE	1	0.4	0.4	U	0.4	U	UG	
206-44-0	FLUORANTHENE	1	0.4	0.4	U	0.4	U	UG	
86-73-7	FLUORENE	1	0.3	0.3	U	0.3	UJ	UG	*
193-39-5	INDENO-1,2,3-CD-PYRENE	1	0.5	0.5	U	0.5	U	UG	
91-20-3	NAPHTHALENE	1	0.3	0.3	U	0.3	U	UG	
85-01-8	PHENANTHRENE	1	0.3	0.3	U	0.3	U	UG	
129-00-0	PYRENE	1	0.4	0.4	U	0.4	U	UG	

DF = Dilution Factor RL = Reporting Limit

* = Modified by Validation

U = Non-Detect J = Estimated R = Rejected

eDATApro
ENVIRONMENTAL DATA PROFESSIONAL, LLC

Appendix II
Chain of Custody

L368952

5120 North Shore Drive
North Little Rock, AR 72118
Phone: (501) 801-8500
Fax: (501) 801-8501
Website: www.cteh.com

Center for Toxicology and Environmental Health L.L.C.

SAMPLE CHAIN OF CUSTODY AND ANALYSIS REQUEST FORM

104

Page 1 of 1

	Send Report To:	Send Invoice To:
Name		Accounts Payable
Company	CTEH	CTEH
Address	2000 Anders Lane Kemah, Texas 77565	5120 North Shore Drive North Little Rock, AR 72118
Phone	(281)535-2834	(501)801-8500
Fax	(281)535-0232	(501)801-8501
e-mail	labresults@cteh.com; mberg@cteh.com; cconnolly@cteh.com	raccounting@cteh.com

CTEH Project #: 107907

Turnaround Requested:
Same Day __Next Day (24 hour) X Normal
__Other (Specify) _____

Complete Data Packet Requested ☒Yes ☐No

Lab Contact Information:
Galson Laboratories
6601 Kirkville Road
E. Syracuse, NY 13057

Client Sample Identification	Other Sample Identification	Sample Size	Units (Check one) X L __cm²	Sample Date	Sample Time (for non-air samples)	Initials	PNAH								Matrix (A = air, B = bulk, S = soil, SW = wipe, T = tape, W = water)
HOTX030404PNAH0001	AS12	986.9	L	3/4/16		PW	Y								A
HOTX030404PNAH0002	AS17	989.8	L	3/4/16		PW	Y								A
HOTX030404PNAH0003	AS07	978.4	L	3/4/16		PW	Y								A
HOTX030404PNAH0004	BL	0	L	3/4/16		PW	Y								A

bottle in vial 368943

SK 3/7/16

Samples Received in Light Sensitive Material: (Yes) or No

Not Used

RELINQUISHED BY	DATE/TIME	RECEIVED BY	DATE/TIME
	3/5/16 11:30		
		M. Liaux	3/7/16 1135

Rec'd intact & all accounted for? (Yes) or No SK
Rec'd w/custody seals intact? Yes or No NA
Rec'd in light sensitive packaging? (Yes) or No SK
Rec'd with ice pack? (Yes) or No SK
Rec'd temperature compliant? (Yes) or No SK

Data Verification Report (Level 2)

Project: 107907 - Houston Wood Preserving Works Site

Client: CTEH

Report #: 030816 Date: March 16, 2016

Environmental Data Professional, LLC
1432 Watkins St.• Lake Charles, LA 70601 • phone: 337-540-0036 • fax: 337-478-6061

Disclaimer:

The review performed and reported herein is based on specifications and procedures presented to eDATApro with the associated data package. Any qualifications or review not specified with package requirements was based on USEPA National Functional Guidelines for Inorganic and Organic Data Review.

Information contained in this report is based solely on the hardcopy and/or electronic deliverables that were submitted to eDATApro. eDATApro reserves the rights to modify or change the report if new information is presented or if this report is determined to be inaccurate or incomplete.

The following parameters were reviewed during the verification process:

Chain-of-Custody (COC): Completeness and sample custody

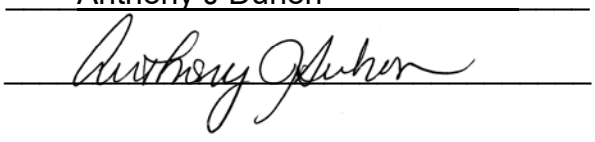
Holding time: Compare collection date versus preparation and/or analysis date

Blank Contamination: Laboratory and field blanks

Matrix/Precision/Recovery: Surrogates, Internal Standards, Duplicates, Blank spike and blank spike duplicate samples (when applicable)

Standards: Detection limit standard and continuing calibration verification (when applicable)

Reviewed by: Anthony J Duhon

Signature: 

INTRODUCTION:

Project Name: 107907 - Houston Wood Preserving Works Site
Laboratory: Inter-Mountain Laboratories
Laboratory Package No.: 030816
Matrix: Air

Environmental Data Professional, LLC (eDATApro) received one electronic Level II data package containing the results for three field samples and one field blank. Level II verification was performed on the data utilizing *USEPA National Functional Guidelines for Inorganic Data Review* and requirements from the project specific Sampling and Analysis Plan (SAP), the laboratory standard operating procedure (SOP) and the analytical method.

The following samples were reviewed:

Sample ID	Lab ID	Collection Date	Analyses
HOTX0308PM001	P2928849	03/08/2016	[1]
HOTX0308PM002	P2928850	03/08/2016	[1]
HOTX0308PM003	P2928851	03/08/2016	[1]
HOTX0308PM004	P2928852	03/08/2016	[1]

Analyses Performed Codes:

[1] Particulate Matter; PM_{10} (*EPA 40 CFR 50 Appendix O; Reference Method for the Determination of Coarse Particulate Matter $PM_{10-2.5}$ in the Atmosphere*) - modified

DATA REVIEW FINDINGS SUMMARY

I. General Package:

A data package compliant for verification was received from the laboratory.

II. Particulate Matter; PM_{10} – EPA 40 CFR 50 Appendix O:

The laboratory reported the results in both mg and ug/m^3 units.

The measured temperature of the sample shipment exceeded the method temperature preservation requirement. Results for samples from this SDG were qualified as estimate (J).

The laboratory noted for samples HOTX0308PM001, HOTX0308PM002 and HOTX0308PM003; “Elapsed sample period differed by more than ±1 hour of programmed period.” and “Sample was not collected from midnight to midnight.” These comments were not applicable based on the details of the project SAP. No data qualifiers were necessary.

Field blank sample HOTX0308PM004 had a measurable mass difference; however, it was below the maximum allowed. The reporting limit was calculated from the maximum allowable mass difference of the field blank. The field sample data were not affected.

All other quality assurance and quality control (QA/QC) components presented by the laboratory satisfied method and data review acceptance criteria.

Appendix I
Form 1 Data (Qualified)

Form 1 Data Sheet - Conventionals

CTEH

Houston Wood Preserving Works Site

SDG: 030816

COC Sample ID: **HOTX0308PM001** Sample Matrix : **Air**

Location ID: **NA**

Lab Sample ID: **P2928849** Lab Code: **IML**

Sample Type: **Site Sample**

Parameter Name	Collection Date	Analysis Date	DF	RL	Lab Result	Lab Qualifier	Verified Result	Verified Qualifier	Units	
Method: EPA 40 CFR 50 Appendix O										
PARTICULATE MATTER/PM10	03/08/2016	03/15/2016 6:56	1	2	43.3		43.3	J	ug/m3	*
PARTICULATE MATTER/PM10	03/08/2016	03/15/2016 6:56	1		0.252		0.252	J	mg	*

DF = Dilution Factor RL = Reporting Limit

* = Modified by Validation

U = Non-Detect J = Estimated R = Rejected

eDATApro

Form 1 Data Sheet - Conventionals

CTEH

Houston Wood Preserving Works Site

SDG: 030816

COC Sample ID: **HOTX0308PM002** Sample Matrix : **Air**

Location ID: **NA**

Lab Sample ID: **P2928850** Lab Code: **IML**

Sample Type: **Site Sample**

Parameter Name	Collection Date	Analysis Date	DF	RL	Lab Result	Lab Qualifier	Verified Result	Verified Qualifier	Units	
Method: EPA 40 CFR 50 Appendix O										
PARTICULATE MATTER/PM10	03/08/2016	03/15/2016 6:57	1	2	41.3		41.3	J	ug/m3	*
PARTICULATE MATTER/PM10	03/08/2016	03/15/2016 6:57	1		0.238		0.238	J	mg	*

DF = Dilution Factor RL = Reporting Limit

* = Modified by Validation

U = Non-Detect J = Estimated R = Rejected

eDATApro

Form 1 Data Sheet - Conventionals

CTEH

Houston Wood Preserving Works Site

SDG: 030816

COC Sample ID: **HOTX0308PM003** Sample Matrix : **Air**

Location ID: **NA**

Lab Sample ID: **P2928851** Lab Code: **IML**

Sample Type: **Site Sample**

Parameter Name	Collection Date	Analysis Date	DF	RL	Lab Result	Lab Qualifier	Verified Result	Verified Qualifier	Units	
Method: EPA 40 CFR 50 Appendix O										
PARTICULATE MATTER/PM10	03/08/2016	03/15/2016 6:57	1	2	47.2		47.2	J	ug/m3	*
PARTICULATE MATTER/PM10	03/08/2016	03/15/2016 6:57	1		0.263		0.263	J	mg	*

DF = Dilution Factor RL = Reporting Limit

* = Modified by Validation

U = Non-Detect J = Estimated R = Rejected

eDATApro

Form 1 Data Sheet - Conventionals

CTEH

Houston Wood Preserving Works Site

SDG: 030816

COC Sample ID: **HOTX0308PM004** Sample Matrix : **Air**

Location ID: **NA**

Lab Sample ID: **P2928852** Lab Code: **IML**

Sample Type: **Field Blank**

Parameter Name	Collection Date	Analysis Date	DF	RL	Lab Result	Lab Qualifier	Verified Result	Verified Qualifier	Units	
Method: EPA 40 CFR 50 Appendix O										
PARTICULATE MATTER/PM10	03/08/2016	03/15/2016 6:58	1		0.01		0.01	J	mg	*

DF = Dilution Factor RL = Reporting Limit

* = Modified by Validation

U = Non-Detect J = Estimated R = Rejected

eDATApro

Appendix II
Chain of Custody

Inter-Mountain Labs

Sheridan, WY and Gillette, WY

- CHAIN OF CUSTODY RECORD -

Page 1 of 1

All shaded fields must be completed.
This is a legal document: any misrepresentation may be construed as fraud.

166207

Client Name	Project Identification	Sampler (Signature/Attestation of Authenticity)	Telephone #
CTEH	107907	Pearce	281-413-5513

Report Address	Contact Name	Email	Phone
5120 North Shore Dr. N. Little Rock, AR 72118	Mike Berg; Charles Connolly	mberg@cteh.com; cconnolly@cteh.com	

Invoice Address: Same as above

Purchase Order #:

Quote #:

ANALYSES / PARAMETERS: PM10

ITEM	LAB ID (Lab Use Only)	DATE SAMPLED	TIME SAMPLED	SAMPLE IDENTIFICATION	Matrix	# of Containers	PM10	REMARKS
1	P2928849	3/8/16	5:48	HOTX-03-08-PM-0001-106	FT	1	X	
2	P2928850	3/8/16	~~13:23~~ 5:43	HOTX-03-08-PM-0002-107	FT	1	X	
3	P2928851	3/8/16	~~13:35~~ 5:34	HOTX-03-08-PM-0003-108	FT	1	X	
4	P2928852	3/8/16	~~5:48~~ 0	HOTX-03-08-PM-0004-109	FT	1	X	
5								
6								
7								
8								
9								
10				Not Used Pearce				
11								
12								
13								
14								

LAB COMMENTS	Relinquished By (Signature/Printed)	DATE	TIME	Received By (Signature/Printed)	DATE	TIME
4	Justin Langley	3/9/16	16:00	Fed Ex		
				Lynn Kirkpatrick / IML	3/11/16	1130
					corrected to 11°C	

SHIPPING INFO	MATRIX CODES		TURNAROUND TIMES	COMPLIANCE INFORMATION	ADDITIONAL REMARKS
☐ UPS	Water	WT	**Check desired service**	Compliance Monitoring? Y / N	
☐ Fed Express	Soil	SL	☑ Standard turnaround	Program (SDWA, NPDES,...)	
☐ US Mail	Solid	SD	☐ **RUSH - 5 Working Days**	PWSID / Permit #	
☐ Hand Carried	Filter	FT	☐ **URGENT** - < 2 Working Days	Chlorinated? Y / N	
☐ Other _____	Other	OT	***Rush & Urgent Surcharges will be applied***	Sample Disposal: Lab / Client	

Inter-Mountain Laboratories, Inc., 555 Absaraka St, Sheridan, WY 82801 phone: (307) 674-7506

Air Science Division

Condition Upon Receipt (Attach to Chain of Custody)

Sample Receipt

Client and location: CTEH Houston

Date Received: 3/11/16 Time Received: 1130

Sample(s) Received By: LK Chain Of Custody Number: 166207

IR Temperature Gun SN: 111720654 Number of Samples Received:

Check one:

Infrared Temperature Gun: ✓ Min/Max Thermometer:

Fed x delivery
1 day late

Sample Conditions

1.	Custody seals intact	☐ Yes	☑ No	Comment: NA
2.	Sample arrival temperature between 0°C and 4°C Temperature: 11 °C (11 °C corrected to)	☐ Yes	☑ No	Comment: 2 soft ice
3.	Contents match Chain of Custody (sample ID's, number of samples, etc.)	☐ Yes	☐ No	Comment:
4.	Chain of custody properly completed (legible, complete, signed)	☐ Yes	☐ No	Comment:
5.	Sample(s) received intact (no tears, moisture, contamination, etc.)	☐ Yes	☐ No	Comment:
6.	Sample(s) in correct anti-static bag (cassette number, bag label and filter ID all must match)	☐ Yes	☐ No	Comment:
7.	Rush or turn around time checked and accepted	☐ Yes	☐ No	Comment:
8.	All requested analyses understood and appropriate	☐ Yes	☐ No	Comment:
9.	Sample(s) exposed before the tare expiration date	☐ Yes	☐ No	Comment:

Discrepancy Documentation *(attach additional sheets if necessary)*

Any items listed above with a response of "No" must be resolved.

Person Contacted: Telephone Number:

Initiated By: Date/Time:

Problem:

Resolution:

Data Verification Report (Level 2)

Project: 107907 - Houston Wood Preserving Works Site

Client: CTEH

Report #: L369083 Date: March 16, 2016

Environmental Data Professional, LLC
1432 Watkins St.• Lake Charles, LA 70601 • phone: 337-540-0036 • fax: 337-478-6061

Disclaimer:

The review performed and reported herein is based on specifications and procedures presented to eDATApro with the associated data package. Any qualifications or review not specified with package requirements was based on USEPA National Functional Guidelines for Inorganic and Organic Data Review.

Information contained in this report is based solely on the hardcopy and/or electronic deliverables that were submitted to eDATApro. eDATApro reserves the rights to modify or change the report if new information is presented or if this report is determined to be inaccurate or incomplete.

The following parameters were reviewed during the verification process:

Chain-of-Custody (COC): Completeness and sample custody

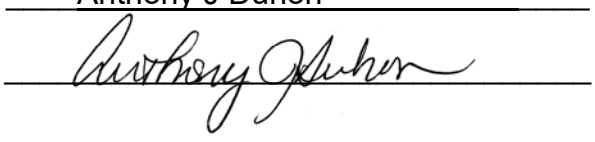
Holding time: Compare collection date versus preparation and/or analysis date

Blank Contamination: Laboratory and field blanks

Matrix/Precision/Recovery: Surrogates, Internal Standards, Duplicates, Blank spike and blank spike duplicate samples (when applicable)

Standards: Detection limit standard and continuing calibration verification (when applicable)

Reviewed by: Anthony J Duhon

Signature: 

INTRODUCTION:

Project Name: 107907 - Houston Wood Preserving Works Site
Laboratory: Galson Laboratories
Laboratory Package No.: L369083
Matrix: Air

Environmental Data Professional, LLC (eDATApro) received one electronic Level II data package containing the results for three field samples and one field blank. Level II verification was performed on the data utilizing *USEPA National Functional Guidelines for Organic Data Review* and the analytical method.

The following samples were reviewed:

Sample ID	Lab ID	Collection Date	Analyses
HOTX0305PNAH001	L369083-1	03/05/2016	[1]
HOTX0305PNAH002	L369083-2	03/05/2016	[1]
HOTX0305PNAH003	L369083-3	03/05/2016	[1]
HOTX0305PNAH004	L369083-4	03/05/2016	[1]

Analyses Performed Codes:

[1] Semivolatile Organics; PAHs (mod. NIOSH 5506; HPLC/UV)

DATA REVIEW FINDINGS SUMMARY

I. General Package:

The data package was complete and no resubmissions were requested.

II. Semivolatile Organics; PAHs – mod. NIOSH 5506; HPLC/UV:

The laboratory reported the results in both ug and mg/m3 units.

Pyrene was present in method blank sample WG341157-2. This analyte was not detected in the associated field samples. No data qualifications were necessary.

Recoveries of numerous target analytes in blank spike (BS) sample WG341157-3 exceeded lower acceptance criteria. Acceptable recoveries of all analytes were achieved in blank spike duplicate (BSD) sample WG341157-4. Comparisons between measurements of several analytes in the BS and BSD analyses exceeded precision acceptance criteria. Of those analytes, only Naphthalene was detected in sample HOTX0305PNAH003. This result was qualified as estimate (J).

Recovery of Pyrene in BS sample WG341157-5 exceeded lower acceptance criteria. Acceptable recovery of this analyte was achieved in the BSD. Recoveries of Fluorene in BS/BSD samples WG341157-5/WG341157-6 exceeded lower acceptance criteria. The Fluorene results were qualified as non-detect estimate (UJ).

All other quality assurance and quality control (QA/QC) components presented by the laboratory satisfied method and data review acceptance criteria.

Appendix I
Form 1 Data (Qualified)

Form 1 Data Sheet - Semivolatiles

CTEH

Houston Wood Preserving Works Site

SDG: L369083

COC Sample ID: **HOTX0305PNAH001** | Sample Matrix : **Air** | Total/Dissolved: **T**

Location ID: **NA** | Sample Date: **03/05/2016** | Lab: **GALSON**

Lab Sample ID: **L369083-1** | Analysis Date: **03/12/2016 3:38**

Sample Type: **Site Sample**

Method: **mod. NIOSH 5506; HPLC/UV**

CAS	Parameter Name	DF	RL	Lab Result	Lab Qualifier	Verified Result	Verified Qualifier	Units	
5522-43-0	1-NITROPYRENE	1	0.4	0.4	U	0.4	U	UG	
5522-43-0	1-NITROPYRENE	1	0.0004	0.0004	U	0.0004	U	MG/M3	
83-32-9	ACENAPHTHENE	1	0.3	0.3	U	0.3	U	UG	
83-32-9	ACENAPHTHENE	1	0.0003	0.0003	U	0.0003	U	MG/M3	
208-96-8	ACENAPHTHYLENE	1	0.3	0.3	U	0.3	U	UG	
208-96-8	ACENAPHTHYLENE	1	0.0003	0.0003	U	0.0003	U	MG/M3	
120-12-7	ANTHRACENE	1	0.4	0.4	U	0.4	U	UG	
120-12-7	ANTHRACENE	1	0.0004	0.0004	U	0.0004	U	MG/M3	
56-55-3	BENZO(A)ANTHRACENE	1	0.4	0.4	U	0.4	U	UG	
56-55-3	BENZO(A)ANTHRACENE	1	0.0004	0.0004	U	0.0004	U	MG/M3	
50-32-8	BENZO(A)PYRENE	1	0.5	0.5	U	0.5	U	UG	
50-32-8	BENZO(A)PYRENE	1	0.0005	0.0005	U	0.0005	U	MG/M3	
205-99-2	BENZO(B)FLUORANTHENE	1	0.4	0.4	U	0.4	U	UG	
205-99-2	BENZO(B)FLUORANTHENE	1	0.0004	0.0004	U	0.0004	U	MG/M3	
192-97-2	BENZO(E)PYRENE	1	0.4	0.4	U	0.4	U	UG	
192-97-2	BENZO(E)PYRENE	1	0.0005	0.0005	U	0.0005	U	MG/M3	
191-24-2	BENZO(G,H,I)PERYLENE	1	0.5	0.5	U	0.5	U	UG	
191-24-2	BENZO(G,H,I)PERYLENE	1	0.0005	0.0005	U	0.0005	U	MG/M3	
207-08-9	BENZO(K)FLUORANTHENE	1	0.4	0.4	U	0.4	U	UG	
207-08-9	BENZO(K)FLUORANTHENE	1	0.0004	0.0004	U	0.0004	U	MG/M3	
218-01-9	CHRYSENE	1	0.4	0.4	U	0.4	U	UG	
218-01-9	CHRYSENE	1	0.0004	0.0004	U	0.0004	U	MG/M3	
53-70-3	DIBENZ(A,H)ANTHRACENE	1	0.4	0.4	U	0.4	U	UG	
53-70-3	DIBENZ(A,H)ANTHRACENE	1	0.0004	0.0004	U	0.0004	U	MG/M3	
206-44-0	FLUORANTHENE	1	0.4	0.4	U	0.4	U	UG	
206-44-0	FLUORANTHENE	1	0.0004	0.0004	U	0.0004	U	MG/M3	
86-73-7	FLUORENE	1	0.3	0.3	U	0.3	UJ	UG	*
86-73-7	FLUORENE	1	0.0003	0.0003	U	0.0003	UJ	MG/M3	*
193-39-5	INDENO-1,2,3-CD-PYRENE	1	0.5	0.5	U	0.5	U	UG	
193-39-5	INDENO-1,2,3-CD-PYRENE	1	0.0005	0.0005	U	0.0005	U	MG/M3	
91-20-3	NAPHTHALENE	1	0.3	0.3	U	0.3	U	UG	
91-20-3	NAPHTHALENE	1	0.0003	0.0003	U	0.0003	U	MG/M3	
85-01-8	PHENANTHRENE	1	0.3	0.3	U	0.3	U	UG	
85-01-8	PHENANTHRENE	1	0.0004	0.0004	U	0.0004	U	MG/M3	
129-00-0	PYRENE	1	0.4	0.4	U	0.4	U	UG	
129-00-0	PYRENE	1	0.0004	0.0004	U	0.0004	U	MG/M3	

DF = Dilution Factor RL = Reporting Limit

* = Modified by Validation

U = Non-Detect J = Estimated R = Rejected

eDATApro ENVIRONMENTAL DATA PROFESSIONAL, LLC

Form 1 Data Sheet - Semivolatiles

CTEH

Houston Wood Preserving Works Site

SDG: L369083

COC Sample ID: **HOTX0305PNAH002** | Sample Matrix : **Air** | Total/Dissolved: **T**

Location ID: **NA** | Sample Date: **03/05/2016** | Lab: **GALSON**

Lab Sample ID: **L369083-2** | Analysis Date: **03/12/2016 4:38**

Sample Type: **Site Sample**

Method: **mod. NIOSH 5506; HPLC/UV**

CAS	Parameter Name	DF	RL	Lab Result	Lab Qualifier	Verified Result	Verified Qualifier	Units	
5522-43-0	1-NITROPYRENE	1	0.4	0.4	U	0.4	U	UG	
5522-43-0	1-NITROPYRENE	1	0.0004	0.0004	U	0.0004	U	MG/M3	
83-32-9	ACENAPHTHENE	1	0.3	0.3	U	0.3	U	UG	
83-32-9	ACENAPHTHENE	1	0.0003	0.0003	U	0.0003	U	MG/M3	
208-96-8	ACENAPHTHYLENE	1	0.3	0.3	U	0.3	U	UG	
208-96-8	ACENAPHTHYLENE	1	0.0003	0.0003	U	0.0003	U	MG/M3	
120-12-7	ANTHRACENE	1	0.4	0.4	U	0.4	U	UG	
120-12-7	ANTHRACENE	1	0.0004	0.0004	U	0.0004	U	MG/M3	
56-55-3	BENZO(A)ANTHRACENE	1	0.4	0.4	U	0.4	U	UG	
56-55-3	BENZO(A)ANTHRACENE	1	0.0004	0.0004	U	0.0004	U	MG/M3	
50-32-8	BENZO(A)PYRENE	1	0.5	0.5	U	0.5	U	UG	
50-32-8	BENZO(A)PYRENE	1	0.0005	0.0005	U	0.0005	U	MG/M3	
205-99-2	BENZO(B)FLUORANTHENE	1	0.4	0.4	U	0.4	U	UG	
205-99-2	BENZO(B)FLUORANTHENE	1	0.0004	0.0004	U	0.0004	U	MG/M3	
192-97-2	BENZO(E)PYRENE	1	0.4	0.4	U	0.4	U	UG	
192-97-2	BENZO(E)PYRENE	1	0.0005	0.0005	U	0.0005	U	MG/M3	
191-24-2	BENZO(G,H,I)PERYLENE	1	0.5	0.5	U	0.5	U	UG	
191-24-2	BENZO(G,H,I)PERYLENE	1	0.0005	0.0005	U	0.0005	U	MG/M3	
207-08-9	BENZO(K)FLUORANTHENE	1	0.4	0.4	U	0.4	U	UG	
207-08-9	BENZO(K)FLUORANTHENE	1	0.0004	0.0004	U	0.0004	U	MG/M3	
218-01-9	CHRYSENE	1	0.4	0.4	U	0.4	U	UG	
218-01-9	CHRYSENE	1	0.0004	0.0004	U	0.0004	U	MG/M3	
53-70-3	DIBENZ(A,H)ANTHRACENE	1	0.4	0.4	U	0.4	U	UG	
53-70-3	DIBENZ(A,H)ANTHRACENE	1	0.0004	0.0004	U	0.0004	U	MG/M3	
206-44-0	FLUORANTHENE	1	0.4	0.4	U	0.4	U	UG	
206-44-0	FLUORANTHENE	1	0.0004	0.0004	U	0.0004	U	MG/M3	
86-73-7	FLUORENE	1	0.3	0.3	U	0.3	UJ	UG	*
86-73-7	FLUORENE	1	0.0003	0.0003	U	0.0003	UJ	MG/M3	*
193-39-5	INDENO-1,2,3-CD-PYRENE	1	0.5	0.5	U	0.5	U	UG	
193-39-5	INDENO-1,2,3-CD-PYRENE	1	0.0005	0.0005	U	0.0005	U	MG/M3	
91-20-3	NAPHTHALENE	1	0.3	0.3	U	0.3	U	UG	
91-20-3	NAPHTHALENE	1	0.0003	0.0003	U	0.0003	U	MG/M3	
85-01-8	PHENANTHRENE	1	0.3	0.3	U	0.3	U	UG	
85-01-8	PHENANTHRENE	1	0.0004	0.0004	U	0.0004	U	MG/M3	
129-00-0	PYRENE	1	0.4	0.4	U	0.4	U	UG	
129-00-0	PYRENE	1	0.0004	0.0004	U	0.0004	U	MG/M3	

DF = Dilution Factor RL = Reporting Limit

* = Modified by Validation

U = Non-Detect J = Estimated R = Rejected

eDATApro ENVIRONMENTAL DATA PROFESSIONAL, LLC

Form 1 Data Sheet - Semivolatiles

CTEH

Houston Wood Preserving Works Site

SDG: L369083

COC Sample ID: **HOTX0305PNAH003** Sample Matrix : **Air** Total/Dissolved: **T**

Location ID: **NA** Sample Date: **03/05/2016** Lab: **GALSON**

Lab Sample ID: **L369083-3** Analysis Date: **03/12/2016 5:57**

Sample Type: **Site Sample**

Method: **mod. NIOSH 5506; HPLC/UV**

CAS	Parameter Name	DF	RL	Lab Result	Lab Qualifier	Verified Result	Verified Qualifier	Units	
5522-43-0	1-NITROPYRENE	1	0.4	0.4	U	0.4	U	UG	
5522-43-0	1-NITROPYRENE	1	0.0004	0.0004	U	0.0004	U	MG/M3	
83-32-9	ACENAPHTHENE	1	0.3	0.3	U	0.3	U	UG	
83-32-9	ACENAPHTHENE	1	0.0003	0.0003	U	0.0003	U	MG/M3	
208-96-8	ACENAPHTHYLENE	1	0.3	0.3	U	0.3	U	UG	
208-96-8	ACENAPHTHYLENE	1	0.0003	0.0003	U	0.0003	U	MG/M3	
120-12-7	ANTHRACENE	1	0.4	0.4	U	0.4	U	UG	
120-12-7	ANTHRACENE	1	0.0004	0.0004	U	0.0004	U	MG/M3	
56-55-3	BENZO(A)ANTHRACENE	1	0.4	0.4	U	0.4	U	UG	
56-55-3	BENZO(A)ANTHRACENE	1	0.0004	0.0004	U	0.0004	U	MG/M3	
50-32-8	BENZO(A)PYRENE	1	0.5	0.5	U	0.5	U	UG	
50-32-8	BENZO(A)PYRENE	1	0.0005	0.0005	U	0.0005	U	MG/M3	
205-99-2	BENZO(B)FLUORANTHENE	1	0.4	0.4	U	0.4	U	UG	
205-99-2	BENZO(B)FLUORANTHENE	1	0.0004	0.0004	U	0.0004	U	MG/M3	
192-97-2	BENZO(E)PYRENE	1	0.4	0.4	U	0.4	U	UG	
192-97-2	BENZO(E)PYRENE	1	0.0005	0.0005	U	0.0005	U	MG/M3	
191-24-2	BENZO(G,H,I)PERYLENE	1	0.5	0.5	U	0.5	U	UG	
191-24-2	BENZO(G,H,I)PERYLENE	1	0.0005	0.0005	U	0.0005	U	MG/M3	
207-08-9	BENZO(K)FLUORANTHENE	1	0.4	0.4	U	0.4	U	UG	
207-08-9	BENZO(K)FLUORANTHENE	1	0.0004	0.0004	U	0.0004	U	MG/M3	
218-01-9	CHRYSENE	1	0.4	0.4	U	0.4	U	UG	
218-01-9	CHRYSENE	1	0.0004	0.0004	U	0.0004	U	MG/M3	
53-70-3	DIBENZ(A,H)ANTHRACENE	1	0.4	0.4	U	0.4	U	UG	
53-70-3	DIBENZ(A,H)ANTHRACENE	1	0.0004	0.0004	U	0.0004	U	MG/M3	
206-44-0	FLUORANTHENE	1	0.4	0.4	U	0.4	U	UG	
206-44-0	FLUORANTHENE	1	0.0004	0.0004	U	0.0004	U	MG/M3	
86-73-7	FLUORENE	1	0.3	0.3	U	0.3	UJ	UG	*
86-73-7	FLUORENE	1	0.0003	0.0003	U	0.0003	UJ	MG/M3	*
193-39-5	INDENO-1,2,3-CD-PYRENE	1	0.5	0.5	U	0.5	U	UG	
193-39-5	INDENO-1,2,3-CD-PYRENE	1	0.0005	0.0005	U	0.0005	U	MG/M3	
91-20-3	NAPHTHALENE	1	0.3	0.5		0.5	J	UG	*
91-20-3	NAPHTHALENE	1	0.0003	0.0005		0.0005	J	MG/M3	*
85-01-8	PHENANTHRENE	1	0.3	0.3	U	0.3	U	UG	
85-01-8	PHENANTHRENE	1	0.0004	0.0004	U	0.0004	U	MG/M3	
129-00-0	PYRENE	1	0.4	0.4	U	0.4	U	UG	
129-00-0	PYRENE	1	0.0004	0.0004	U	0.0004	U	MG/M3	

DF = Dilution Factor RL = Reporting Limit

* = Modified by Validation

U = Non-Detect J = Estimated R = Rejected

Form 1 Data Sheet - Semivolatiles

CTEH

Houston Wood Preserving Works Site

SDG: L369083

COC Sample ID: **HOTX0305PNAH004** Sample Matrix : **Air** Total/Dissolved: **T**

Location ID: **NA** Sample Date: **03/05/2016** Lab: **GALSON**

Lab Sample ID: **L369083-4** Analysis Date: **03/12/2016 6:57**

Sample Type: **Field Blank**

Method: **mod. NIOSH 5506; HPLC/UV**

CAS	Parameter Name	DF	RL	Lab Result	Lab Qualifier	Verified Result	Verified Qualifier	Units	
5522-43-0	1-NITROPYRENE	1	0.4	0.4	U	0.4	U	UG	
83-32-9	ACENAPHTHENE	1	0.3	0.3	U	0.3	U	UG	
208-96-8	ACENAPHTHYLENE	1	0.3	0.3	U	0.3	U	UG	
120-12-7	ANTHRACENE	1	0.4	0.4	U	0.4	U	UG	
56-55-3	BENZO(A)ANTHRACENE	1	0.4	0.4	U	0.4	U	UG	
50-32-8	BENZO(A)PYRENE	1	0.5	0.5	U	0.5	U	UG	
205-99-2	BENZO(B)FLUORANTHENE	1	0.4	0.4	U	0.4	U	UG	
192-97-2	BENZO(E)PYRENE	1	0.4	0.4	U	0.4	U	UG	
191-24-2	BENZO(G,H,I)PERYLENE	1	0.5	0.5	U	0.5	U	UG	
207-08-9	BENZO(K)FLUORANTHENE	1	0.4	0.4	U	0.4	U	UG	
218-01-9	CHRYSENE	1	0.4	0.4	U	0.4	U	UG	
53-70-3	DIBENZ(A,H)ANTHRACENE	1	0.4	0.4	U	0.4	U	UG	
206-44-0	FLUORANTHENE	1	0.4	0.4	U	0.4	U	UG	
86-73-7	FLUORENE	1	0.3	0.3	U	0.3	UJ	UG	*
193-39-5	INDENO-1,2,3-CD-PYRENE	1	0.5	0.5	U	0.5	U	UG	
91-20-3	NAPHTHALENE	1	0.3	0.3	U	0.3	U	UG	
85-01-8	PHENANTHRENE	1	0.3	0.3	U	0.3	U	UG	
129-00-0	PYRENE	1	0.4	0.4	U	0.4	U	UG	

DF = Dilution Factor RL = Reporting Limit

* = Modified by Validation

U = Non-Detect J = Estimated R = Rejected

eDATApro ENVIRONMENTAL DATA PROFESSIONAL, LLC

Appendix II
Chain of Custody

R81

5120 North Shore Drive
North Little Rock, AR 72118
Phone: (501) 801-8500
Fax: (501) 801-8501
Website: www.cteh.com

Center for Toxicology and Environmental Health L.L.C.

SAMPLE CHAIN OF CUSTODY AND ANALYSIS REQUEST FORM

Page 1 of 1

	Send Report To:	Send Invoice To:
Name	Mike Berg; Charles Connolly	Accounts Payable
Company	CTEH	CTEH
Address	2000 Anders Lane Kemah, Texas 77565	5120 North Shore Drive North Little Rock, AR 72118
Phone	(281)535-2834	(501)801-8500
Fax	(281)535-0232	(501)801-8501
e-mail	labresults@cteh.com; mberg@cteh.com cconnolly@cteh.com	raccounting@cteh.com

CTEH Project #: 107907

Turnaround Requested:
Same Day __Next Day (24 hour) X Normal
__Other (Specify) _____

Complete Data Packet Requested ☒Yes ☐No

Lab Contact Information:
Galson Laboratories
6601 Kirkville Road
E. Syracuse, NY 13057

Client Sample Identification	Other Sample Identification	Sample Size	Units (Check one) X L / __cm²	Sample Date	Sample Time (for non-air samples)	Initials	PNAH	Matrix (A = air, B = bulk, S = soil, SW = wipe, T = tape, W = water)
HOTX0305PNAH0001	AS12	956.4	L	3/5/16		PW	X	A
HOTX0305PNAH0002	AS07	971.9	L	3/5/16		PW	X	A
HOTX0305PNAH0003	AS18	958.1	L	3/5/16		PW	X	A
HOTX0305PNAH0004	BL	0	L	3/5/16		PW	X	A

Not Used

775813932260
Date: 03/08/16
Shipper: FEDEX
Initials: ZRK
Prep: UNKNOWN

Rec'd intact & all accounted for? Yes or No ZK
Rec'd w/custody seals intact? Yes or No N/A
Rec'd in light sensitive packaging? Yes or No ZK
Rec'd with ice pack? Yes or No ZK
Rec'd temperature compliant? Yes or No N/A

RELINQUISHED BY	DATE/TIME	RECEIVED BY	DATE/TIME	COMMENTS
Justin Langley	03/07/16 16:00	FedEx		
		Zach King	3/8/16 7:55	

Data Verification Report (Level 2)

Project: 107907 - Houston Wood Preserving Works Site

Client: CTEH

Report #: L369127 Date: March 17, 2016

Environmental Data Professional, LLC
1432 Watkins St.• Lake Charles, LA 70601 • phone: 337-540-0036 • fax: 337-478-6061

Disclaimer:

The review performed and reported herein is based on specifications and procedures presented to eDATApro with the associated data package. Any qualifications or review not specified with package requirements was based on USEPA National Functional Guidelines for Inorganic and Organic Data Review.

Information contained in this report is based solely on the hardcopy and/or electronic deliverables that were submitted to eDATApro. eDATApro reserves the rights to modify or change the report if new information is presented or if this report is determined to be inaccurate or incomplete.

The following parameters were reviewed during the verification process:

Chain-of-Custody (COC): Completeness and sample custody

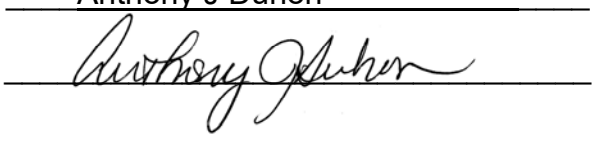
Holding time: Compare collection date versus preparation and/or analysis date

Blank Contamination: Laboratory and field blanks

Matrix/Precision/Recovery: Surrogates, Internal Standards, Duplicates, Blank spike and blank spike duplicate samples (when applicable)

Standards: Detection limit standard and continuing calibration verification (when applicable)

Reviewed by: Anthony J Duhon

Signature: 

INTRODUCTION:

Project Name: 107907 - Houston Wood Preserving Works Site
Laboratory: Galson Laboratories
Laboratory Package No.: L369127
Matrix: Air

Environmental Data Professional, LLC (eDATApro) received one electronic Level II data package containing the results for three field samples and one field blank. Level II verification was performed on the data utilizing *USEPA National Functional Guidelines for Organic Data Review* and the analytical method.

The following samples were reviewed:

Sample ID	Lab ID	Collection Date	Analyses
HOTX0307PNAH001	L369127-1	03/07/2016	[1]
HOTX0307PNAH002	L369127-2	03/07/2016	[1]
HOTX0307PNAH003	L369127-3	03/07/2016	[1]
HOTX0307PNAH004	L369127-4	03/07/2016	[1]

Analyses Performed Codes:

[1] Semivolatile Organics; PAHs (mod. NIOSH 5506; HPLC/UV)

DATA REVIEW FINDINGS SUMMARY

I. General Package:

The data package was complete and no resubmissions were requested.

II. Semivolatile Organics; PAHs – mod. NIOSH 5506; HPLC/UV:

The laboratory reported the results in both ug and mg/m3 units.

Recoveries of Benzo(k)fluoranthene, Dibenz(a,h)anthracene, Benzo(g,h,i)perylene and Indeno-1,2,3-cd-pyrene in blank spike/blank spike duplicate (BS/BSD) analyses WG341346-5 and WG341346-6 exceeded lower acceptance criteria. The laboratory commented that the BS/BSD samples were inadvertently prepared with an expired stock but that low recoveries are not considered to be attributed to the expired stock, as the filter portion of the spikes recovered within control limits. Results for these analytes were qualified as non-detect estimate (UJ).

All other quality assurance and quality control (QA/QC) components presented by the laboratory satisfied method and data review acceptance criteria.

Appendix I
Form 1 Data (Qualified)

Form 1 Data Sheet - Semivolatiles

CTEH

Houston Wood Preserving Works Site

SDG: L369127

COC Sample ID: **HOTX0307PNAH001** | Sample Matrix : **Air** | Total/Dissolved: **T**

Location ID: **NA** | Sample Date: **03/07/2016** | Lab: **GALSON**

Lab Sample ID: **L369127-1** | Analysis Date: **03/14/2016 1:26**

Sample Type: **Site Sample**

Method: **mod. NIOSH 5506; HPLC/UV**

CAS	Parameter Name	DF	RL	Lab Result	Lab Qualifier	Verified Result	Verified Qualifier	Units	
5522-43-0	1-NITROPYRENE	1	0.4	0.4	U	0.4	U	UG	
5522-43-0	1-NITROPYRENE	1	0.0004	0.0004	U	0.0004	U	MG/M3	
83-32-9	ACENAPHTHENE	1	0.3	0.3	U	0.3	U	UG	
83-32-9	ACENAPHTHENE	1	0.0003	0.0003	U	0.0003	U	MG/M3	
208-96-8	ACENAPHTHYLENE	1	0.3	0.3	U	0.3	U	UG	
208-96-8	ACENAPHTHYLENE	1	0.0003	0.0003	U	0.0003	U	MG/M3	
120-12-7	ANTHRACENE	1	0.4	0.4	U	0.4	U	UG	
120-12-7	ANTHRACENE	1	0.0004	0.0004	U	0.0004	U	MG/M3	
56-55-3	BENZO(A)ANTHRACENE	1	0.4	0.4	U	0.4	U	UG	
56-55-3	BENZO(A)ANTHRACENE	1	0.0004	0.0004	U	0.0004	U	MG/M3	
50-32-8	BENZO(A)PYRENE	1	0.5	0.5	U	0.5	U	UG	
50-32-8	BENZO(A)PYRENE	1	0.0005	0.0005	U	0.0005	U	MG/M3	
205-99-2	BENZO(B)FLUORANTHENE	1	0.4	0.4	U	0.4	U	UG	
205-99-2	BENZO(B)FLUORANTHENE	1	0.0004	0.0004	U	0.0004	U	MG/M3	
192-97-2	BENZO(E)PYRENE	1	0.4	0.4	U	0.4	U	UG	
192-97-2	BENZO(E)PYRENE	1	0.0005	0.0005	U	0.0005	U	MG/M3	
191-24-2	BENZO(G,H,I)PERYLENE	1	0.5	0.5	U	0.5	UJ	UG	*
191-24-2	BENZO(G,H,I)PERYLENE	1	0.0005	0.0005	U	0.0005	UJ	MG/M3	*
207-08-9	BENZO(K)FLUORANTHENE	1	0.4	0.4	U	0.4	UJ	UG	*
207-08-9	BENZO(K)FLUORANTHENE	1	0.0004	0.0004	U	0.0004	UJ	MG/M3	*
218-01-9	CHRYSENE	1	0.4	0.4	U	0.4	U	UG	
218-01-9	CHRYSENE	1	0.0004	0.0004	U	0.0004	U	MG/M3	
53-70-3	DIBENZ(A,H)ANTHRACENE	1	0.4	0.4	U	0.4	UJ	UG	*
53-70-3	DIBENZ(A,H)ANTHRACENE	1	0.0004	0.0004	U	0.0004	UJ	MG/M3	*
206-44-0	FLUORANTHENE	1	0.4	0.4	U	0.4	U	UG	
206-44-0	FLUORANTHENE	1	0.0004	0.0004	U	0.0004	U	MG/M3	
86-73-7	FLUORENE	1	0.3	0.3	U	0.3	U	UG	
86-73-7	FLUORENE	1	0.0003	0.0003	U	0.0003	U	MG/M3	
193-39-5	INDENO-1,2,3-CD-PYRENE	1	0.5	0.5	U	0.5	UJ	UG	*
193-39-5	INDENO-1,2,3-CD-PYRENE	1	0.0005	0.0005	U	0.0005	UJ	MG/M3	*
91-20-3	NAPHTHALENE	1	0.3	0.3	U	0.3	U	UG	
91-20-3	NAPHTHALENE	1	0.0003	0.0003	U	0.0003	U	MG/M3	
85-01-8	PHENANTHRENE	1	0.3	0.3	U	0.3	U	UG	
85-01-8	PHENANTHRENE	1	0.0004	0.0004	U	0.0004	U	MG/M3	
129-00-0	PYRENE	1	0.4	0.4	U	0.4	U	UG	
129-00-0	PYRENE	1	0.0004	0.0004	U	0.0004	U	MG/M3	

DF = Dilution Factor RL = Reporting Limit

* = Modified by Validation

U = Non-Detect J = Estimated R = Rejected

eDATApro ENVIRONMENTAL DATA PROFESSIONAL, LLC

Form 1 Data Sheet - Semivolatiles

CTEH

Houston Wood Preserving Works Site

SDG: L369127

COC Sample ID: **HOTX0307PNAH002** | Sample Matrix : **Air** | Total/Dissolved: **T**

Location ID: **NA** | Sample Date: **03/07/2016** | Lab: **GALSON**

Lab Sample ID: **L369127-2** | Analysis Date: **03/14/2016 2:29**

Sample Type: **Site Sample**

Method: **mod. NIOSH 5506; HPLC/UV**

CAS	Parameter Name	DF	RL	Lab Result	Lab Qualifier	Verified Result	Verified Qualifier	Units	
5522-43-0	1-NITROPYRENE	1	0.4	0.4	U	0.4	U	UG	
5522-43-0	1-NITROPYRENE	1	0.0004	0.0004	U	0.0004	U	MG/M3	
83-32-9	ACENAPHTHENE	1	0.3	0.3	U	0.3	U	UG	
83-32-9	ACENAPHTHENE	1	0.0004	0.0004	U	0.0004	U	MG/M3	
208-96-8	ACENAPHTHYLENE	1	0.3	0.3	U	0.3	U	UG	
208-96-8	ACENAPHTHYLENE	1	0.0003	0.0003	U	0.0003	U	MG/M3	
120-12-7	ANTHRACENE	1	0.4	0.4	U	0.4	U	UG	
120-12-7	ANTHRACENE	1	0.0004	0.0004	U	0.0004	U	MG/M3	
56-55-3	BENZO(A)ANTHRACENE	1	0.4	0.4	U	0.4	U	UG	
56-55-3	BENZO(A)ANTHRACENE	1	0.0004	0.0004	U	0.0004	U	MG/M3	
50-32-8	BENZO(A)PYRENE	1	0.5	0.5	U	0.5	U	UG	
50-32-8	BENZO(A)PYRENE	1	0.0005	0.0005	U	0.0005	U	MG/M3	
205-99-2	BENZO(B)FLUORANTHENE	1	0.4	0.4	U	0.4	U	UG	
205-99-2	BENZO(B)FLUORANTHENE	1	0.0004	0.0004	U	0.0004	U	MG/M3	
192-97-2	BENZO(E)PYRENE	1	0.4	0.4	U	0.4	U	UG	
192-97-2	BENZO(E)PYRENE	1	0.0005	0.0005	U	0.0005	U	MG/M3	
191-24-2	BENZO(G,H,I)PERYLENE	1	0.5	0.5	U	0.5	UJ	UG	*
191-24-2	BENZO(G,H,I)PERYLENE	1	0.0005	0.0005	U	0.0005	UJ	MG/M3	*
207-08-9	BENZO(K)FLUORANTHENE	1	0.4	0.4	U	0.4	UJ	UG	*
207-08-9	BENZO(K)FLUORANTHENE	1	0.0004	0.0004	U	0.0004	UJ	MG/M3	*
218-01-9	CHRYSENE	1	0.4	0.4	U	0.4	U	UG	
218-01-9	CHRYSENE	1	0.0004	0.0004	U	0.0004	U	MG/M3	
53-70-3	DIBENZ(A,H)ANTHRACENE	1	0.4	0.4	U	0.4	UJ	UG	*
53-70-3	DIBENZ(A,H)ANTHRACENE	1	0.0004	0.0004	U	0.0004	UJ	MG/M3	*
206-44-0	FLUORANTHENE	1	0.4	0.4	U	0.4	U	UG	
206-44-0	FLUORANTHENE	1	0.0004	0.0004	U	0.0004	U	MG/M3	
86-73-7	FLUORENE	1	0.3	0.3	U	0.3	U	UG	
86-73-7	FLUORENE	1	0.0004	0.0004	U	0.0004	U	MG/M3	
193-39-5	INDENO-1,2,3-CD-PYRENE	1	0.5	0.5	U	0.5	UJ	UG	*
193-39-5	INDENO-1,2,3-CD-PYRENE	1	0.0005	0.0005	U	0.0005	UJ	MG/M3	*
91-20-3	NAPHTHALENE	1	0.3	0.3	U	0.3	U	UG	
91-20-3	NAPHTHALENE	1	0.0003	0.0003	U	0.0003	U	MG/M3	
85-01-8	PHENANTHRENE	1	0.3	0.3	U	0.3	U	UG	
85-01-8	PHENANTHRENE	1	0.0004	0.0004	U	0.0004	U	MG/M3	
129-00-0	PYRENE	1	0.4	0.4	U	0.4	U	UG	
129-00-0	PYRENE	1	0.0004	0.0004	U	0.0004	U	MG/M3	

DF = Dilution Factor RL = Reporting Limit

* = Modified by Validation

U = Non-Detect J = Estimated R = Rejected

eDATApro ENVIRONMENTAL DATA PROFESSIONAL, LLC

Form 1 Data Sheet - Semivolatiles

CTEH

Houston Wood Preserving Works Site

SDG: L369127

COC Sample ID: **HOTX0307PNAH003** Sample Matrix : **Air** Total/Dissolved: **T**

Location ID: **NA** Sample Date: **03/07/2016** Lab: **GALSON**

Lab Sample ID: **L369127-3** Analysis Date: **03/14/2016 3:31**

Sample Type: **Site Sample**

Method: **mod. NIOSH 5506; HPLC/UV**

CAS	Parameter Name	DF	RL	Lab Result	Lab Qualifier	Verified Result	Verified Qualifier	Units	
5522-43-0	1-NITROPYRENE	1	0.4	0.4	U	0.4	U	UG	
5522-43-0	1-NITROPYRENE	1	0.0004	0.0004	U	0.0004	U	MG/M3	
83-32-9	ACENAPHTHENE	1	0.3	0.3	U	0.3	U	UG	
83-32-9	ACENAPHTHENE	1	0.0003	0.0003	U	0.0003	U	MG/M3	
208-96-8	ACENAPHTHYLENE	1	0.3	0.3	U	0.3	U	UG	
208-96-8	ACENAPHTHYLENE	1	0.0003	0.0003	U	0.0003	U	MG/M3	
120-12-7	ANTHRACENE	1	0.4	0.4	U	0.4	U	UG	
120-12-7	ANTHRACENE	1	0.0004	0.0004	U	0.0004	U	MG/M3	
56-55-3	BENZO(A)ANTHRACENE	1	0.4	0.4	U	0.4	U	UG	
56-55-3	BENZO(A)ANTHRACENE	1	0.0004	0.0004	U	0.0004	U	MG/M3	
50-32-8	BENZO(A)PYRENE	1	0.5	0.5	U	0.5	U	UG	
50-32-8	BENZO(A)PYRENE	1	0.0005	0.0005	U	0.0005	U	MG/M3	
205-99-2	BENZO(B)FLUORANTHENE	1	0.4	0.4	U	0.4	U	UG	
205-99-2	BENZO(B)FLUORANTHENE	1	0.0004	0.0004	U	0.0004	U	MG/M3	
192-97-2	BENZO(E)PYRENE	1	0.4	0.4	U	0.4	U	UG	
192-97-2	BENZO(E)PYRENE	1	0.0005	0.0005	U	0.0005	U	MG/M3	
191-24-2	BENZO(G,H,I)PERYLENE	1	0.5	0.5	U	0.5	UJ	UG	*
191-24-2	BENZO(G,H,I)PERYLENE	1	0.0005	0.0005	U	0.0005	UJ	MG/M3	*
207-08-9	BENZO(K)FLUORANTHENE	1	0.4	0.4	U	0.4	UJ	UG	*
207-08-9	BENZO(K)FLUORANTHENE	1	0.0004	0.0004	U	0.0004	UJ	MG/M3	*
218-01-9	CHRYSENE	1	0.4	0.4	U	0.4	U	UG	
218-01-9	CHRYSENE	1	0.0004	0.0004	U	0.0004	U	MG/M3	
53-70-3	DIBENZ(A,H)ANTHRACENE	1	0.4	0.4	U	0.4	UJ	UG	*
53-70-3	DIBENZ(A,H)ANTHRACENE	1	0.0004	0.0004	U	0.0004	UJ	MG/M3	*
206-44-0	FLUORANTHENE	1	0.4	0.4	U	0.4	U	UG	
206-44-0	FLUORANTHENE	1	0.0004	0.0004	U	0.0004	U	MG/M3	
86-73-7	FLUORENE	1	0.3	0.3	U	0.3	U	UG	
86-73-7	FLUORENE	1	0.0003	0.0003	U	0.0003	U	MG/M3	
193-39-5	INDENO-1,2,3-CD-PYRENE	1	0.5	0.5	U	0.5	UJ	UG	*
193-39-5	INDENO-1,2,3-CD-PYRENE	1	0.0005	0.0005	U	0.0005	UJ	MG/M3	*
91-20-3	NAPHTHALENE	1	0.3	0.3	U	0.3	U	UG	
91-20-3	NAPHTHALENE	1	0.0003	0.0003	U	0.0003	U	MG/M3	
85-01-8	PHENANTHRENE	1	0.3	0.3	U	0.3	U	UG	
85-01-8	PHENANTHRENE	1	0.0004	0.0004	U	0.0004	U	MG/M3	
129-00-0	PYRENE	1	0.4	0.4	U	0.4	U	UG	
129-00-0	PYRENE	1	0.0004	0.0004	U	0.0004	U	MG/M3	

DF = Dilution Factor RL = Reporting Limit

* = Modified by Validation

U = Non-Detect J = Estimated R = Rejected

Form 1 Data Sheet - Semivolatiles

CTEH

Houston Wood Preserving Works Site

SDG: L369127

COC Sample ID: **HOTX0307PNAH004** Sample Matrix : **Air** Total/Dissolved: **T**

Location ID: **NA** Sample Date: **03/07/2016** Lab: **GALSON**

Lab Sample ID: **L369127-4** Analysis Date: **03/14/2016 4:55**

Sample Type: **Field Blank**

Method: **mod. NIOSH 5506; HPLC/UV**

CAS	Parameter Name	DF	RL	Lab Result	Lab Qualifier	Verified Result	Verified Qualifier	Units	
5522-43-0	1-NITROPYRENE	1	0.4	0.4	U	0.4	U	UG	
83-32-9	ACENAPHTHENE	1	0.3	0.3	U	0.3	U	UG	
208-96-8	ACENAPHTHYLENE	1	0.3	0.3	U	0.3	U	UG	
120-12-7	ANTHRACENE	1	0.4	0.4	U	0.4	U	UG	
56-55-3	BENZO(A)ANTHRACENE	1	0.4	0.4	U	0.4	U	UG	
50-32-8	BENZO(A)PYRENE	1	0.5	0.5	U	0.5	U	UG	
205-99-2	BENZO(B)FLUORANTHENE	1	0.4	0.4	U	0.4	U	UG	
192-97-2	BENZO(E)PYRENE	1	0.4	0.4	U	0.4	U	UG	
191-24-2	BENZO(G,H,I)PERYLENE	1	0.5	0.5	U	0.5	UJ	UG	*
207-08-9	BENZO(K)FLUORANTHENE	1	0.4	0.4	U	0.4	UJ	UG	*
218-01-9	CHRYSENE	1	0.4	0.4	U	0.4	U	UG	
53-70-3	DIBENZ(A,H)ANTHRACENE	1	0.4	0.4	U	0.4	UJ	UG	*
206-44-0	FLUORANTHENE	1	0.4	0.4	U	0.4	U	UG	
86-73-7	FLUORENE	1	0.3	0.3	U	0.3	U	UG	
193-39-5	INDENO-1,2,3-CD-PYRENE	1	0.5	0.5	U	0.5	UJ	UG	*
91-20-3	NAPHTHALENE	1	0.3	0.3	U	0.3	U	UG	
85-01-8	PHENANTHRENE	1	0.3	0.3	U	0.3	U	UG	
129-00-0	PYRENE	1	0.4	0.4	U	0.4	U	UG	

DF = Dilution Factor RL = Reporting Limit

* = Modified by Validation

U = Non-Detect J = Estimated R = Rejected

eDATApro
ENVIRONMENTAL DATA PROFESSIONAL, LLC

Appendix II
Chain of Custody

5120 North Shore Drive
North Little Rock, AR 72118
Phone: (501) 801-8500
Fax: (501) 801-8501
Website: www.cteh.com

Center for Toxicology and Environmental Health L.L.C.

SAMPLE CHAIN OF CUSTODY AND ANALYSIS REQUEST FORM

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Page 1 of 1

	Send Report To:	Send Invoice To:
Name	Mike Berg, Charles Connolly	Accounts Payable
Company	CTEH	CTEH
Address	2000 Anders Lane Kemah, Texas 77565	5120 North Shore Drive North Little Rock, AR 72118
Phone	(281)535-2834	(501)801-8500
Fax	(281)535-0232	(501)801-8501
e-mail	labresults@cteh.com; cconnolly@cteh.com; mberg@cteh.com	laccounting@cteh.com

CTEH Project #: 107507

Turnaround Requested:
Same Day __Next Day (24 hour) X Normal
__Other (Specify) _____

Complete Data Packet Requested X Yes ☐ No

Lab Contact Information:
Galson Laboratories
6601 Kirkville Road
E. Syracuse, NY 13057

Client Sample Identification	Other Sample Identification	Sample Size	Units (Check one) X L __cm²	Sample Date	Sample Time (for non-air samples)	Initials	PNAH									Matrix (A = air, B = bulk, S = soil, SW = wipe, T = tape, W = water)
HOTX0307PNAH001	AS12	961.7	L	03/07/16		PS	X	0EB045								A
HOTX0307PNAH002	AS07	950.9	L	03/07/16		PS	X									A
HOTX0307PNAH003	AS18	953.5	L	03/07/16		PS	X									A
HOTX0307PNAH004	BL	0	L	03/07/16		PS	X									A

SK 3/9/16

775825464211
Date: 03/09/16
Shipper: FEDEX
Initials: SK
Prep: UNKNOWN

Samples Received in Light Sensitve Material: Yes or No

P.S. NOT USED

PS

RELINQUISHED BY	DATE/TIME	RECEIVED BY	DATE/TIME
Justin Langley	3/8/16 16:00	Fed Ex	
		M Krause	3/9/16 0735

COMMENTS

Rec'd intact & all accounted for? Yes or No SK
Rec'd w/custody seals intact? Yes or No NA
Rec'd in light sensitive packaging? Yes or No SK
Rec'd with ice pack? Yes or No SK
Rec'd temperature compliant? Yes or No SK

Data Verification Report (Level 2)

Project: 107907 - Houston Wood Preserving Works Site

Client: CTEH

Report #: 030416 Date: March 18, 2016

Environmental Data Professional, LLC
1432 Watkins St.• Lake Charles, LA 70601 • phone: 337-540-0036 • fax: 337-478-6061

Disclaimer:

The review performed and reported herein is based on specifications and procedures presented to eDATApro with the associated data package. Any qualifications or review not specified with package requirements was based on USEPA National Functional Guidelines for Inorganic and Organic Data Review.

Information contained in this report is based solely on the hardcopy and/or electronic deliverables that were submitted to eDATApro. eDATApro reserves the rights to modify or change the report if new information is presented or if this report is determined to be inaccurate or incomplete.

The following parameters were reviewed during the verification process:

Chain-of-Custody (COC): Completeness and sample custody

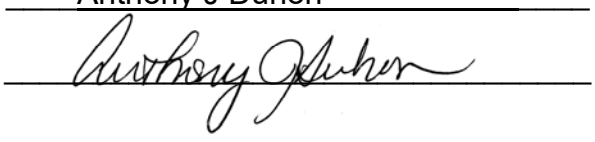
Holding time: Compare collection date versus preparation and/or analysis date

Blank Contamination: Laboratory and field blanks

Matrix/Precision/Recovery: Surrogates, Internal Standards, Duplicates, Blank spike and blank spike duplicate samples (when applicable)

Standards: Detection limit standard and continuing calibration verification (when applicable)

Reviewed by: Anthony J Duhon

Signature: 

INTRODUCTION:

Project Name: 107907 - Houston Wood Preserving Works Site
Laboratory: Inter-Mountain Laboratories
Laboratory Package No.: 030416
Matrix: Air

Environmental Data Professional, LLC (eDATApro) received one electronic Level II data package containing the results for three field samples and one field blank. Level II verification was performed on the data utilizing *USEPA National Functional Guidelines for Inorganic Data Review* and requirements from the project specific Sampling and Analysis Plan (SAP), the laboratory standard operating procedure (SOP) and the analytical method.

The following samples were reviewed:

Sample ID	Lab ID	Collection Date	Analyses
HOTX0304PM001	P2928592	03/04/2016	[1]
HOTX0304PM002	P2928593	03/04/2016	[1]
HOTX0304PM003	P2928594	03/04/2016	[1]
HOTX0304PM004	P2928595	03/04/2016	[1]

Analyses Performed Codes:

[1] Particulate Matter; PM_{10} (*EPA 40 CFR 50 Appendix O; Reference Method for the Determination of Coarse Particulate Matter $PM_{10-2.5}$ in the Atmosphere*) - modified

DATA REVIEW FINDINGS SUMMARY

I. General Package:

A data package compliant for verification was received from the laboratory.

II. Particulate Matter; PM_{10} (modified) – EPA 40 CFR 50 Appendix O:

The laboratory reported the results in both mg and ug/m^3 units.

Samples were not received chilled per method temperature preservation requirements. Results for samples from this SDG were qualified as estimate (J).

The laboratory noted for samples HOTX0304PM001, HOTX0304PM002 and HOTX0304PM003; “Elapsed sample period differed by more than ±1 hour of programmed period.” and “Sample was not collected from midnight to midnight.” These comments were not applicable based on the details of the project SAP. No data qualifiers were necessary.

Field blank sample HOTX0304PM004 had a measurable mass difference; however, it was below the maximum allowed. The reporting limit was calculated from the maximum allowable mass difference of the field blank. The field sample data were not affected.

All other quality assurance and quality control (QA/QC) components presented by the laboratory satisfied method and data review acceptance criteria.

Appendix I
Form 1 Data (Qualified)

Form 1 Data Sheet - Conventionals

CTEH

Houston Wood Preserving Works Site

SDG: 030416

COC Sample ID: **HOTX0304PM001** Sample Matrix : **Air**

Location ID: **NA**

Lab Sample ID: **P2928592** Lab Code: **IML**

Sample Type: **Site Sample**

Parameter Name	Collection Date	Analysis Date	DF	RL	Lab Result	Lab Qualifier	Verified Result	Verified Qualifier	Units	
Method: EPA 40 CFR 50 Appendix O										
PARTICULATE MATTER/PM10	03/04/2016	03/08/2016 11:17	1	2	90.2		90.2	J	ug/m3	*
PARTICULATE MATTER/PM10	03/04/2016	03/08/2016 11:17	1		0.895		0.895	J	mg	*

DF = Dilution Factor RL = Reporting Limit

* = Modified by Validation

U = Non-Detect J = Estimated R = Rejected

eDATApro

Form 1 Data Sheet - Conventionals

CTEH

Houston Wood Preserving Works Site

SDG: 030416

COC Sample ID: **HOTX0304PM002** Sample Matrix : **Air**

Location ID: **NA**

Lab Sample ID: **P2928593** Lab Code: **IML**

Sample Type: **Site Sample**

Parameter Name	Collection Date	Analysis Date	DF	RL	Lab Result	Lab Qualifier	Verified Result	Verified Qualifier	Units	
Method: EPA 40 CFR 50 Appendix O										
PARTICULATE MATTER/PM10	03/04/2016	03/08/2016 11:17	1	2	59.8		59.8	J	ug/m3	*
PARTICULATE MATTER/PM10	03/04/2016	03/08/2016 11:17	1		0.596		0.596	J	mg	*

DF = Dilution Factor RL = Reporting Limit

* = Modified by Validation

U = Non-Detect J = Estimated R = Rejected

eDATApro

Form 1 Data Sheet - Conventionals

CTEH

Houston Wood Preserving Works Site

SDG: 030416

COC Sample ID: **HOTX0304PM003** Sample Matrix : **Air**

Location ID: **NA**

Lab Sample ID: **P2928594** Lab Code: **IML**

Sample Type: **Site Sample**

Parameter Name	Collection Date	Analysis Date	DF	RL	Lab Result	Lab Qualifier	Verified Result	Verified Qualifier	Units	
Method: EPA 40 CFR 50 Appendix O										
PARTICULATE MATTER/PM10	03/04/2016	03/08/2016 11:18	1	2	47.5		47.5	J	ug/m3	*
PARTICULATE MATTER/PM10	03/04/2016	03/08/2016 11:18	1		0.457		0.457	J	mg	*

DF = Dilution Factor RL = Reporting Limit

* = Modified by Validation

U = Non-Detect J = Estimated R = Rejected

eDATApro

Form 1 Data Sheet - Conventionals

CTEH

Houston Wood Preserving Works Site

SDG: 030416

COC Sample ID: **HOTX0304PM004** Sample Matrix : **Air**

Location ID: **NA**

Lab Sample ID: **P2928595** Lab Code: **IML**

Sample Type: **Field Blank**

Parameter Name	Collection Date	Analysis Date	DF	RL	Lab Result	Lab Qualifier	Verified Result	Verified Qualifier	Units	
Method: EPA 40 CFR 50 Appendix O										
PARTICULATE MATTER/PM10	03/04/2016	03/08/2016 11:18	1		-0.004		-0.004	J	mg	*

DF = Dilution Factor RL = Reporting Limit

* = Modified by Validation

U = Non-Detect J = Estimated R = Rejected

eDATApro

Appendix II
Chain of Custody

Inter-Mountain Labs

Sheridan, WY and Gillette, WY

- CHAIN OF CUSTODY RECORD -

Page of

All shaded fields must be completed.
This is a legal document: any misrepresentation may be construed as fraud.

166211

Client Name CTEH/UP	**Project Identification** 107907	**Sampler (Signature/Attestation of Authenticity)**	**Telephone #**
Report Address 5120 North Shore Dr. North Little Rock, AR 72118	**Contact Name** Mike Bess ; Charles Connolly **Email** mbess@cteh.com; cconnolly@cteh.com **Phone**		
Invoice Address Same as above	**Purchase Order #**	**Quote #**	

ANALYSES / PARAMETERS

ITEM	LAB ID (Lab Use Only)	DATE SAMPLED	TIME SAMPLED	SAMPLE IDENTIFICATION	Matrix	# of Containers	PM10								REMARKS
1	P2928592	03/04/16		HOTX0304PM001	FT	1	X								~~205068~~ 205345
2	P2928593	03/04/16		HOTX0304PM002	FT	1	X								205068
3	P2928594	03/04/16		HOTX0304PM003	FT	1	X								203878
4	P2928595	03/04/16		HOTX0304PM004	FT	1	X								203878
5															
6															
7															
8															
9															
10															
11															
12															
13															
14															

LAB COMMENTS	Relinquished By (Signature/Printed)	DATE	TIME	Received By (Signature/Printed)	DATE	TIME
(4)	Jeff A	03/05/16	1141	Kayla Stallcam/IML	3/7/16	11:05 am
						13.8°C

SHIPPING INFO
- ☐ UPS
- ☐ Fed Express
- ☐ US Mail
- ☐ Hand Carried
- ☐ Other _____

MATRIX CODES

Water	WT
Soil	SL
Solid	SD
Filter	FT
Other	OT

TURNAROUND TIMES

Check desired service
- ☒ Standard turnaround
- ☐ **RUSH - 5 Working Days**
- ☐ **URGENT** - < 2 Working Days

Rush & Urgent Surcharges will be applied

COMPLIANCE INFORMATION

Compliance Monitoring? Y / ~~N~~
Program (SDWA, NPDES,...) N/A
PWSID / Permit # N/A
Chlorinated? Y / ~~N~~
Sample Disposal: Lab ☒ Client

ADDITIONAL REMARKS

Inter-Mountain Laboratories, Inc., 555 Absaraka St, Sheridan, WY 82801 phone: (307) 674-7506

Air Science Division

Condition Upon Receipt (Attach to Chain of Custody)

Sample Receipt

Client and location: CTEH- Houston

Date Received: 3/7/16 Time Received: 11:05

Sample(s) Received By: KH Chain Of Custody Number: 166211

IR Temperature Gun SN: 111720654 Number of Samples Received: 4

Check one:

Infrared Temperature Gun: ✓ Min/Max Thermometer: _____

Sample Conditions

1.	Custody seals intact		☐ Yes	☑ No	Comment: N/A
2.	Sample arrival temperature between 0°C and 4°C	Temperature: 14 °C	☐ Yes	☑ No	Comment: Rec'd in a box, 1 soft ice pack
3.	Contents match Chain of Custody (sample ID's, number of samples, etc.)		☑ Yes	☐ No	Comment:
4.	Chain of custody properly completed (legible, complete, signed)		☑ Yes	☐ No	Comment:
5.	Sample(s) received intact (no tears, moisture, contamination, etc.)		☑ Yes	☐ No	Comment:
6.	Sample(s) in correct anti-static bag (cassette number, bag label and filter ID all must match)		☑ Yes	☐ No	Comment:
7.	Rush or turn around time checked and accepted		☑ Yes	☐ No	Comment:
8.	All requested analyses understood and appropriate		☑ Yes	☐ No	Comment:
9.	Sample(s) exposed before the tare expiration date		☑ Yes	☐ No	Comment:

Discrepancy Documentation ***(attach additional sheets if necessary)***

Any items listed above with a response of "No" must be resolved.

Person Contacted: _____ Telephone Number: _____

Initiated By: _____ Date/Time: _____

Problem:

Resolution:

Data Verification Report (Level 2)

Project: 107907 - Houston Wood Preserving Works Site

Client: CTEH

Report #: L369250 Date: March 18, 2016

Environmental Data Professional, LLC
1432 Watkins St.• Lake Charles, LA 70601 • phone: 337-540-0036 • fax: 337-478-6061

Disclaimer:

The review performed and reported herein is based on specifications and procedures presented to eDATApro with the associated data package. Any qualifications or review not specified with package requirements was based on USEPA National Functional Guidelines for Inorganic and Organic Data Review.

Information contained in this report is based solely on the hardcopy and/or electronic deliverables that were submitted to eDATApro. eDATApro reserves the rights to modify or change the report if new information is presented or if this report is determined to be inaccurate or incomplete.

The following parameters were reviewed during the verification process:

Chain-of-Custody (COC): Completeness and sample custody

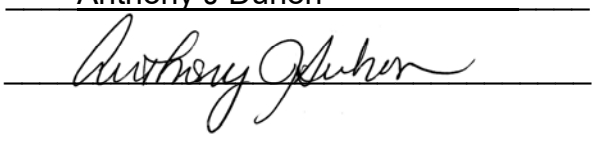
Holding time: Compare collection date versus preparation and/or analysis date

Blank Contamination: Laboratory and field blanks

Matrix/Precision/Recovery: Surrogates, Internal Standards, Duplicates, Blank spike and blank spike duplicate samples (when applicable)

Standards: Detection limit standard and continuing calibration verification (when applicable)

Reviewed by: Anthony J Duhon

Signature: 

INTRODUCTION:

Project Name: 107907 - Houston Wood Preserving Works Site
Laboratory: Galson Laboratories
Laboratory Package No.: L369250
Matrix: Air

Environmental Data Professional, LLC (eDATApro) received one electronic Level II data package containing the results for three field samples and one field blank. Level II verification was performed on the data utilizing *USEPA National Functional Guidelines for Organic Data Review* and the analytical method.

The following samples were reviewed:

Sample ID	Lab ID	Collection Date	Analyses
HOTX0308PNAH001	L369250-1	03/08/2016	[1]
HOTX0308PNAH002	L369250-2	03/08/2016	[1]
HOTX0308PNAH003	L369250-3	03/08/2016	[1]
HOTX0308PNAH004	L369250-4	03/08/2016	[1]

Analyses Performed Codes:

[1] Semivolatile Organics; PAHs (mod. NIOSH 5506; HPLC/UV)

DATA REVIEW FINDINGS SUMMARY

I. General Package:

The data package was complete and no resubmissions were requested.

II. Semivolatile Organics; PAHs – mod. NIOSH 5506; HPLC/UV:

The laboratory reported the results in both ug and mg/m3 units.

The laboratory reported blank spike/blank spike duplicate (BS/BSD) analyses WG341346-5 and WG341346-6 with spike recovery exceedences; however, these QC samples did not apply to the samples from this SDG. No data qualifications were necessary.

All other quality assurance and quality control (QA/QC) components presented by the laboratory satisfied method and data review acceptance criteria.

Appendix I
Form 1 Data (Qualified)

Form 1 Data Sheet - Semivolatiles

CTEH

Houston Wood Preserving Works Site

SDG: L369250

COC Sample ID: **HOTX0308PNAH001** | Sample Matrix : **Air** | Total/Dissolved: **T**

Location ID: **NA** | Sample Date: **03/08/2016** | Lab: **GALSON**

Lab Sample ID: **L369250-1** | Analysis Date: **03/14/2016 7:39**

Sample Type: **Site Sample**

Method: **mod. NIOSH 5506; HPLC/UV**

CAS	Parameter Name	DF	RL	Lab Result	Lab Qualifier	Verified Result	Verified Qualifier	Units
5522-43-0	1-NITROPYRENE	1	0.4	0.4	U	0.4	U	UG
5522-43-0	1-NITROPYRENE	1	0.0005	0.0005	U	0.0005	U	MG/M3
83-32-9	ACENAPHTHENE	1	0.3	0.3	U	0.3	U	UG
83-32-9	ACENAPHTHENE	1	0.0005	0.0005	U	0.0005	U	MG/M3
208-96-8	ACENAPHTHYLENE	1	0.3	0.3	U	0.3	U	UG
208-96-8	ACENAPHTHYLENE	1	0.0004	0.0004	U	0.0004	U	MG/M3
120-12-7	ANTHRACENE	1	0.4	0.4	U	0.4	U	UG
120-12-7	ANTHRACENE	1	0.0005	0.0005	U	0.0005	U	MG/M3
56-55-3	BENZO(A)ANTHRACENE	1	0.4	0.4	U	0.4	U	UG
56-55-3	BENZO(A)ANTHRACENE	1	0.0005	0.0005	U	0.0005	U	MG/M3
50-32-8	BENZO(A)PYRENE	1	0.5	0.5	U	0.5	U	UG
50-32-8	BENZO(A)PYRENE	1	0.0006	0.0006	U	0.0006	U	MG/M3
205-99-2	BENZO(B)FLUORANTHENE	1	0.4	0.4	U	0.4	U	UG
205-99-2	BENZO(B)FLUORANTHENE	1	0.0006	0.0006	U	0.0006	U	MG/M3
192-97-2	BENZO(E)PYRENE	1	0.4	0.4	U	0.4	U	UG
192-97-2	BENZO(E)PYRENE	1	0.0006	0.0006	U	0.0006	U	MG/M3
191-24-2	BENZO(G,H,I)PERYLENE	1	0.5	0.5	U	0.5	U	UG
191-24-2	BENZO(G,H,I)PERYLENE	1	0.0007	0.0007	U	0.0007	U	MG/M3
207-08-9	BENZO(K)FLUORANTHENE	1	0.4	0.4	U	0.4	U	UG
207-08-9	BENZO(K)FLUORANTHENE	1	0.0006	0.0006	U	0.0006	U	MG/M3
218-01-9	CHRYSENE	1	0.4	0.4	U	0.4	U	UG
218-01-9	CHRYSENE	1	0.0006	0.0006	U	0.0006	U	MG/M3
53-70-3	DIBENZ(A,H)ANTHRACENE	1	0.4	0.4	U	0.4	U	UG
53-70-3	DIBENZ(A,H)ANTHRACENE	1	0.0006	0.0006	U	0.0006	U	MG/M3
206-44-0	FLUORANTHENE	1	0.4	0.4	U	0.4	U	UG
206-44-0	FLUORANTHENE	1	0.0005	0.0005	U	0.0005	U	MG/M3
86-73-7	FLUORENE	1	0.3	0.3	U	0.3	U	UG
86-73-7	FLUORENE	1	0.0005	0.0005	U	0.0005	U	MG/M3
193-39-5	INDENO-1,2,3-CD-PYRENE	1	0.5	0.5	U	0.5	U	UG
193-39-5	INDENO-1,2,3-CD-PYRENE	1	0.0007	0.0007	U	0.0007	U	MG/M3
91-20-3	NAPHTHALENE	1	0.3	0.3	U	0.3	U	UG
91-20-3	NAPHTHALENE	1	0.0005	0.0005	U	0.0005	U	MG/M3
85-01-8	PHENANTHRENE	1	0.3	0.3	U	0.3	U	UG
85-01-8	PHENANTHRENE	1	0.0005	0.0005	U	0.0005	U	MG/M3
129-00-0	PYRENE	1	0.4	0.4	U	0.4	U	UG
129-00-0	PYRENE	1	0.0005	0.0005	U	0.0005	U	MG/M3

DF = Dilution Factor RL = Reporting Limit

* = Modified by Validation

U = Non-Detect J = Estimated R = Rejected

Form 1 Data Sheet - Semivolatiles

CTEH

Houston Wood Preserving Works Site

SDG: L369250

COC Sample ID: **HOTX0308PNAH002** Sample Matrix : **Air** Total/Dissolved: **T**

Location ID: **NA** Sample Date: **03/08/2016** Lab: **GALSON**

Lab Sample ID: **L369250-2** Analysis Date: **03/14/2016 8:38**

Sample Type: **Site Sample**

Method: **mod. NIOSH 5506; HPLC/UV**

CAS	Parameter Name	DF	RL	Lab Result	Lab Qualifier	Verified Result	Verified Qualifier	Units
5522-43-0	1-NITROPYRENE	1	0.4	0.4	U	0.4	U	UG
5522-43-0	1-NITROPYRENE	1	0.0005	0.0005	U	0.0005	U	MG/M3
83-32-9	ACENAPHTHENE	1	0.3	0.3	U	0.3	U	UG
83-32-9	ACENAPHTHENE	1	0.0005	0.0005	U	0.0005	U	MG/M3
208-96-8	ACENAPHTHYLENE	1	0.3	0.3	U	0.3	U	UG
208-96-8	ACENAPHTHYLENE	1	0.0005	0.0005	U	0.0005	U	MG/M3
120-12-7	ANTHRACENE	1	0.4	0.4	U	0.4	U	UG
120-12-7	ANTHRACENE	1	0.0005	0.0005	U	0.0005	U	MG/M3
56-55-3	BENZO(A)ANTHRACENE	1	0.4	0.4	U	0.4	U	UG
56-55-3	BENZO(A)ANTHRACENE	1	0.0006	0.0006	U	0.0006	U	MG/M3
50-32-8	BENZO(A)PYRENE	1	0.5	0.5	U	0.5	U	UG
50-32-8	BENZO(A)PYRENE	1	0.0007	0.0007	U	0.0007	U	MG/M3
205-99-2	BENZO(B)FLUORANTHENE	1	0.4	0.4	U	0.4	U	UG
205-99-2	BENZO(B)FLUORANTHENE	1	0.0006	0.0006	U	0.0006	U	MG/M3
192-97-2	BENZO(E)PYRENE	1	0.4	0.4	U	0.4	U	UG
192-97-2	BENZO(E)PYRENE	1	0.0006	0.0006	U	0.0006	U	MG/M3
191-24-2	BENZO(G,H,I)PERYLENE	1	0.5	0.5	U	0.5	U	UG
191-24-2	BENZO(G,H,I)PERYLENE	1	0.0007	0.0007	U	0.0007	U	MG/M3
207-08-9	BENZO(K)FLUORANTHENE	1	0.4	0.4	U	0.4	U	UG
207-08-9	BENZO(K)FLUORANTHENE	1	0.0006	0.0006	U	0.0006	U	MG/M3
218-01-9	CHRYSENE	1	0.4	0.4	U	0.4	U	UG
218-01-9	CHRYSENE	1	0.0006	0.0006	U	0.0006	U	MG/M3
53-70-3	DIBENZ(A,H)ANTHRACENE	1	0.4	0.4	U	0.4	U	UG
53-70-3	DIBENZ(A,H)ANTHRACENE	1	0.0006	0.0006	U	0.0006	U	MG/M3
206-44-0	FLUORANTHENE	1	0.4	0.4	U	0.4	U	UG
206-44-0	FLUORANTHENE	1	0.0005	0.0005	U	0.0005	U	MG/M3
86-73-7	FLUORENE	1	0.3	0.3	U	0.3	U	UG
86-73-7	FLUORENE	1	0.0005	0.0005	U	0.0005	U	MG/M3
193-39-5	INDENO-1,2,3-CD-PYRENE	1	0.5	0.5	U	0.5	U	UG
193-39-5	INDENO-1,2,3-CD-PYRENE	1	0.0007	0.0007	U	0.0007	U	MG/M3
91-20-3	NAPHTHALENE	1	0.3	0.3	U	0.3	U	UG
91-20-3	NAPHTHALENE	1	0.0005	0.0005	U	0.0005	U	MG/M3
85-01-8	PHENANTHRENE	1	0.3	0.3	U	0.3	U	UG
85-01-8	PHENANTHRENE	1	0.0005	0.0005	U	0.0005	U	MG/M3
129-00-0	PYRENE	1	0.4	0.4	U	0.4	U	UG
129-00-0	PYRENE	1	0.0005	0.0005	U	0.0005	U	MG/M3

DF = Dilution Factor RL = Reporting Limit

* = Modified by Validation

U = Non-Detect J = Estimated R = Rejected

Form 1 Data Sheet - Semivolatiles

CTEH

Houston Wood Preserving Works Site

SDG: L369250

COC Sample ID: **HOTX0308PNAH003** Sample Matrix : **Air** Total/Dissolved: **T**

Location ID: **NA** Sample Date: **03/08/2016** Lab: **GALSON**

Lab Sample ID: **L369250-3** Analysis Date: **03/14/2016 9:38**

Sample Type: **Site Sample**

Method: **mod. NIOSH 5506; HPLC/UV**

CAS	Parameter Name	DF	RL	Lab Result	Lab Qualifier	Verified Result	Verified Qualifier	Units
5522-43-0	1-NITROPYRENE	1	0.4	0.4	U	0.4	U	UG
5522-43-0	1-NITROPYRENE	1	0.0005	0.0005	U	0.0005	U	MG/M3
83-32-9	ACENAPHTHENE	1	0.3	0.3	U	0.3	U	UG
83-32-9	ACENAPHTHENE	1	0.0005	0.0005	U	0.0005	U	MG/M3
208-96-8	ACENAPHTHYLENE	1	0.3	0.3	U	0.3	U	UG
208-96-8	ACENAPHTHYLENE	1	0.0005	0.0005	U	0.0005	U	MG/M3
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120-12-7	ANTHRACENE	1	0.0005	0.0005	U	0.0005	U	MG/M3
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56-55-3	BENZO(A)ANTHRACENE	1	0.0006	0.0006	U	0.0006	U	MG/M3
50-32-8	BENZO(A)PYRENE	1	0.5	0.5	U	0.5	U	UG
50-32-8	BENZO(A)PYRENE	1	0.0007	0.0007	U	0.0007	U	MG/M3
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205-99-2	BENZO(B)FLUORANTHENE	1	0.0006	0.0006	U	0.0006	U	MG/M3
192-97-2	BENZO(E)PYRENE	1	0.4	0.4	U	0.4	U	UG
192-97-2	BENZO(E)PYRENE	1	0.0006	0.0006	U	0.0006	U	MG/M3
191-24-2	BENZO(G,H,I)PERYLENE	1	0.5	0.5	U	0.5	U	UG
191-24-2	BENZO(G,H,I)PERYLENE	1	0.0007	0.0007	U	0.0007	U	MG/M3
207-08-9	BENZO(K)FLUORANTHENE	1	0.4	0.4	U	0.4	U	UG
207-08-9	BENZO(K)FLUORANTHENE	1	0.0006	0.0006	U	0.0006	U	MG/M3
218-01-9	CHRYSENE	1	0.4	0.4	U	0.4	U	UG
218-01-9	CHRYSENE	1	0.0006	0.0006	U	0.0006	U	MG/M3
53-70-3	DIBENZ(A,H)ANTHRACENE	1	0.4	0.4	U	0.4	U	UG
53-70-3	DIBENZ(A,H)ANTHRACENE	1	0.0006	0.0006	U	0.0006	U	MG/M3
206-44-0	FLUORANTHENE	1	0.4	0.4	U	0.4	U	UG
206-44-0	FLUORANTHENE	1	0.0005	0.0005	U	0.0005	U	MG/M3
86-73-7	FLUORENE	1	0.3	0.3	U	0.3	U	UG
86-73-7	FLUORENE	1	0.0005	0.0005	U	0.0005	U	MG/M3
193-39-5	INDENO-1,2,3-CD-PYRENE	1	0.5	0.5	U	0.5	U	UG
193-39-5	INDENO-1,2,3-CD-PYRENE	1	0.0007	0.0007	U	0.0007	U	MG/M3
91-20-3	NAPHTHALENE	1	0.3	0.3	U	0.3	U	UG
91-20-3	NAPHTHALENE	1	0.0005	0.0005	U	0.0005	U	MG/M3
85-01-8	PHENANTHRENE	1	0.3	0.3	U	0.3	U	UG
85-01-8	PHENANTHRENE	1	0.0005	0.0005	U	0.0005	U	MG/M3
129-00-0	PYRENE	1	0.4	0.4	U	0.4	U	UG
129-00-0	PYRENE	1	0.0005	0.0005	U	0.0005	U	MG/M3

DF = Dilution Factor RL = Reporting Limit

* = Modified by Validation

U = Non-Detect J = Estimated R = Rejected

Form 1 Data Sheet - Semivolatiles

CTEH

Houston Wood Preserving Works Site

SDG: L369250

COC Sample ID: **HOTX0308PNAH004** Sample Matrix : **Air** Total/Dissolved: **T**

Location ID: **NA** Sample Date: **03/08/2016** Lab: **GALSON**

Lab Sample ID: **L369250-4** Analysis Date: **03/15/2016 5:03**

Sample Type: **Field Blank**

Method: **mod. NIOSH 5506; HPLC/UV**

CAS	Parameter Name	DF	RL	Lab Result	Lab Qualifier	Verified Result	Verified Qualifier	Units
5522-43-0	1-NITROPYRENE	1	0.4	0.4	U	0.4	U	UG
83-32-9	ACENAPHTHENE	1	0.3	0.3	U	0.3	U	UG
208-96-8	ACENAPHTHYLENE	1	0.3	0.3	U	0.3	U	UG
120-12-7	ANTHRACENE	1	0.4	0.4	U	0.4	U	UG
56-55-3	BENZO(A)ANTHRACENE	1	0.4	0.4	U	0.4	U	UG
50-32-8	BENZO(A)PYRENE	1	0.5	0.5	U	0.5	U	UG
205-99-2	BENZO(B)FLUORANTHENE	1	0.4	0.4	U	0.4	U	UG
192-97-2	BENZO(E)PYRENE	1	0.4	0.4	U	0.4	U	UG
191-24-2	BENZO(G,H,I)PERYLENE	1	0.5	0.5	U	0.5	U	UG
207-08-9	BENZO(K)FLUORANTHENE	1	0.4	0.4	U	0.4	U	UG
218-01-9	CHRYSENE	1	0.4	0.4	U	0.4	U	UG
53-70-3	DIBENZ(A,H)ANTHRACENE	1	0.4	0.4	U	0.4	U	UG
206-44-0	FLUORANTHENE	1	0.4	0.4	U	0.4	U	UG
86-73-7	FLUORENE	1	0.3	0.3	U	0.3	U	UG
193-39-5	INDENO-1,2,3-CD-PYRENE	1	0.5	0.5	U	0.5	U	UG
91-20-3	NAPHTHALENE	1	0.3	0.3	U	0.3	U	UG
85-01-8	PHENANTHRENE	1	0.3	0.3	U	0.3	U	UG
129-00-0	PYRENE	1	0.4	0.4	U	0.4	U	UG

DF = Dilution Factor RL = Reporting Limit

* = Modified by Validation

U = Non-Detect J = Estimated R = Rejected

eDATApro
ENVIRONMENTAL DATA PROFESSIONAL, LLC

Appendix II
Chain of Custody

L369250

5120 North Shore Drive
North Little Rock, AR 72118
Phone: (501) 801-8500
Fax: (501) 801-8501
Website: www.cteh.com

Center for Toxicology and Environmental Health L.L.C.
SAMPLE CHAIN OF CUSTODY AND ANALYSIS REQUEST FORM

107907 003/17/16 109

CTEH Project #:

	Send Report To:	Send Invoice To:
Name	Mike Berg, Charles Connolly	Accounts Payable
Company	CTEH	CTEH
Address	2000 Anders Lane Kemah, Texas 77565	5120 North Shore Drive North Little Rock, AR 72118
Phone	(281)535-2834	(501)801-8500
Fax	(281)535-0232	(501)801-8501
e-mail	labresults@cteh.com ; mberg@cteh.com cconnolly@cteh.com	lraccounting@cteh.com

Turnaround Requested:
Same Day __Next Day (24 hour) X Normal
__Other (Specify) _____

Complete Data Packet Requested X Yes ☐ No

Lab Contact Information:
Galson Laboratories
6601 Kirkville Road
E. Syracuse, NY 13057

Client Sample Identification	Other Sample Identification	Sample Size	Units (Check one) X L __cm²	Sample Date	Sample Time (for non-air samples)	Initials	PNAH									Matrix A = air B = bulk S = soil SW = wipe T = tape W = water
HOTX0308PNAH001	AS12	707.6	L	03/08/16	—	PS	X									A
HOTX0308PNAH002	AS07	691.2	L	03/08/16	—	PS	X									A
HOTX0308PNAH003	AS18	683.1	L	03/08/16	—	PS	X									A
HOTX0308PNAH004	BL	0	L	03/08/16	—	PS	X									A

Following PO#80043

SK 3/19/16

775835330884
Date:03/10/16
Shipper:FEDEX
Initials:SK
Prep:UNKNOWN

Samples Received in Light Sensitve Material: Yes or No

RELINQUISHED BY	DATE/TIME	RECEIVED BY	DATE/TIME
Justin Langley	3/9/16 16:00	Fed Ex	
		M. Kramer	3/10/16 0748

Rec'd intact & all accounted for? Yes or No SK
Rec'd w/custody seals intact? Yes or No NA
Rec'd in light sensitive packaging? Yes or No SK
Rec'd with ice pack? Yes or No SK
Rec'd temperature compliant? Yes or No SK

Attachment H

Analytical Station 12 Particulate Matter Readings from April, 16, 2016

Attachment H: Discussion of AS12 Real-Time PM_{10} Results on April 16, 2016

On April 16, CTEH® deployed three data-logging AM510 instruments (AS07, AS12, and AS18) along the perimeter of the HWPW Worksite. While no visible dust was noted and there were no visible dust-producing operations on-going at the site on this date[1], results from the data-logging PM_{10} instrument located at downwind station AS12 showed a daily time-weighted average (TWA) concentration of 1.036 mg/m^3. Because such an elevated dust concentration would have been easily visible and because additional PM_{10} readings collected at other nearby hand-held and perimeter PM_{10} monitoring locations (i.e., AS07 and AS18 had daily TWAs of 0.024 mg/m^3 and 0.031 mg/m^3, respectively) recorded results that were orders of magnitude less than those on AS12, the results observed on AS12 on April 16, 2016 are a likely result of instrument error and have been considered invalid[2].

To support such a conclusion, CTEH® has summarized the results of nearby manually-logged, real-time air monitoring PM_{10} measurements (Dusttrak DRX 8534) at various time periods on April 16, 2016. A total of 21 manually-logged, real-time readings – including 14 within a 1,000-foot radius of AS12 – were recorded during operations on this day with the highest detected instantaneous concentration of 0.039 mg/m^3. A map of these reading locations is provided on the following page. A summary of the 14 manually-logged, real-time readings, their distances from AS12, and the corresponding readings from AS12, AS07, and AS18 on April 16th are located in **Table H.1.**

Table H.1 Manually-Logged Real-Time Data Summary for Locations within 1,000-Feet of AS12

Time	Manually-Logged Real-Time Reading	Distance from AS12	AS12 Reading*	AS07 Reading*	AS18 Reading*
0844	0.032 mg/m^3	830 feet	1.032 mg/m^3	0.029 mg/m^3	0.033 mg/m^3
0848	0.036 mg/m^3	712 feet	1.062 mg/m^3	0.028 mg/m^3	0.035 mg/m^3
0851	0.032 mg/m^3	145 feet	1.046 mg/m^3	0.027 mg/m^3	0.033 mg/m^3
0854	0.033 mg/m^3	167 feet	1.042 mg/m^3	0.025 mg/m^3	0.031 mg/m^3
0858	0.031 mg/m^3	627 feet	1.045 mg/m^3	0.028 mg/m^3	0.033 mg/m^3
0920	0.032 mg/m^3	805 feet	1.036 mg/m^3	0.030 mg/m^3	0.033 mg/m^3
0926	0.029 mg/m^3	703 feet	1.030 mg/m^3	0.024 mg/m^3	0.039 mg/m^3
0947	0.028 mg/m^3	541 feet	0.992 mg/m^3	0.024 mg/m^3	0.030 mg/m^3
1436	0.021 mg/m^3	718 feet	1.100 mg/m^3	0.022 mg/m^3	0.034 mg/m^3
1439	0.025 mg/m^3	871 feet	1.087 mg/m^3	0.021 mg/m^3	0.028 mg/m^3
1518	0.019 mg/m^3	704 feet	1.136 mg/m^3	0.019 mg/m^3	0.025 mg/m^3
1521	0.023 mg/m^3	347 feet	1.142 mg/m^3	0.018 mg/m^3	0.028 mg/m^3
1524	0.018 mg/m^3	91 feet	1.136 mg/m^3	0.021 mg/m^3	0.024 mg/m^3
1532	0.020 mg/m^3	807 feet	1.142 mg/m^3	0.020 mg/m^3	0.024 mg/m^3

*If multiple readings recorded at this time due to the data-logging period (e.g. 30 seconds), the average is reported in this column.

[1] Workers at the site on this date were only conducting hydromulch operations.

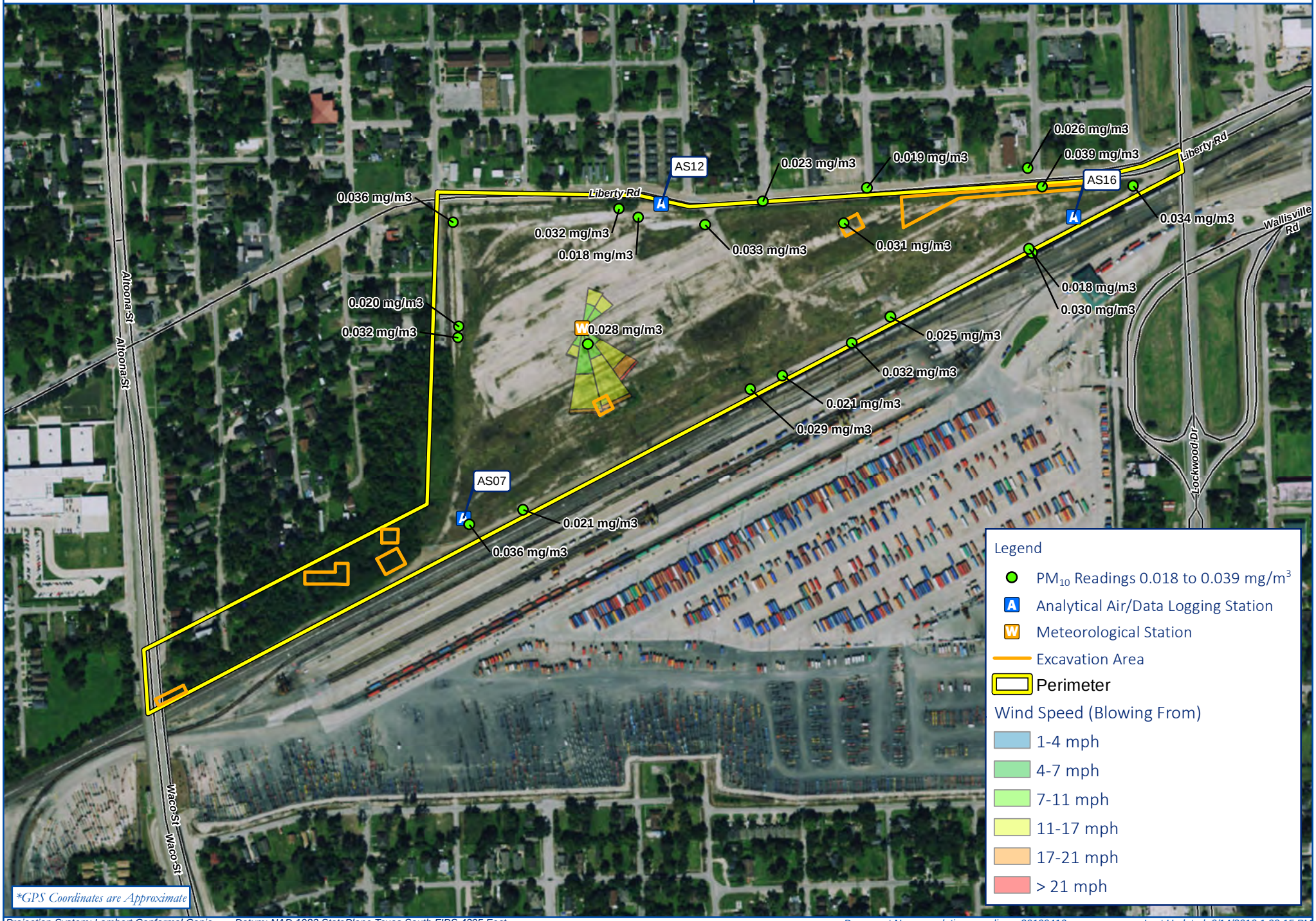
[2] CTEH® makes every effort to verify the results of questionable readings using a second calibrated instrument while in the field; however, this did not occur on April 16, 2016 due to limited personnel on-site who were constantly troubleshoot the telemetering WeatherPak Meteorological Station.

Real-Time Handheld Air Monitoring Locations

Houston Wood Preserving Work Site - April 16, 2016

0 250 500 Feet

Project: 107907
Client: UPRR
City: Houston, TX
County: Harris



*GPS Coordinates are Approximate

Projection System: Lambert Conformal Conic Datum: NAD 1983 StatePlane Texas South FIPS 4205 Feet Document Name: real_time_readings_20160416 Last Updated: 6/14/2016 1:02:15 PM

APPENDIX 6

LABORATORY DATA PACKAGES

Memorandum

To:	Eric Matzner	Ref. No.:	085706-1620
From:	Chris G. Knight/eew/160-NF CK	Date:	March 16, 2016
cc:	Jesse Orth; Jonathan Lang		

Re: Data Usability Summary
Response Action Soil Sampling Event
Union Pacific Railroad (UPRR) / Houston TX-Wood Preserving Works
Houston, Texas
January-February 2016

1. Scope of Data Usability Study

This document details a Data Usability Summary (DUS) of analytical results for samples collected in support of the Response Action Soil Sampling Event at the Houston TX-Wood Preserving Works site during January – February 2016. Samples were submitted to ALS Environmental, located in Houston, Texas and are reported in data packages HS16010952, HS16011020, HS16011090, HS16011133, HS16020012, HS16020048, HS16020050, HS16020093, HS16020095, HS16020138, HS16020149, HS16020185, HS16020208, HS16020291, HS16020498, HS16020499, HS16020567, HS16020580, HS16020604, HS16020686, HS16021076, HS16021192, and HS16021193. The intended use of the data is to support the Response Action Soil Sampling Event at the site by providing current concentrations of chemicals of concern (COCs).

Data were reviewed and validated by Chris G. Knight of GHD Services Inc. (GHD), in accordance with Title 30 of the Texas Administrative Code Section 350.54 (30 TAC 350.54) as described in the Texas Commission on Environmental Quality (TCEQ) Regulatory Guidance document entitled "Review and Reporting of COC Concentration Data under TRRP", (RG-366/TRRP-13), revised May 2010, herein referred to as "TRRP-13 Guidance". Evaluation of the data was based on information obtained from the chain of custody forms, finished report forms, method blank data, recovery data from surrogate spikes/laboratory control samples (LCS)/matrix spikes (MS), the laboratory review checklist (LRC), and the laboratory exception report (ER).

A sample collection and analysis summary is presented in Table 1. This summary provides a cross reference of field sample identification numbers and location identification. Each sample is assigned a unique field identification number.

The validated soil sample results are presented in Table 2A. The validated surface water sample results are presented in Table 2B. The laboratory's data packages, including the LRC and any associated exception reports, normally presented in Attachment A, were too big to be included and are available upon request.

GHD Services Inc.
13091 Pond Springs Road Suite A100 Austin, Texas 78729
T 1 512 506 8803 **W** www.ghd.com

The data packages include a cross-reference list of field sample identifications to laboratory sample designations.

A summary of the analytical methodology is presented in Table 3.

2. Laboratory Qualifications

The Laboratory's quality assurance program is consistent with the quality standards outlined in the National Environmental Laboratory Accreditation Program (NELAP). This laboratory was accredited under Texas Certification number # T104704231 at the time the analysis was performed and the certificate is included in Attachment B.

3. Project Objectives

3.1 Sampling/Analytical QA/QC Objectives

The QA/QC program was designed to identify contamination resulting from the sampling, sample transport, and analytical process through the analysis a trip blank sample and method blanks. The QA/QC program was designed to evaluate the quality of the resulting data with respect to bias and precision through analysis of laboratory control samples (LCS) and matrix spike/duplicate (MS/DUP) or matrix spike/matrix spike duplicate (MS/MSD) analyses.

4. Data Review/Validation Results

4.1 Sample Holding Time and Preservation

Samples were shipped with chains of custody and the paper work was filled out properly. All samples were properly preserved, delivered on ice, and stored by the laboratory at the required temperature (0-6°C).

Sample chain of custody documents and analytical reports were used to determine sample holding times. All samples were prepared and analyzed within the required holding times.

4.2 Sample Containers

Sample containers used were certified pre-cleaned glass containers provided by the laboratory. These containers meet or exceed analyte specifications established in the United States Environmental Protection Agency (USEPA) *Specifications and Guidance for Contaminant-free Sample Containers*.

4.3 Calibrations

According to the LRC, initial calibration and continuing calibration data met the criteria for the selected methods.

4.4 Laboratory Method Blank Analyses

Method blanks are prepared from a purified matrix and analyzed with investigative samples to determine the existence and magnitude of sample contamination introduced during the analytical procedures. As these

were not discrete samples handled in the field, these blanks are not listed on the sample identification cross-reference list found in the data packages.

For this study, laboratory method blanks were analyzed at a minimum frequency of 1 per 20 investigative samples and/or 1 per analytical batch and results are reported in the laboratory data package.

All method blank results were non-detect or below the method quantitation limit (MQL), indicating that laboratory contamination was not a factor for this investigation with the following exception:

i) One method blank yielded a detected result for arsenic analysis. The associated sample result was significantly greater than the concentration found in the method blank and was not impacted. No further action was required.

4.5 Internal Standard and Surrogate Spike Recoveries

Recoveries of internal standards are addressed in the LRC of the data packages. All internal standard recoveries associated with the compounds of interest were acceptable per the LRC with the following exceptions:

i) Several samples were reported with one or more internal standard recoveries of less than 50 percent for semi-volatile organic compounds (SVOCs) analysis. These samples were re-analyzed with similar results indicating matrix interference and should be considered estimated; biased high. No further action was required.

In accordance with the methods employed, all samples, blanks, and QC samples analyzed for volatile organic compounds (VOCs) and SVOCs are spiked with surrogate compounds prior to sample extraction and/or analysis. Surrogate recoveries provide a means to evaluate the effects of laboratory performance on individual sample matrices. Each individual surrogate compound is expected to meet the laboratory control limits. According to the TRRP-13 Guidelines, one outlying surrogate is acceptable for methods with multiple surrogate spike compounds as long as the recovery is at least 10 percent.

All samples submitted for were spiked with the appropriate number of surrogate compounds prior to sample extraction and/or analysis.

Surrogate recoveries were assessed against laboratory control limits and/or the guidance in TRRP-13. All surrogate recoveries met the above criteria. Samples diluted more than five times cannot be assessed.

4.6 Laboratory Control Sample (LCS) Analyses

LCS and/or laboratory control sample duplicates (LCSD) are prepared and analyzed as samples to assess the analytical efficiencies of the methods employed, independent of sample matrix effects. The relative percent difference (RPD) of the LCS/LCSD recoveries is used to evaluate analytical precision.

For this study, LCS and/or LCSD were analyzed at a minimum frequency of 1 per 20 investigative samples and/or 1 per analytical batch.

The LCS/LCSD contained all compounds of interest. All LCS recoveries and/or RPDs were within the laboratory control limits, demonstrating acceptable analytical accuracy and/or precision with the following exception:

i) One LCS/LCSD was reported with elevated RPDs. All associated sample results were non-detect and not affected by the potential high bias. No further action was required.

4.7 Matrix Spike/Matrix Spike Duplicate (MS/MSD) Analyses

To evaluate the effects of sample matrices on the preparation process, measurement procedures, and accuracy of a particular analysis, samples are spiked with known concentration of the compounds of concern and analyzed as MS/MSD samples. The RPD between the MS and MSD is used to assess analytical precision.

MS/MSD analyses were performed as specified in Table 1. The recovery ranges established by the laboratory are adopted as the acceptance criteria for the project.

The MS/MSD samples were spiked with all compounds of interest. All percent recoveries and RPD values were within the laboratory control limits, demonstrating acceptable analytical accuracy and precision with the following exceptions:

i) Several MS/MSDs were reported with outlying recoveries and RPDs for SVOCs analysis due to matrix interference and were not assessed. No further action was required.

ii) Several MS/MSDs were reported with outlying recoveries and RPDs for metals analysis due to matrix interference and were not assessed. No further action was required.

iii) Non-detect sample results associated with high MS/MSD recoveries or RPDs were not qualified – they would not be impacted by any indicated high bias/variability. If only the MS or MSD recovery was outside of control limits, no qualification of the data was performed based on the acceptable recovery of the companion spike and the acceptable RPD.

The laboratory performed additional MS/MSD on non-site samples. These cannot be used to assess accuracy and precision for the site samples.

4.8 Field QA/QC Samples

The field QA/QC consisted of one trip blank sample.

Trip Blank Sample Analysis

To evaluate contamination from sample collection, transportation, storage, and analytical activities, one trip blank was submitted to the laboratory for VOCs analysis. All results were non-detect for the compounds of interest.

4.9 Field Procedures

Pastor, Behling & Wheeler, LLC (PB&W) collected soil and surface water samples in accordance with their Standard Operating Procedures (SOP) for sample collection.

5. Analyte Reporting

The laboratory reported detected results for each analyte down to the sample detection limit (SDL), which is defined as the method detection limit (MDL) with sample-specific adjustments for dilutions, aliquot size, volumes, etc. Positive analyte detections less than the MQL but greater than the SDL were qualified as estimated (J) in Table 2A and Table 2B.

All soil results were reported on a dry weight basis.

6. Conclusion

Based on the assessment detailed in the foregoing, the data summarized in Table 2A and Table 2B are usable for the purpose of supporting the Response Action Soil Sampling Event at the site by providing current concentrations of chemicals of concern without qualification.

Table 1

Sample Collection and Analysis Summary
Response Action Soil Sampling Event
Union Pacific Railroad (UPRR)/ Houston TX-Wood Preserving Works
Houston, Texas
January - February 2016

Sample Identification	Location	Matrix	Initial Sample Depth (ft. bgs.)	Final Sample Depth (ft. bgs.)	Collection Date (mm/dd/yyyy)	Collection Time (hr:min)	Analysis/Parameters			Comments
							VOCs	SVOCs	Metals	
SO-1620-CSFW1(0-5)-20160126	CSFW-1	Soil	0	5	01/26/2016	09:15		X	X	MS/MSD-P
SO-1620-CSFS1(0-5)-20160126	CSFS-1	Soil	0	5	01/26/2016	10:00		X	X	
SO-1620-CSFN1(0-5)-20160126	CSFN-1	Soil	0	5	01/26/2016	10:15		X	X	
SO-1620-FSB1(0-5)-20160126	FSB-1	Soil	0	5	01/26/2016	12:26		X	X	
SO-1620-FSB2(0-5)-20160126	FSB-2	Soil	0	5	01/26/2016	13:05		X	X	
SO-1620-FSB3(0-5)-20160126	FSB-3	Soil	0	5	01/26/2016	13:40		X	X	
SO-1620-CSFN2(0-5)-20160126	CSFN-2	Soil	0	5	01/26/2016	14:00		X	X	
SO-1620-CSFS2(0-5)-20160126	CSFS-2	Soil	0	5	01/26/2016	14:15		X	X	
SO-1620-DSB1(0-5)-20160127	DSB-1	Soil	0	5	01/27/2016	10:00		X	X	MS/MSD
SO-1620-DSB2(0-5)-20160127	DSB-2	Soil	0	5	01/27/2016	10:36		X	X	
SO-1620-DSB3(0-5)-20160127	DSB-3	Soil	0	5	01/27/2016	11:15		X	X	
SO-1620-DSB4(0-5)-20160127	DSB-4	Soil	0	5	01/27/2016	12:05		X	X	
SO-1620-DSB5(0-5)-20160127	DSB-5	Soil	0	5	01/27/2016	12:35		X	X	
SO-1620-DSB6(0-5)-20160127	DSB-6	Soil	0	5	01/27/2016	13:00		X	X	
SO-1620-DSB7(0-5)-20160127	DSB-7	Soil	0	5	01/27/2016	13:30		X	X	
SO-1620-DSB8(0-5)-20160127	DSB-8	Soil	0	5	01/27/2016	13:58		X	X	
SO-1620-ESB4(0-5)-20160127	ESB-4	Soil	0	5	01/27/2016	15:00		X	X	
SO-1620-ESB3(0-5)-20160127	ESB-3	Soil	0	5	01/27/2016	15:40		X	X	
SO-1620-ESB2(0-5)-20160127	ESB-2	Soil	0	5	01/27/2016	16:15		X	X	
SO-1620-ESB1(0-5)-20160127	ESB-1	Soil	0	5	01/27/2016	16:45		X	X	
SO-1620-CSFN3(0-5)-20160128	CSFN-3	Soil	0	5	01/28/2016	10:00		X	X	MS/MSD-P
SO-1620-CSFS3(0-5)-20160128	CSFS-3	Soil	0	5	01/28/2016	10:15		X	X	
SO-1620-GSB4(0-3)-20160128	GSB-4	Soil	0	3	01/28/2016	11:15		X	X	

Table 1

Sample Collection and Analysis Summary
Response Action Soil Sampling Event
Union Pacific Railroad (UPRR)/ Houston TX-Wood Preserving Works
Houston, Texas
January - February 2016

Sample Identification	Location	Matrix	Initial Sample Depth (ft. bgs.)	Final Sample Depth (ft. bgs.)	Collection Date (mm/dd/yyyy)	Collection Time (hr:min)	Analysis/Parameters			Comments
							VOCs	SVOCs	Metals	
SO-1620-GSB3(0-3)-20160128	GSB-3	Soil	0	3	01/28/2016	12:10		X	X	
SO-1620-GSB1(0-1.5)-20160128	GSB-1	Soil	0	1.5	01/28/2016	13:00		X	X	
SO-1620-GSB5(0-3)-20160128	GSB-5	Soil	0	3	01/28/2016	13:30		X	X	
SO-1620-GSB6(0-3)-20160128	GSB-6	Soil	0	3	01/28/2016	14:00		X	X	
SO-1620-GSB2(0-3)-20160128	GSB-2	Soil	0	3	01/28/2016	14:16		X	X	
SO-1620-CSFE2(0-5)-20160129	CSFE-2	Soil	0	5	01/29/2016	07:45		X	X	
SO-1620-CSFE1(0-5)-20160129	CSFE-1	Soil	0	5	01/29/2016	07:50		X	X	MS/MSD-P
SO-1620-CSDS1(0-5)-20160129	CSDS-1	Soil	0	5	01/29/2016	08:01		X	X	
SO-1620-CSDW2(0-5)-20160129	CSDW-2	Soil	0	5	01/29/2016	08:03		X	X	
SO-1620-CSDW1(0-5)-20160129	CSDW-1	Soil	0	5	01/29/2016	08:05		X	X	
SO-1620-CSDS2(0-5)-20160129	CSDS-2	Soil	0	5	01/29/2016	12:55		X	X	
SO-1620-CSDE1(0-5)-20160129	CSDE-1	Soil	0	5	01/29/2016	12:57		X	X	
SO-1620-CSDE2(0-5)-20160129	CSDE-2	Soil	0	5	01/29/2016	12:59		X	X	
SO-1620-CSDN2(0-5)-20160130	CSDN-2	Soil	0	5	01/30/2016	09:24		X	X	
SO-1620-CSDN1(0-5)-20160130	CSDN-1	Soil	0	5	01/30/2016	09:26		X	X	
SO-1620-CSEN1(0-5)-20160130	CSEN-1	Soil	0	5	01/30/2016	14:45		X	X	
SO-1620-CSEW1(0-5)-20160130	CSEW-1	Soil	0	5	01/30/2016	14:47		X	X	
SO-1620-CSES1(0-5)-20160130	CSES-1	Soil	0	5	01/30/2016	14:51		X	X	
SO-1620-CSEE1(0-5)-20160201	CSEE-1	Soil	0	5	02/01/2016	08:25		X	X	MS/MSD-P
SO-1620-BSD1(5)-20160201	BSD-1	Soil	5	5.5	02/01/2016	11:00		X	X	
SO-1620-BSD2(5)-20160201	BSD-2	Soil	5	5.5	02/01/2016	11:15		X	X	
SO-1620-BSE1(5)-20160201	BSE-1	Soil	5	5.5	02/01/2016	13:30		X	X	
SO-1620-BSE2(5)-20160201	BSE-2	Soil	5	5.5	02/01/2016	13:40		X	X	

Table 1

Sample Collection and Analysis Summary
Response Action Soil Sampling Event
Union Pacific Railroad (UPRR)/ Houston TX-Wood Preserving Works
Houston, Texas
January - February 2016

Sample Identification	Location	Matrix	Initial Sample Depth (ft. bgs.)	Final Sample Depth (ft. bgs.)	Collection Date (mm/dd/yyyy)	Collection Time (hr:min)	Analysis/Parameters			Comments
							VOCs	SVOCs	Metals	
SO-1620-CSCW1(0-5)-20160201	CSCW-1	Soil	0	5	02/01/2016	14:50		X	X	MS/MSD-P
SO-1620-CSCN1(0-5)-20160201	CSCN-1	Soil	0	5	02/01/2016	14:55		X	X	
SO-1620-CSCS1(0-5)-20160201	CSCS-1	Soil	0	5	02/01/2016	15:05		X	X	
SO-1620-CSCE1(0-5)-20160201	CSCE-1	Soil	0	5	02/01/2016	15:15		X	X	
SO-1620-BSC1(5)-20160202	BSC-1	Soil	5	5.5	02/02/2016	12:15		X	X	
SO-1620-BSF1(5)-20160202	BSF-1	Soil	5	5.5	02/02/2016	12:45		X	X	
SO-1620-BSF2(5)-20160202	BSF-2	Soil	5	5.5	02/02/2016	12:50		X	X	
SO-1620-BSF3(5)-20160202	BSF-3	Soil	5	5.5	02/02/2016	12:55		X	X	
SO-1620-CSBS1(0-5)-20160202	CSBS-1	Soil	0	5	02/02/2016	14:00		X	X	MS/MSD-P
SO-1620-CSBS2(0-5)-20160202	CSBS-2	Soil	0	5	02/02/2016	14:03		X	X	
SO-1620-CSBE1(0-5)-20160202	CSBE-1	Soil	0	5	02/02/2016	14:08		X	X	
SO-1620-CSBN2(0-5)-20160202	CSBN-2	Soil	0	5	02/02/2016	14:12		X	X	
SO-1620-CSBN1(0-5)-20160202	CSBN-1	Soil	0	5	02/02/2016	14:15		X	X	
SO-1620-CSBW1(0-5)-20160202	CSBW-1	Soil	0	5	02/02/2016	16:25		X	X	MS/MSD-P
SO-1620-SB212(0-5)-20160203	SB-212	Soil	0	5	02/03/2016	10:00		X	X	
SO-1620-SB213(0-5)-20160203	SB-213	Soil	0	5	02/03/2016	11:00		X	X	
SO-1620-SB214(0-5)-20160203	SB-214	Soil	0	5	02/03/2016	12:50		X	X	
SO-1620-SB215(0-5)-20160203	SB-215	Soil	0	5	02/03/2016	13:40		X	X	
SO-1620-CSAW1(0-5)-20160203	CSAW-1	Soil	0	5	02/03/2016	16:20		X	X	
SO-1620-CSAW2(0-5)-20160203	CSAW-2	Soil	0	5	02/03/2016	16:25		X	X	
SO-1620-CSAW3(0-5)-20160203	CSAW-3	Soil	0	5	02/03/2016	16:30		X	X	MS/MSD-P
SO-1620-CSBS1R(0-5)-20160204	CSBS-1R	Soil	0	5	02/04/2016	08:45		X	X	
WS-1620-Ditch-20160204	Ditch	Water	-	-	02/04/2016	11:45	X	X	X	

Table 1

Sample Collection and Analysis Summary
Response Action Soil Sampling Event
Union Pacific Railroad (UPRR)/ Houston TX-Wood Preserving Works
Houston, Texas
January - February 2016

Sample Identification	Location	Matrix	Initial Sample Depth (ft. bgs.)	Final Sample Depth (ft. bgs.)	Collection Date (mm/dd/yyyy)	Collection Time (hr:min)	Analysis/Parameters			Comments
							VOCs	SVOCs	Metals	
SO-1620-CSBB1(5.0-5.5)-2016020	CSBB-1	Soil	5	5.5	02/04/2016	16:10		X	X	MS/MSD-P
SO-1620-CSBB2(5.0-5.5)-2016020	CSBB-2	Soil	5	5.5	02/04/2016	16:15		X	X	MS/MSD-P
Trip Blank 012716-56	-	Water	-	-	02/04/2016	-	X			Trip Blank
SO-1620-GSB7(0-3)-20160206	GSB-7	Soil	0	3	02/06/2016	11:40		X	X	MS/MSD-P
SO-1620-GSB8(0-3)-20160206	GSB-8	Soil	0	3	02/06/2016	12:05		X	X	
SO-1620-GSB9(0-3)-20160206	GSB-9	Soil	0	3	02/06/2016	12:10		X	X	
SO-1620-ASBW1B(0-4)-20160206	ASBW-1B	Soil	0	4	02/06/2016	13:40		X	X	
SO-1620-ASBW1A(0-4)-20160206	ASBW-1A	Soil	0	4	02/06/2016	13:45		X	X	
SO-1620-BSBS1RA(0-4)-20160206	BSBS-1RA	Soil	0	4	02/06/2016	15:10		X	X	
SO-1620-BSBS1RB(0-4)-20160206	BSBS-1RB	Soil	0	4	02/06/2016	15:20		X	X	MS/MSD-P
SO-1620-CSDCH107E(0-2)-2016021	CSD-CH-107E	Soil	0	2	02/12/2016	08:00		X	X	MS/MSD-P
SO-1620-CSDCH107W(0-2)-2016021	CSD-CH-107W	Soil	0	2	02/12/2016	08:05		X	X	
SO-1620-BSA1(5)-20160212	BSA-A1	Soil	5	5.5	02/12/2016	12:45		X	X	MS/MSD-P
SO-1620-CSG1(3)-20160212	GSG-1	Soil	0	3	02/12/2016	14:45		X	X	
SO-1620-CSG4(3)-20160213	CSG-4	Soil	3	3.5	02/13/2016	11:15		X	X	
SO-1620-CSG2(3)-20160213	CSG-2	Soil	3	3.5	02/13/2016	13:30		X	X	MS/MSD-P
SO-1620-CSG3(0-3)-20160213	CSG-3	Soil	0	3	02/13/2016	14:40		X	X	
SO-1620-CSG5(0-3)-20160215	CSG-5	Soil	0	3	02/15/2016	16:20		X	X	
SO-1620-CSG6(3)-20160216	CSG-6	Soil	0	3	02/16/2016	11:30		X	X	MS/MSD-P
SO-1620-CSBS1RR(0-5)-20160218	CSBS-1RR	Soil	0	5	02/18/2016	09:45		X	X	
SO-1620-CSAW1R(0-5)-20160218	CSAW-1R	Soil	0	5	02/18/2016	10:45		X	X	
SO-1620-BSA7(3.5)-20160225	BSA-7	Soil	3.5	4	02/25/2016	15:00		X	X	
SO-1620-BSA2(5)-20160227	BSA-2	Soil	5	5.5	02/27/2016	13:20		X	X	

Table 1

Sample Collection and Analysis Summary
Response Action Soil Sampling Event
Union Pacific Railroad (UPRR)/ Houston TX-Wood Preserving Works
Houston, Texas
January - February 2016

Sample Identification	Location	Matrix	Initial Sample Depth (ft. bgs.)	Final Sample Depth (ft. bgs.)	Collection Date (mm/dd/yyyy)	Collection Time (hr:min)	Analysis/Parameters			Comments
							VOCs	SVOCs	Metals	
SO-1620-BSA3(5)-20160227	BSA-3	Soil	5	5.5	02/27/2016	13:30		X	X	
SO-1620-BSA4(5)-20160227	BSA-4	Soil	5	5.5	02/27/2016	13:40		X	X	
SO-1620-BSA5(5)-20160227	BSA-5	Soil	5	5.5	02/27/2016	13:50		X	X	
SO-1620-BSA6(5)-20160227	BSA-6	Soil	5	5.5	02/27/2016	14:00		X	X	
SO-1620-CSA8(0-3.5)-20160227	CSA-8	Soil	0	3.5	02/27/2016	14:10		X	X	

Notes:

VOCs - Volatile Organic Compounds
SVOCs - Semi-volatile Organic Compounds
MS/MSD - Matrix Spike/ Matrix Spike Duplicate
MS/MSD-P - Matrix Spike/ Matrix Spike Duplicate (partial parameters)
ft bgs - Feet below ground surface

Table 2A

Soil Analytical Results Summary
Response Action Soil Sampling Event
Union Pacific Railroad (UPRR)/ Houston TX-Wood Preserving Works
Houston, Texas
January - February 2016

Location ID:		ASBW-1A	ASBW-1B	BSA-2	BSA-3
Sample Name:		SO-1620-ASBW1A(0-4)-20160206	SO-1620-ASBW1B(0-4)-20160206	SO-1620-BSA2(5)-20160227	SO-1620-BSA3(5)-20160227
Sample Date:		02/06/2016	02/06/2016	02/27/2016	02/27/2016
Depth:		0-4 ft bgs	0-4 ft bgs	5-5.5 ft bgs	5-5.5 ft bgs
Parameters	**Unit**				
Semi-volatile Organic Compounds					
1,2-Diphenylhydrazine	mg/kg	<0.013	<0.013	<0.0013	<0.0013
2,4-Dimethylphenol	mg/kg	<0.038	<0.040	<0.0040	<0.0040
2,4-Dinitrotoluene	mg/kg	<0.010	<0.011	<0.0011	<0.0011
2,6-Dinitrotoluene	mg/kg	<0.038	<0.040	<0.0040	<0.0040
2-Chloronaphthalene	mg/kg	<0.015	<0.016	<0.0016	<0.0016
2-Methylnaphthalene	mg/kg	0.20	1.7	<0.00061	0.037
4,6-Dinitro-2-methylphenol	mg/kg	<0.024	<0.025	<0.0025	<0.0026
4-Nitrophenol	mg/kg	0.046 J	<0.023	<0.0023	<0.0023
Acenaphthene	mg/kg	0.70	2.3	<0.00061	0.038
Acenaphthylene	mg/kg	0.10	0.19	<0.0012	<0.0012
Anthracene	mg/kg	1.2	6.9	0.0021 J	0.084
Benzo(a)anthracene	mg/kg	2.4	7.0	<0.0019	0.011
Benzo(a)pyrene	mg/kg	1.4	3.6	<0.0012	<0.0012
bis(2-Chloroethoxy)methane	mg/kg	<0.010	<0.011	<0.0011	<0.0011
bis(2-Ethylhexyl)phthalate (DEHP)	mg/kg	<0.020	<0.020	<0.0021	<0.0021
Chrysene	mg/kg	2.5	7.2	<0.00097	0.010
Di-n-butylphthalate (DBP)	mg/kg	<0.014	<0.014	<0.0015	<0.0015
Dibenzofuran	mg/kg	0.20	1.6	<0.00085	0.040
Fluoranthene	mg/kg	11	34	0.0031 J	0.066
Fluorene	mg/kg	0.35	3.4	<0.0013	0.050
N-Nitrosodiphenylamine	mg/kg	<0.0081	<0.0084	<0.00085	<0.00086
Naphthalene	mg/kg	0.35	1.2	<0.00073	0.12
Nitrobenzene	mg/kg	<0.010	<0.011	<0.0011	<0.0011
Pentachlorophenol	mg/kg	<0.038	6.4	<0.0040	<0.0040
Phenanthrene	mg/kg	1.4	22	0.0024 J	0.12
Phenol	mg/kg	<0.013	<0.013	<0.0013	<0.0013
Pyrene	mg/kg	6.9	18	0.0030 J	0.044
Metals					
Arsenic	mg/kg	2.70	2.22	1.18	3.69
Lead	mg/kg	27.9	33.9	7.54	7.68

Soil Analytical Results Summary
Response Action Soil Sampling Event
Union Pacific Railroad (UPRR)/ Houston TX-Wood Preserving Works
Houston, Texas
January - February 2016

Location ID:		BSA-4	BSA-5	BSA-6	BSA-7
Sample Name:		SO-1620-BSA4(5)-20160227	SO-1620-BSA5(5)-20160227	SO-1620-BSA6(5)-20160227	SO-1620-BSA7(3.5)-20160225
Sample Date:		02/27/2016	02/27/2016	02/27/2016	02/25/2016
Depth:		5-5.5 ft bgs	5-5.5 ft bgs	5-5.5 ft bgs	3.5-4 ft bgs
Parameters	**Unit**				
Semi-volatile Organic Compounds					
1,2-Diphenylhydrazine	mg/kg	<0.0013	<0.0013	<0.0013	<0.0013
2,4-Dimethylphenol	mg/kg	<0.0040	<0.0039	<0.0039	<0.0039
2,4-Dinitrotoluene	mg/kg	<0.0011	<0.0011	<0.0011	<0.0011
2,6-Dinitrotoluene	mg/kg	<0.0040	<0.0039	<0.0039	<0.0039
2-Chloronaphthalene	mg/kg	<0.0016	<0.0015	<0.0015	<0.0015
2-Methylnaphthalene	mg/kg	0.80	0.39	<0.00059	0.0016 J
4,6-Dinitro-2-methylphenol	mg/kg	<0.0025	<0.0025	<0.0025	<0.0025
4-Nitrophenol	mg/kg	<0.0023	<0.0023	<0.0023	<0.0023
Acenaphthene	mg/kg	1.8	0.37	0.056	<0.00059
Acenaphthylene	mg/kg	<0.0012	<0.0012	<0.0012	0.0089
Anthracene	mg/kg	1.9	0.21	0.046	0.031
Benzo(a)anthracene	mg/kg	0.45	0.095	0.037	<0.0019
Benzo(a)pyrene	mg/kg	0.15	0.044	0.019	0.041
bis(2-Chloroethoxy)methane	mg/kg	<0.0011	<0.0011	<0.0011	<0.0011
bis(2-Ethylhexyl)phthalate (DEHP)	mg/kg	<0.0020	<0.0020	<0.0020	<0.0020
Chrysene	mg/kg	0.49	0.096	0.035	0.030
Di-n-butylphthalate (DBP)	mg/kg	<0.0014	<0.0014	<0.0014	<0.0014
Dibenzofuran	mg/kg	1.8	0.31	0.045	0.0016 J
Fluoranthene	mg/kg	3.6	0.57	0.21	0.026
Fluorene	mg/kg	2.3	0.46	0.071	<0.0013
N-Nitrosodiphenylamine	mg/kg	<0.00084	<0.00083	<0.00083	<0.00083
Naphthalene	mg/kg	0.21	0.063	<0.00071	0.0039
Nitrobenzene	mg/kg	<0.0011	<0.0011	<0.0011	<0.0011
Pentachlorophenol	mg/kg	<0.0040	<0.0039	<0.0039	<0.0039
Phenanthrene	mg/kg	7.8	1.2	0.24	0.0074
Phenol	mg/kg	<0.0013	<0.0013	<0.0013	<0.0013
Pyrene	mg/kg	2.4	0.35	0.14	0.029
Metals					
Arsenic	mg/kg	2.10	1.14	0.538	1.58
Lead	mg/kg	6.45	5.82	5.71	5.97

Table 2A

Soil Analytical Results Summary
Response Action Soil Sampling Event
Union Pacific Railroad (UPRR)/ Houston TX-Wood Preserving Works
Houston, Texas
January - February 2016

Location ID:		**BSA-A1**	**BSBS-1RA**	**BSBS-1RB**	**BSC-1**
Sample Name:		**SO-1620-BSA1(5)-20160212**	**SO-1620-BSBS1RA(0-4)-20160206**	**SO-1620-BSBS1RB(0-4)-20160206**	**SO-1620-BSC1(5)-20160202**
Sample Date:		**02/12/2016**	**02/06/2016**	**02/06/2016**	**02/02/2016**
Depth:		**5-5.5 ft bgs**	**0-4 ft bgs**	**0-4 ft bgs**	**5-5.5 ft bgs**
Parameters	**Unit**				
Semi-volatile Organic Compounds					
1,2-Diphenylhydrazine	mg/kg	<0.0013	<0.013	<0.013	<0.0013
2,4-Dimethylphenol	mg/kg	<0.0040	<0.038	<0.039	<0.0040
2,4-Dinitrotoluene	mg/kg	<0.0011	<0.010	<0.011	<0.0011
2,6-Dinitrotoluene	mg/kg	<0.0040	<0.038	<0.039	<0.0040
2-Chloronaphthalene	mg/kg	<0.0016	<0.015	<0.015	<0.0016
2-Methylnaphthalene	mg/kg	<0.00061	0.47	2.5	<0.00060
4,6-Dinitro-2-methylphenol	mg/kg	<0.0025	<0.024	<0.025	<0.0025
4-Nitrophenol	mg/kg	<0.0023	<0.022	<0.022	<0.0023
Acenaphthene	mg/kg	<0.00061	1.3	3.0	<0.00060
Acenaphthylene	mg/kg	<0.0012	0.047	0.099	<0.0012
Anthracene	mg/kg	0.0026 J	1.1	5.7	<0.00060
Benzo(a)anthracene	mg/kg	<0.0019	0.62	3.0	0.0031 J
Benzo(a)pyrene	mg/kg	<0.0012	0.32	1.8	0.0033 J
bis(2-Chloroethoxy)methane	mg/kg	<0.0011	<0.010	<0.011	<0.0011
bis(2-Ethylhexyl)phthalate (DEHP)	mg/kg	<0.0021	<0.019	<0.020	<0.0020
Chrysene	mg/kg	<0.00097	0.53	4.7	0.0052
Di-n-butylphthalate (DBP)	mg/kg	<0.0015	<0.014	<0.014	<0.0014
Dibenzofuran	mg/kg	0.0021 J	0.88	3.2	<0.00084
Fluoranthene	mg/kg	0.0080	3.4	16	0.012
Fluorene	mg/kg	<0.0013	1.5	5.1	<0.0013
N-Nitrosodiphenylamine	mg/kg	<0.00085	<0.0080	<0.0082	<0.00084
Naphthalene	mg/kg	<0.00073	0.50	8.6	<0.00072
Nitrobenzene	mg/kg	<0.0011	<0.010	<0.011	<0.0011
Pentachlorophenol	mg/kg	<0.0040	<0.038	<0.039	<0.0040
Phenanthrene	mg/kg	0.0061	3.4	19	0.0034 J
Phenol	mg/kg	<0.0013	<0.013	<0.013	<0.0013
Pyrene	mg/kg	0.0063	2.0	11	0.010
Metals					
Arsenic	mg/kg	1.85	1.23	0.814	1.43
Lead	mg/kg	6.32	8.07	13.4	5.00

Table 2A

Soil Analytical Results Summary
Response Action Soil Sampling Event
Union Pacific Railroad (UPRR)/ Houston TX-Wood Preserving Works
Houston, Texas
January - February 2016

Location ID:		BSD-1	BSD-2	BSE-1	BSE-2
Sample Name:		SO-1620-BSD1(5)-20160201	SO-1620-BSD2(5)-20160201	SO-1620-BSE1(5)-20160201	SO-1620-BSE2(5)-20160201
Sample Date:		02/01/2016	02/01/2016	02/01/2016	02/01/2016
Depth:		5-5.5 ft bgs	5-5.5 ft bgs	5-5.5 ft bgs	5-5.5 ft bgs
Parameters	**Unit**				
Semi-volatile Organic Compounds					
1,2-Diphenylhydrazine	mg/kg	<0.0013	<0.0014	<0.0014	<0.0014
2,4-Dimethylphenol	mg/kg	<0.0039	<0.0041	<0.0041	<0.0041
2,4-Dinitrotoluene	mg/kg	<0.0011	<0.0011	<0.0011	<0.0011
2,6-Dinitrotoluene	mg/kg	<0.0039	<0.0041	<0.0041	<0.0041
2-Chloronaphthalene	mg/kg	<0.0015	<0.0016	<0.0016	<0.0016
2-Methylnaphthalene	mg/kg	1.4	0.010	0.0089	<0.00062
4,6-Dinitro-2-methylphenol	mg/kg	<0.0025	<0.0026	<0.0026	<0.0026
4-Nitrophenol	mg/kg	<0.0022	0.042	<0.0023	<0.0024
Acenaphthene	mg/kg	7.7	0.022	0.90	<0.00062
Acenaphthylene	mg/kg	0.064	0.17	0.077	<0.0012
Anthracene	mg/kg	8.4	0.084	1.6	<0.00062
Benzo(a)anthracene	mg/kg	1.8	0.28	1.2	0.0026 J
Benzo(a)pyrene	mg/kg	0.37	1.0	0.71	0.0047
bis(2-Chloroethoxy)methane	mg/kg	<0.0011	<0.0011	<0.0011	<0.0011
bis(2-Ethylhexyl)phthalate (DEHP)	mg/kg	0.021	0.011	<0.0021	<0.0021
Chrysene	mg/kg	2.0	0.64	1.6	0.0039 J
Di-n-butylphthalate (DBP)	mg/kg	<0.0014	0.0030 J	<0.0015	<0.0015
Dibenzofuran	mg/kg	5.6	0.022	0.17	<0.00087
Fluoranthene	mg/kg	9.7	0.47	5.3	0.0099
Fluorene	mg/kg	9.2	0.028	0.35	<0.0014
N-Nitrosodiphenylamine	mg/kg	<0.00083	<0.00086	<0.00087	<0.00087
Naphthalene	mg/kg	7.1	0.037	0.012	<0.00074
Nitrobenzene	mg/kg	<0.0011	<0.0011	<0.0011	<0.0011
Pentachlorophenol	mg/kg	<0.0039	<0.0041	<0.0041	<0.0041
Phenanthrene	mg/kg	20	0.087	3.4	0.0059
Phenol	mg/kg	0.0074 J	0.0041 J	0.0035 J	<0.0014
Pyrene	mg/kg	8.0	0.19	5.1	0.0050
Metals					
Arsenic	mg/kg	0.860	1.44	1.40	0.868
Lead	mg/kg	6.85	5.40	8.32	6.48

Table 2A

Soil Analytical Results Summary
Response Action Soil Sampling Event
Union Pacific Railroad (UPRR)/ Houston TX-Wood Preserving Works
Houston, Texas
January - February 2016

Location ID:		BSF-1	BSF-2	BSF-3	CSA-8
Sample Name:		SO-1620-BSF1(5)-20160202	SO-1620-BSF2(5)-20160202	SO-1620-BSF3(5)-20160202	SO-1620-CSA8(0-3.5)-20160227
Sample Date:		02/02/2016	02/02/2016	02/02/2016	02/27/2016
Depth:		5-5.5 ft bgs	5-5.5 ft bgs	5-5.5 ft bgs	0-3.5 ft bgs
Parameters	**Unit**				
Semi-volatile Organic Compounds					
1,2-Diphenylhydrazine	mg/kg	0.0076 J	<0.0013	<0.0014	<0.0013
2,4-Dimethylphenol	mg/kg	<0.0039	<0.0039	<0.0042	0.015
2,4-Dinitrotoluene	mg/kg	<0.0011	<0.0011	<0.0011	<0.0010
2,6-Dinitrotoluene	mg/kg	<0.0039	<0.0039	<0.0042	<0.0038
2-Chloronaphthalene	mg/kg	<0.0016	<0.0015	<0.0016	<0.0015
2-Methylnaphthalene	mg/kg	<0.00060	<0.00059	<0.00063	0.022
4,6-Dinitro-2-methylphenol	mg/kg	<0.0025	<0.0025	<0.0027	<0.0024
4-Nitrophenol	mg/kg	0.0079 J	<0.0022	<0.0024	<0.0022
Acenaphthene	mg/kg	0.11	0.0014 J	<0.00063	0.013
Acenaphthylene	mg/kg	0.0060	<0.0012	<0.0013	0.16
Anthracene	mg/kg	0.31	0.0080	0.0027 J	0.41
Benzo(a)anthracene	mg/kg	0.10	0.0057	0.021	0.13
Benzo(a)pyrene	mg/kg	0.040	0.0034 J	0.014	0.20
bis(2-Chloroethoxy)methane	mg/kg	<0.0011	<0.0011	<0.0011	<0.0010
bis(2-Ethylhexyl)phthalate (DEHP)	mg/kg	0.0021 J	0.0025 J	<0.0021	0.012
Chrysene	mg/kg	0.21	0.012	0.027	0.14
Di-n-butylphthalate (DBP)	mg/kg	0.0020 J	0.0017 J	<0.0015	<0.0014
Dibenzofuran	mg/kg	0.12	0.0024 J	<0.00088	0.022
Fluoranthene	mg/kg	0.70	0.027	0.044	0.17
Fluorene	mg/kg	0.27	0.0016 J	<0.0014	0.021
N-Nitrosodiphenylamine	mg/kg	<0.00083	<0.00082	<0.00088	<0.00082
Naphthalene	mg/kg	0.0018 J	0.0010 J	<0.00076	0.078
Nitrobenzene	mg/kg	<0.0011	0.0031 J	<0.0011	<0.0010
Pentachlorophenol	mg/kg	<0.0039	<0.0039	<0.0042	0.12
Phenanthrene	mg/kg	1.2	0.026	0.0066	0.090
Phenol	mg/kg	0.0083	0.0023 J	<0.0014	0.013
Pyrene	mg/kg	0.30	0.014	0.072	0.21
Metals					
Arsenic	mg/kg	2.13	0.752	1.63	1.23
Lead	mg/kg	7.65	9.58	6.51	12.3

Table 2A

Soil Analytical Results Summary
Response Action Soil Sampling Event
Union Pacific Railroad (UPRR)/ Houston TX-Wood Preserving Works
Houston, Texas
January - February 2016

Location ID:		CSAW-1	CSAW-1R	CSAW-2	CSAW-3
Sample Name:		SO-1620-CSAW1(0-5)-20160203	SO-1620-CSAW1R(0-5)-20160218	SO-1620-CSAW2(0-5)-20160203	SO-1620-CSAW3(0-5)-20160203
Sample Date:		02/03/2016	02/18/2016	02/03/2016	02/03/2016
Depth:		0-5 ft bgs	0-5 ft bgs	0-5 ft bgs	0-5 ft bgs
Parameters	**Unit**				
Semi-volatile Organic Compounds					
1,2-Diphenylhydrazine	mg/kg	<0.0012	<0.0013	<0.0060	<0.012
2,4-Dimethylphenol	mg/kg	<0.0037	<0.0038	<0.018	<0.036
2,4-Dinitrotoluene	mg/kg	<0.0010	<0.0010	<0.0049	<0.0099
2,6-Dinitrotoluene	mg/kg	<0.0037	<0.0038	<0.018	<0.036
2-Chloronaphthalene	mg/kg	<0.0015	<0.0015	<0.0071	<0.014
2-Methylnaphthalene	mg/kg	<0.00056	1.2	0.020	20
4,6-Dinitro-2-methylphenol	mg/kg	<0.0024	<0.0024	<0.011	<0.023
4-Nitrophenol	mg/kg	<0.0021	<0.0022	<0.010	<0.021
Acenaphthene	mg/kg	0.032	1.5	0.23	40
Acenaphthylene	mg/kg	0.12	0.29	0.31	3.1
Anthracene	mg/kg	0.26	1.8	0.96	50
Benzo(a)anthracene	mg/kg	0.081	2.8	0.28	22
Benzo(a)pyrene	mg/kg	0.078	1.6	0.23	13
bis(2-Chloroethoxy)methane	mg/kg	<0.0010	<0.0010	<0.0049	<0.0099
bis(2-Ethylhexyl)phthalate (DEHP)	mg/kg	<0.0019	<0.0020	<0.0093	<0.019
Chrysene	mg/kg	0.11	2.5	0.33	25
Di-n-butylphthalate (DBP)	mg/kg	<0.0014	<0.0014	<0.0066	<0.013
Dibenzofuran	mg/kg	<0.00079	0.29	0.040	30
Fluoranthene	mg/kg	0.19	9.9	0.96	140
Fluorene	mg/kg	0.038	1.3	0.18	63
N-Nitrosodiphenylamine	mg/kg	<0.00079	<0.00081	<0.0038	<0.0077
Naphthalene	mg/kg	0.0064	0.19	0.035	11
Nitrobenzene	mg/kg	<0.0010	<0.0010	<0.0049	<0.0099
Pentachlorophenol	mg/kg	<0.0037	<0.0038	<0.018	0.81
Phenanthrene	mg/kg	0.046	3.2	0.24	87
Phenol	mg/kg	0.0068 J	<0.0013	<0.0060	<0.012
Pyrene	mg/kg	0.21	8.5	0.71	100
Metals					
Arsenic	mg/kg	1.28	2.11	1.56	1.16
Lead	mg/kg	7.38	19.6	44.0	27.3

Table 2A

Soil Analytical Results Summary
Response Action Soil Sampling Event
Union Pacific Railroad (UPRR)/ Houston TX-Wood Preserving Works
Houston, Texas
January - February 2016

Location ID:		**CSBB-1**	**CSBB-2**	**CSBE-1**	**CSBN-1**
Sample Name:		**SO-1620-CSBB1(5.0-5.5)-2016020**	**SO-1620-CSBB2(5.0-5.5)-2016020**	**SO-1620-CSBE1(0-5)-20160202**	**SO-1620-CSBN1(0-5)-20160202**
Sample Date:		**02/04/2016**	**02/04/2016**	**02/02/2016**	**02/02/2016**
Depth:		**5-5.5 ft bgs**	**5-5.5 ft bgs**	**0-5 ft bgs**	**0-5 ft bgs**
Parameters	**Unit**				
Semi-volatile Organic Compounds					
1,2-Diphenylhydrazine	mg/kg	<0.0013	<0.0013	<0.013	<0.0013
2,4-Dimethylphenol	mg/kg	<0.0039	<0.0039	<0.040	<0.0039
2,4-Dinitrotoluene	mg/kg	<0.0011	<0.0011	<0.011	<0.0011
2,6-Dinitrotoluene	mg/kg	<0.0039	<0.0039	<0.040	<0.0039
2-Chloronaphthalene	mg/kg	<0.0015	<0.0015	<0.016	<0.0015
2-Methylnaphthalene	mg/kg	<0.00060	0.0038 J	0.59	0.21
4,6-Dinitro-2-methylphenol	mg/kg	<0.0025	<0.0025	<0.025	<0.0025
4-Nitrophenol	mg/kg	<0.0023	<0.0022	<0.023	<0.0022
Acenaphthene	mg/kg	0.0023 J	0.0040	2.6	0.25
Acenaphthylene	mg/kg	<0.0012	<0.0012	0.12	0.0053
Anthracene	mg/kg	<0.00060	<0.00059	1.3	0.096
Benzo(a)anthracene	mg/kg	<0.0019	<0.0019	1.5	0.065
Benzo(a)pyrene	mg/kg	<0.0012	<0.0012	0.94	0.031
bis(2-Chloroethoxy)methane	mg/kg	<0.0011	<0.0011	<0.011	<0.0011
bis(2-Ethylhexyl)phthalate (DEHP)	mg/kg	<0.0020	<0.0020	<0.021	0.0078
Chrysene	mg/kg	<0.00095	0.0020 J	2.0	0.067
Di-n-butylphthalate (DBP)	mg/kg	<0.0014	<0.0014	<0.014	0.0041 J
Dibenzofuran	mg/kg	<0.00083	0.0027 J	1.1	0.16
Fluoranthene	mg/kg	0.0031 J	0.0063	10	0.35
Fluorene	mg/kg	<0.0013	0.0032 J	1.9	0.25
N-Nitrosodiphenylamine	mg/kg	<0.00083	<0.00082	<0.0085	<0.00082
Naphthalene	mg/kg	<0.00071	0.0093	0.37	0.26
Nitrobenzene	mg/kg	<0.0011	<0.0011	<0.011	<0.0011
Pentachlorophenol	mg/kg	<0.0039	<0.0039	<0.040	<0.0039
Phenanthrene	mg/kg	0.0033 J	0.0063	3.9	0.51
Phenol	mg/kg	<0.0013	<0.0013	<0.013	<0.0013
Pyrene	mg/kg	<0.00071	0.0042	11	0.27
Metals					
Arsenic	mg/kg	1.21	1.12	2.65	8.72
Lead	mg/kg	6.60	5.84	11.3	7.74

Table 2A

Soil Analytical Results Summary
Response Action Soil Sampling Event
Union Pacific Railroad (UPRR)/ Houston TX-Wood Preserving Works
Houston, Texas
January - February 2016

Location ID:		CSBN-2	CSBS-1	CSBS-1R	CSBS-1RR
Sample Name:		SO-1620-CSBN2(0-5)-20160202	SO-1620-CSBS1(0-5)-20160202	SO-1620-CSBS1R(0-5)-20160204	SO-1620-CSBS1RR(0-5)-20160218
Sample Date:		02/02/2016	02/02/2016	02/04/2016	02/18/2016
Depth:		0-5 ft bgs	0-5 ft bgs	0-5 ft bgs	0-5 ft bgs
Parameters	**Unit**				
Semi-volatile Organic Compounds					
1,2-Diphenylhydrazine	mg/kg	<0.013	<0.013	<0.0063	<0.0013
2,4-Dimethylphenol	mg/kg	<0.038	<0.038	<0.019	<0.0038
2,4-Dinitrotoluene	mg/kg	<0.010	<0.010	<0.0051	<0.0010
2,6-Dinitrotoluene	mg/kg	<0.038	<0.038	<0.019	<0.0038
2-Chloronaphthalene	mg/kg	<0.015	<0.015	<0.0074	<0.0015
2-Methylnaphthalene	mg/kg	0.15	2.1	1.9	0.054
4,6-Dinitro-2-methylphenol	mg/kg	<0.024	<0.024	<0.012	<0.0024
4-Nitrophenol	mg/kg	<0.022	<0.022	<0.011	<0.0022
Acenaphthene	mg/kg	0.30	7.0	8.1	0.19
Acenaphthylene	mg/kg	0.048	0.11	0.32	0.035
Anthracene	mg/kg	0.26	12	21	0.079
Benzo(a)anthracene	mg/kg	0.24	12	17	0.20
Benzo(a)pyrene	mg/kg	0.20	5.9	8.9	0.16
bis(2-Chloroethoxy)methane	mg/kg	<0.010	<0.010	<0.0051	<0.0010
bis(2-Ethylhexyl)phthalate (DEHP)	mg/kg	<0.020	<0.019	<0.0097	<0.0020
Chrysene	mg/kg	0.31	14	31	0.25
Di-n-butylphthalate (DBP)	mg/kg	<0.014	<0.014	<0.0068	<0.0014
Dibenzofuran	mg/kg	0.17	5.9	7.1	0.059
Fluoranthene	mg/kg	1.6	72	120	1.4
Fluorene	mg/kg	0.25	12	15	0.12
N-Nitrosodiphenylamine	mg/kg	<0.0081	<0.0080	0.29	<0.00081
Naphthalene	mg/kg	0.28	3.7	2.8	0.092
Nitrobenzene	mg/kg	<0.010	<0.010	<0.0051	<0.0010
Pentachlorophenol	mg/kg	<0.038	<0.038	<0.019	<0.0038
Phenanthrene	mg/kg	0.93	72	120	0.10
Phenol	mg/kg	0.042 J	<0.013	<0.0063	<0.0013
Pyrene	mg/kg	1.2	45	85	1.7
Metals					
Arsenic	mg/kg	1.12	0.609	1.80	0.889
Lead	mg/kg	4.71	6.45	11.2	266

Table 2A

Soil Analytical Results Summary
Response Action Soil Sampling Event
Union Pacific Railroad (UPRR)/ Houston TX-Wood Preserving Works
Houston, Texas
January - February 2016

Location ID:		**CSBS-2**	**CSBW-1**	**CSCE-1**	**CSCN-1**
Sample Name:		**SO-1620-CSBS2(0-5)-20160202**	**SO-1620-CSBW1(0-5)-20160202**	**SO-1620-CSCE1(0-5)-20160201**	**SO-1620-CSCN1(0-5)-20160201**
Sample Date:		**02/02/2016**	**02/02/2016**	**02/01/2016**	**02/01/2016**
Depth:		**0-5 ft bgs**	**0-5 ft bgs**	**0-5 ft bgs**	**0-5 ft bgs**
Parameters	**Unit**				
Semi-volatile Organic Compounds					
1,2-Diphenylhydrazine	mg/kg	<0.0012	<0.0013	<0.0013	<0.0013
2,4-Dimethylphenol	mg/kg	<0.0037	<0.0038	<0.0038	<0.0039
2,4-Dinitrotoluene	mg/kg	<0.0010	<0.0010	<0.0010	<0.0011
2,6-Dinitrotoluene	mg/kg	<0.0037	<0.0038	<0.0038	<0.0039
2-Chloronaphthalene	mg/kg	<0.0015	<0.0015	<0.0015	<0.0015
2-Methylnaphthalene	mg/kg	0.0080	0.47	0.28	0.0035 J
4,6-Dinitro-2-methylphenol	mg/kg	<0.0024	<0.0024	<0.0024	<0.0025
4-Nitrophenol	mg/kg	<0.0022	<0.0022	<0.0022	<0.0022
Acenaphthene	mg/kg	0.016	0.48	0.51	0.19
Acenaphthylene	mg/kg	<0.0011	0.0075	0.084	0.0074
Anthracene	mg/kg	0.018	0.24	0.27	0.13
Benzo(a)anthracene	mg/kg	0.018	0.096	0.31	0.18
Benzo(a)pyrene	mg/kg	0.015	0.033	0.31	0.097
bis(2-Chloroethoxy)methane	mg/kg	<0.0010	<0.0010	<0.0010	<0.0011
bis(2-Ethylhexyl)phthalate (DEHP)	mg/kg	<0.0019	<0.0019	0.026	<0.0020
Chrysene	mg/kg	0.021	0.087	0.38	0.19
Di-n-butylphthalate (DBP)	mg/kg	<0.0014	<0.0014	<0.0014	<0.0014
Dibenzofuran	mg/kg	0.0049	0.40	0.23	0.022
Fluoranthene	mg/kg	0.038	0.67	1.3	0.87
Fluorene	mg/kg	0.015	0.55	0.40	0.25
N-Nitrosodiphenylamine	mg/kg	<0.00079	<0.00080	<0.00080	<0.00083
Naphthalene	mg/kg	0.0070	0.74	0.014	0.0045
Nitrobenzene	mg/kg	<0.0010	<0.0010	<0.0010	<0.0011
Pentachlorophenol	mg/kg	<0.0037	<0.0038	0.091	<0.0039
Phenanthrene	mg/kg	0.030	1.3	0.99	0.68
Phenol	mg/kg	<0.0012	0.0015 J	0.0064 J	<0.0013
Pyrene	mg/kg	0.039	0.44	1.3	0.69
Metals					
Arsenic	mg/kg	1.33	6.97	1.56	1.37
Lead	mg/kg	18.0	6.84	6.76	9.99

Soil Analytical Results Summary
Response Action Soil Sampling Event
Union Pacific Railroad (UPRR)/ Houston TX-Wood Preserving Works
Houston, Texas
January - February 2016

Location ID:		CSCS-1	CSCW-1	CSD-CH-107E	CSD-CH-107W
Sample Name:		SO-1620-CSCS1(0-5)-20160201	SO-1620-CSCW1(0-5)-20160201	SO-1620-CSDCH107E(0-2)-2016021	SO-1620-CSDCH107W(0-2)-2016021
Sample Date:		02/01/2016	02/01/2016	02/12/2016	02/12/2016
Depth:		0-5 ft bgs	0-5 ft bgs	0-2 ft bgs	0-2 ft bgs
Parameters	**Unit**				
Semi-volatile Organic Compounds					
1,2-Diphenylhydrazine	mg/kg	<0.0014	<0.0013	<0.0013	<0.0069
2,4-Dimethylphenol	mg/kg	<0.0041	<0.0039	<0.0038	<0.021
2,4-Dinitrotoluene	mg/kg	<0.0011	<0.0011	<0.0010	<0.0057
2,6-Dinitrotoluene	mg/kg	<0.0041	<0.0039	<0.0038	<0.021
2-Chloronaphthalene	mg/kg	<0.0016	<0.0015	<0.0015	<0.0082
2-Methylnaphthalene	mg/kg	0.0014 J	0.0062	<0.00058	<0.0031
4,6-Dinitro-2-methylphenol	mg/kg	<0.0026	<0.0025	<0.0024	<0.013
4-Nitrophenol	mg/kg	<0.0024	<0.0022	<0.0022	<0.012
Acenaphthene	mg/kg	0.0060	0.084	<0.00058	<0.0031
Acenaphthylene	mg/kg	<0.0012	0.0050	0.0020 J	0.11
Anthracene	mg/kg	0.0045	0.057	0.0029 J	0.15
Benzo(a)anthracene	mg/kg	0.011	0.053	0.0057	0.055
Benzo(a)pyrene	mg/kg	0.0045	0.081	0.0088	0.27
bis(2-Chloroethoxy)methane	mg/kg	<0.0011	<0.0011	<0.0010	<0.0057
bis(2-Ethylhexyl)phthalate (DEHP)	mg/kg	0.0025 J	0.0032 J	0.0021 J	<0.011
Chrysene	mg/kg	0.015	0.051	0.013	0.084
Di-n-butylphthalate (DBP)	mg/kg	<0.0015	0.0023 J	<0.0014	<0.0075
Dibenzofuran	mg/kg	0.0021 J	0.012	<0.00082	0.011 J
Fluoranthene	mg/kg	0.068	0.21	0.015	0.14
Fluorene	mg/kg	0.0046	0.069	<0.0013	0.015 J
N-Nitrosodiphenylamine	mg/kg	<0.00087	<0.00082	<0.00082	<0.0044
Naphthalene	mg/kg	0.0095	0.012	<0.00070	0.040
Nitrobenzene	mg/kg	<0.0011	<0.0011	<0.0010	<0.0057
Pentachlorophenol	mg/kg	<0.0041	<0.0039	<0.0038	<0.021
Phenanthrene	mg/kg	0.021	0.18	0.0039	0.048
Phenol	mg/kg	<0.0014	0.0040 J	<0.0013	<0.0069
Pyrene	mg/kg	0.053	0.16	0.015	0.12
Metals					
Arsenic	mg/kg	1.10	1.35	1.42	2.76
Lead	mg/kg	5.62	14.6	5.87	6.68

Table 2A

Soil Analytical Results Summary
Response Action Soil Sampling Event
Union Pacific Railroad (UPRR)/ Houston TX-Wood Preserving Works
Houston, Texas
January - February 2016

Location ID:		CSDE-1	CSDE-2	CSDN-1	CSDN-2
Sample Name:		SO-1620-CSDE1(0-5)-20160129	SO-1620-CSDE2(0-5)-20160129	SO-1620-CSDN1(0-5)-20160130	SO-1620-CSDN2(0-5)-20160130
Sample Date:		01/29/2016	01/29/2016	01/30/2016	01/30/2016
Depth:		0-5 ft bgs	0-5 ft bgs	0-5 ft bgs	0-5 ft bgs
Parameters	**Unit**				
Semi-volatile Organic Compounds					
1,2-Diphenylhydrazine	mg/kg	<0.0013	<0.0013	<0.0014	<0.013
2,4-Dimethylphenol	mg/kg	<0.0040	<0.0039	<0.0041	<0.040
2,4-Dinitrotoluene	mg/kg	<0.0011	<0.0011	<0.0011	<0.011
2,6-Dinitrotoluene	mg/kg	<0.0040	<0.0039	<0.0041	<0.040
2-Chloronaphthalene	mg/kg	<0.0016	<0.0015	<0.0016	<0.016
2-Methylnaphthalene	mg/kg	0.0054	0.011	<0.00063	<0.0060
4,6-Dinitro-2-methylphenol	mg/kg	<0.0026	<0.0025	<0.0026	<0.025
4-Nitrophenol	mg/kg	<0.0023	<0.0023	<0.0024	<0.023
Acenaphthene	mg/kg	0.0089	0.080	0.021	0.039 J
Acenaphthylene	mg/kg	0.25	0.14	0.097	0.25
Anthracene	mg/kg	0.023	0.15	0.038	0.17
Benzo(a)anthracene	mg/kg	0.17	0.13	0.28	0.34
Benzo(a)pyrene	mg/kg	0.64	0.27	0.41	1.1
bis(2-Chloroethoxy)methane	mg/kg	<0.0011	<0.0011	<0.0011	<0.011
bis(2-Ethylhexyl)phthalate (DEHP)	mg/kg	<0.0021	<0.0020	0.0072 J	0.042 J
Chrysene	mg/kg	0.27	0.20	0.37	0.61
Di-n-butylphthalate (DBP)	mg/kg	<0.0015	<0.0014	0.0031 J	<0.014
Dibenzofuran	mg/kg	0.0067	0.046	<0.00088	<0.0084
Fluoranthene	mg/kg	0.13	0.38	1.1	0.73
Fluorene	mg/kg	0.027	0.085	0.0075	<0.013
N-Nitrosodiphenylamine	mg/kg	<0.00086	<0.00083	<0.00088	<0.0084
Naphthalene	mg/kg	0.0097	0.0093	<0.00075	<0.0072
Nitrobenzene	mg/kg	<0.0011	<0.0011	<0.0011	<0.011
Pentachlorophenol	mg/kg	0.014	<0.0039	<0.0041	<0.040
Phenanthrene	mg/kg	0.26	0.26	0.0060	0.061
Phenol	mg/kg	0.024	0.013	0.0024 J	<0.013
Pyrene	mg/kg	0.26	0.38	0.78	0.63
Metals					
Arsenic	mg/kg	2.04	1.67	8.53	3.04
Lead	mg/kg	13.6	7.26	24.1	12.7

Soil Analytical Results Summary
Response Action Soil Sampling Event
Union Pacific Railroad (UPRR)/ Houston TX-Wood Preserving Works
Houston, Texas
January - February 2016

Location ID:		CSDS-1	CSDS-2	CSDW-1	CSDW-2
Sample Name:		SO-1620-CSDS1(0-5)-20160129	SO-1620-CSDS2(0-5)-20160129	SO-1620-CSDW1(0-5)-20160129	SO-1620-CSDW2(0-5)-20160129
Sample Date:		01/29/2016	01/29/2016	01/29/2016	01/29/2016
Depth:		0-5 ft bgs	0-5 ft bgs	0-5 ft bgs	0-5 ft bgs
Parameters	**Unit**				
Semi-volatile Organic Compounds					
1,2-Diphenylhydrazine	mg/kg	<0.0014	<0.014	<0.0013	<0.0013
2,4-Dimethylphenol	mg/kg	<0.0041	<0.041	<0.0040	<0.0040
2,4-Dinitrotoluene	mg/kg	<0.0011	<0.011	<0.0011	<0.0011
2,6-Dinitrotoluene	mg/kg	<0.0041	<0.041	<0.0040	<0.0040
2-Chloronaphthalene	mg/kg	<0.0016	<0.016	<0.0016	<0.0016
2-Methylnaphthalene	mg/kg	0.19	<0.0062	<0.00061	0.0031 J
4,6-Dinitro-2-methylphenol	mg/kg	<0.0026	<0.026	<0.0026	<0.0025
4-Nitrophenol	mg/kg	<0.0024	<0.024	<0.0023	<0.0023
Acenaphthene	mg/kg	1.4	<0.0062	0.18	0.0098
Acenaphthylene	mg/kg	0.38	0.43	0.079	0.10
Anthracene	mg/kg	1.1	0.44	0.12	0.034
Benzo(a)anthracene	mg/kg	2.3	0.72	0.25	0.27
Benzo(a)pyrene	mg/kg	1.5	1.5	0.21	0.24
bis(2-Chloroethoxy)methane	mg/kg	<0.0011	<0.011	0.0026 J	<0.0011
bis(2-Ethylhexyl)phthalate (DEHP)	mg/kg	<0.0021	<0.021	<0.0021	<0.0021
Chrysene	mg/kg	2.5	1.0	0.30	0.30
Di-n-butylphthalate (DBP)	mg/kg	<0.0015	<0.015	<0.0015	<0.0014
Dibenzofuran	mg/kg	0.41	<0.0087	0.027	0.0025 J
Fluoranthene	mg/kg	8.3	0.65	1.3	0.73
Fluorene	mg/kg	0.92	0.043	0.051	0.012
N-Nitrosodiphenylamine	mg/kg	<0.00087	<0.0087	<0.00085	<0.00084
Naphthalene	mg/kg	0.35	0.048	0.0067	0.0031 J
Nitrobenzene	mg/kg	<0.0011	<0.011	<0.0011	<0.0011
Pentachlorophenol	mg/kg	<0.0041	<0.041	<0.0040	<0.0040
Phenanthrene	mg/kg	4.2	0.11	0.23	0.076
Phenol	mg/kg	0.027	0.045 J	0.0054 J	0.0058 J
Pyrene	mg/kg	8.3	0.90	0.86	0.60
Metals					
Arsenic	mg/kg	177	2.19	1.24	1.41
Lead	mg/kg	8.75	19.1	6.28	8.35

Soil Analytical Results Summary
Response Action Soil Sampling Event
Union Pacific Railroad (UPRR)/ Houston TX-Wood Preserving Works
Houston, Texas
January - February 2016

Location ID:		CSEE-1	CSEN-1	CSES-1	CSEW-1
Sample Name:		SO-1620-CSEE1(0-5)-20160201	SO-1620-CSEN1(0-5)-20160130	SO-1620-CSES1(0-5)-20160130	SO-1620-CSEW1(0-5)-20160130
Sample Date:		02/01/2016	01/30/2016	01/30/2016	01/30/2016
Depth:		0-5 ft bgs	0-5 ft bgs	0-5 ft bgs	0-5 ft bgs
Parameters	**Unit**				
Semi-volatile Organic Compounds					
1,2-Diphenylhydrazine	mg/kg	<0.0013	<0.0013	<0.013	<0.0013
2,4-Dimethylphenol	mg/kg	<0.0040	<0.0039	<0.040	<0.0040
2,4-Dinitrotoluene	mg/kg	<0.0011	<0.0011	<0.011	<0.0011
2,6-Dinitrotoluene	mg/kg	<0.0040	<0.0039	<0.040	<0.0040
2-Chloronaphthalene	mg/kg	<0.0016	<0.0015	<0.016	<0.0016
2-Methylnaphthalene	mg/kg	<0.00061	<0.00059	<0.0061	0.016
4,6-Dinitro-2-methylphenol	mg/kg	<0.0026	<0.0025	<0.025	<0.0025
4-Nitrophenol	mg/kg	<0.0023	<0.0023	<0.023	<0.0023
Acenaphthene	mg/kg	0.0032 J	<0.00059	0.028 J	0.10
Acenaphthylene	mg/kg	0.060	0.0032 J	0.10	0.055
Anthracene	mg/kg	0.040	0.0062	0.036 J	0.14
Benzo(a)anthracene	mg/kg	0.064	0.019	0.39	0.18
Benzo(a)pyrene	mg/kg	0.26	0.017	0.65	0.25
bis(2-Chloroethoxy)methane	mg/kg	<0.0011	<0.0011	<0.011	<0.0011
bis(2-Ethylhexyl)phthalate (DEHP)	mg/kg	0.0074 J	0.0033 J	<0.021	0.0063 J
Chrysene	mg/kg	0.12	0.029	0.61	0.26
Di-n-butylphthalate (DBP)	mg/kg	<0.0015	<0.0014	<0.015	0.0025 J
Dibenzofuran	mg/kg	<0.00086	<0.00083	<0.0085	0.070
Fluoranthene	mg/kg	0.032	0.037	0.91	0.76
Fluorene	mg/kg	0.0044	<0.0013	<0.013	0.070
N-Nitrosodiphenylamine	mg/kg	<0.00086	<0.00083	<0.0085	<0.00084
Naphthalene	mg/kg	0.0022 J	<0.00071	<0.0073	0.029
Nitrobenzene	mg/kg	<0.0011	<0.0011	<0.011	<0.0011
Pentachlorophenol	mg/kg	<0.0040	<0.0039	<0.040	<0.0040
Phenanthrene	mg/kg	0.0059	0.0070	0.032 J	0.37
Phenol	mg/kg	0.0098	0.0064 J	<0.013	0.0029 J
Pyrene	mg/kg	0.049	0.036	0.85	0.47
Metals					
Arsenic	mg/kg	2.27	1.05	1.57	1.99
Lead	mg/kg	11.6	7.28	9.57	13.0

Soil Analytical Results Summary
Response Action Soil Sampling Event
Union Pacific Railroad (UPRR)/ Houston TX-Wood Preserving Works
Houston, Texas
January - February 2016

Location ID:		CSFE-1	CSFE-2	CSFN-1	CSFN-2
Sample Name:		SO-1620-CSFE1(0-5)-20160129	SO-1620-CSFE2(0-5)-20160129	SO-1620-CSFN1(0-5)-20160126	SO-1620-CSFN2(0-5)-20160126
Sample Date:		01/29/2016	01/29/2016	01/26/2016	01/26/2016
Depth:		0-5 ft bgs	0-5 ft bgs	0-5 ft bgs	0-5 ft bgs
Parameters	**Unit**				
Semi-volatile Organic Compounds					
1,2-Diphenylhydrazine	mg/kg	<0.0013	<0.0013	<0.0013	<0.0014
2,4-Dimethylphenol	mg/kg	<0.0040	<0.0038	<0.0039	<0.0042
2,4-Dinitrotoluene	mg/kg	<0.0011	<0.0010	<0.0011	<0.0011
2,6-Dinitrotoluene	mg/kg	<0.0040	<0.0038	<0.0039	<0.0042
2-Chloronaphthalene	mg/kg	<0.0016	<0.0015	<0.0015	<0.0016
2-Methylnaphthalene	mg/kg	0.0030 J	0.0094	0.12	8.5
4,6-Dinitro-2-methylphenol	mg/kg	<0.0026	<0.0024	<0.0025	<0.0026
4-Nitrophenol	mg/kg	<0.0023	<0.0022	<0.0022	<0.0024
Acenaphthene	mg/kg	<0.00061	<0.00058	0.51	12
Acenaphthylene	mg/kg	0.0062	0.20	0.021	0.13
Anthracene	mg/kg	0.0069	0.015	0.29	9.4
Benzo(a)anthracene	mg/kg	0.023	0.13	0.29	3.5
Benzo(a)pyrene	mg/kg	0.12	0.51	0.27	0.99
bis(2-Chloroethoxy)methane	mg/kg	<0.0011	<0.0010	<0.0011	<0.0011
bis(2-Ethylhexyl)phthalate (DEHP)	mg/kg	0.011	<0.0020	0.016	<0.0021
Chrysene	mg/kg	0.042	0.22	0.35	3.2
Di-n-butylphthalate (DBP)	mg/kg	<0.0015	<0.0014	<0.0014	<0.0015
Dibenzofuran	mg/kg	0.0029 J	0.014	0.28	9.0
Fluoranthene	mg/kg	0.018	0.099	1.2	24
Fluorene	mg/kg	<0.0013	0.018	0.60	15
N-Nitrosodiphenylamine	mg/kg	<0.00085	<0.00081	0.0067 J	<0.00088
Naphthalene	mg/kg	0.0068	0.017	0.18	23
Nitrobenzene	mg/kg	<0.0011	<0.0010	<0.0011	<0.0011
Pentachlorophenol	mg/kg	<0.0040	<0.0038	<0.0039	<0.0042
Phenanthrene	mg/kg	0.0086	0.21	1.9	41
Phenol	mg/kg	0.0024 J	0.023	<0.0013	0.040
Pyrene	mg/kg	0.036	0.18	1.0	17
Metals					
Arsenic	mg/kg	2.16	1.35	1.16	1.66
Lead	mg/kg	9.65	7.84	8.62	11.3

Soil Analytical Results Summary
Response Action Soil Sampling Event
Union Pacific Railroad (UPRR)/ Houston TX-Wood Preserving Works
Houston, Texas
January - February 2016

Location ID:		CSFN-3	CSFS-1	CSFS-2	CSFS-3
Sample Name:		SO-1620-CSFN3(0-5)-20160128	SO-1620-CSFS1(0-5)-20160126	SO-1620-CSFS2(0-5)-20160126	SO-1620-CSFS3(0-5)-20160128
Sample Date:		01/28/2016	01/26/2016	01/26/2016	01/28/2016
Depth:		0-5 ft bgs	0-5 ft bgs	0-5 ft bgs	0-5 ft bgs
Parameters	**Unit**				
Semi-volatile Organic Compounds					
1,2-Diphenylhydrazine	mg/kg	<0.0013	<0.0013	<0.0013	<0.0013
2,4-Dimethylphenol	mg/kg	<0.0040	<0.0039	<0.0039	<0.0038
2,4-Dinitrotoluene	mg/kg	<0.0011	<0.0011	<0.0011	<0.0010
2,6-Dinitrotoluene	mg/kg	<0.0040	<0.0039	<0.0039	<0.0038
2-Chloronaphthalene	mg/kg	<0.0016	<0.0016	<0.0016	<0.0015
2-Methylnaphthalene	mg/kg	0.012	<0.00060	0.092	<0.00058
4,6-Dinitro-2-methylphenol	mg/kg	<0.0025	<0.0025	<0.0025	<0.0024
4-Nitrophenol	mg/kg	<0.0023	<0.0023	<0.0023	<0.0022
Acenaphthene	mg/kg	0.044	<0.00060	0.097	<0.00058
Acenaphthylene	mg/kg	0.15	<0.0012	0.15	0.11
Anthracene	mg/kg	0.16	<0.00060	0.19	0.13
Benzo(a)anthracene	mg/kg	0.40	0.0074	0.21	0.028
Benzo(a)pyrene	mg/kg	0.32	0.018	0.71	0.33
bis(2-Chloroethoxy)methane	mg/kg	<0.0011	<0.0011	<0.0011	<0.0010
bis(2-Ethylhexyl)phthalate (DEHP)	mg/kg	<0.0021	<0.0020	0.024	<0.0020
Chrysene	mg/kg	0.47	0.015	0.34	0.066
Di-n-butylphthalate (DBP)	mg/kg	<0.0015	<0.0014	<0.0014	<0.0014
Dibenzofuran	mg/kg	0.022	<0.00084	0.070	<0.00081
Fluoranthene	mg/kg	0.51	0.010	0.61	0.045
Fluorene	mg/kg	0.055	<0.0013	0.12	0.019
N-Nitrosodiphenylamine	mg/kg	<0.00085	<0.00084	<0.00084	<0.00081
Naphthalene	mg/kg	0.012	<0.00072	0.21	0.0030 J
Nitrobenzene	mg/kg	<0.0011	<0.0011	<0.0011	<0.0010
Pentachlorophenol	mg/kg	0.016	<0.0039	<0.0039	<0.0038
Phenanthrene	mg/kg	0.11	<0.0018	0.31	0.0086
Phenol	mg/kg	<0.0013	<0.0013	0.0094	0.0091
Pyrene	mg/kg	0.83	0.022	1.0	0.058
Metals					
Arsenic	mg/kg	1.77	1.11	1.46	1.87
Lead	mg/kg	8.37	8.93	21.6	10.6

Table 2A

Soil Analytical Results Summary
Response Action Soil Sampling Event
Union Pacific Railroad (UPRR)/ Houston TX-Wood Preserving Works
Houston, Texas
January - February 2016

Location ID:		CSFW-1	CSG-2	CSG-3	CSG-4
Sample Name:		SO-1620-CSFW1(0-5)-20160126	SO-1620-CSG2(3)-20160213	SO-1620-CSG3(0-3)-20160213	SO-1620-CSG4(3)-20160213
Sample Date:		01/26/2016	02/13/2016	02/13/2016	02/13/2016
Depth:		0-5 ft bgs	3-3.5 ft bgs	0-3 ft bgs	3-3.5 ft bgs
Parameters	**Unit**				
Semi-volatile Organic Compounds					
1,2-Diphenylhydrazine	mg/kg	<0.0013	<0.0013	<0.0013	<0.0013
2,4-Dimethylphenol	mg/kg	<0.0040	<0.0039	<0.0040	<0.0040
2,4-Dinitrotoluene	mg/kg	<0.0011	<0.0011	<0.0011	<0.0011
2,6-Dinitrotoluene	mg/kg	<0.0040	<0.0039	<0.0040	<0.0040
2-Chloronaphthalene	mg/kg	<0.0016	<0.0015	<0.0016	<0.0016
2-Methylnaphthalene	mg/kg	<0.00061	<0.00059	2.5	0.034
4,6-Dinitro-2-methylphenol	mg/kg	<0.0026	<0.0025	<0.0026	<0.0025
4-Nitrophenol	mg/kg	<0.0023	<0.0023	<0.0023	<0.0023
Acenaphthene	mg/kg	<0.00061	0.035	8.2	2.4
Acenaphthylene	mg/kg	<0.0012	<0.0012	0.098	0.038
Anthracene	mg/kg	<0.00061	0.019	3.5	1.4
Benzo(a)anthracene	mg/kg	<0.0020	0.0069	1.8	0.90
Benzo(a)pyrene	mg/kg	<0.0012	0.0044	0.45	0.22
bis(2-Chloroethoxy)methane	mg/kg	<0.0011	<0.0011	<0.0011	<0.0011
bis(2-Ethylhexyl)phthalate (DEHP)	mg/kg	0.0055 J	0.0038 J	0.027	0.0050 J
Chrysene	mg/kg	<0.00098	0.019	1.6	0.81
Di-n-butylphthalate (DBP)	mg/kg	<0.0015	<0.0014	<0.0015	<0.0014
Dibenzofuran	mg/kg	<0.00086	0.024	6.6	1.8
Fluoranthene	mg/kg	<0.0013	0.058	16	7.1
Fluorene	mg/kg	<0.0013	0.042	10	3.0
N-Nitrosodiphenylamine	mg/kg	<0.00086	<0.00083	<0.00085	<0.00084
Naphthalene	mg/kg	<0.00074	<0.00071	6.6	0.073
Nitrobenzene	mg/kg	<0.0011	<0.0011	<0.0011	<0.0011
Pentachlorophenol	mg/kg	<0.0040	<0.0039	<0.0040	<0.0040
Phenanthrene	mg/kg	0.0036 J	0.13	30	11
Phenol	mg/kg	0.0043 J	<0.0013	0.0041 J	<0.0013
Pyrene	mg/kg	<0.00074	0.040	8.5	3.0
Metals					
Arsenic	mg/kg	1.49	1.46	2.88	6.03
Lead	mg/kg	17.2	7.24	8.86	14.0

Table 2A

Soil Analytical Results Summary
Response Action Soil Sampling Event
Union Pacific Railroad (UPRR)/ Houston TX-Wood Preserving Works
Houston, Texas
January - February 2016

Location ID:		CSG-5	CSG-6	DSB-1	DSB-2
Sample Name:		SO-1620-CSG5(0-3)-20160215	SO-1620-CSG6(3)-20160216	SO-1620-DSB1(0-5)-20160127	SO-1620-DSB2(0-5)-20160127
Sample Date:		02/15/2016	02/16/2016	01/27/2016	01/27/2016
Depth:		0-3 ft bgs	0-3 ft bgs	0-5 ft bgs	0-5 ft bgs
Parameters	**Unit**				
Semi-volatile Organic Compounds					
1,2-Diphenylhydrazine	mg/kg	<0.0013	<0.0013	<0.0013	<0.0013
2,4-Dimethylphenol	mg/kg	<0.0040	<0.0039	<0.0040	<0.0039
2,4-Dinitrotoluene	mg/kg	<0.0011	<0.0011	<0.0011	<0.0011
2,6-Dinitrotoluene	mg/kg	<0.0040	<0.0039	<0.0040	<0.0039
2-Chloronaphthalene	mg/kg	<0.0016	<0.0016	<0.0016	<0.0015
2-Methylnaphthalene	mg/kg	<0.00060	0.0057	0.0096	<0.00059
4,6-Dinitro-2-methylphenol	mg/kg	<0.0025	<0.0025	<0.0026	<0.0025
4-Nitrophenol	mg/kg	<0.0023	<0.0023	<0.0023	<0.0023
Acenaphthene	mg/kg	<0.00060	<0.00060	0.012	0.0031 J
Acenaphthylene	mg/kg	0.0060	<0.0012	0.16	0.077
Anthracene	mg/kg	0.0076	0.0063	0.22	0.011
Benzo(a)anthracene	mg/kg	0.016	0.0087	0.34	0.036
Benzo(a)pyrene	mg/kg	0.017	0.0059	0.55	0.19
bis(2-Chloroethoxy)methane	mg/kg	<0.0011	<0.0011	<0.0011	<0.0011
bis(2-Ethylhexyl)phthalate (DEHP)	mg/kg	0.011	0.0077 J	<0.0021	0.011
Chrysene	mg/kg	0.020	0.019	0.40	0.071
Di-n-butylphthalate (DBP)	mg/kg	0.0040 J	0.0039 J	<0.0015	0.0026 J
Dibenzofuran	mg/kg	<0.00085	<0.00084	0.013	<0.00083
Fluoranthene	mg/kg	0.030	<0.0013	0.32	0.018
Fluorene	mg/kg	<0.0013	0.0083	0.018	0.010
N-Nitrosodiphenylamine	mg/kg	<0.00085	<0.00084	<0.00085	<0.00083
Naphthalene	mg/kg	<0.00073	<0.00072	0.031	0.0033 J
Nitrobenzene	mg/kg	<0.0011	<0.0011	<0.0011	<0.0011
Pentachlorophenol	mg/kg	<0.0040	<0.0039	<0.0040	<0.0039
Phenanthrene	mg/kg	0.0054	0.025	0.11	0.065
Phenol	mg/kg	<0.0013	<0.0013	0.012	<0.0013
Pyrene	mg/kg	0.030	0.021	0.43	0.039
Metals					
Arsenic	mg/kg	5.54	1.71	2.79	1.04
Lead	mg/kg	10.0	7.35	15.4	5.18

Soil Analytical Results Summary
Response Action Soil Sampling Event
Union Pacific Railroad (UPRR)/ Houston TX-Wood Preserving Works
Houston, Texas
January - February 2016

Location ID:		DSB-3	DSB-4	DSB-5	DSB-6
Sample Name:		SO-1620-DSB3(0-5)-20160127	SO-1620-DSB4(0-5)-20160127	SO-1620-DSB5(0-5)-20160127	SO-1620-DSB6(0-5)-20160127
Sample Date:		01/27/2016	01/27/2016	01/27/2016	01/27/2016
Depth:		0-5 ft bgs	0-5 ft bgs	0-5 ft bgs	0-5 ft bgs
Parameters	**Unit**				
Semi-volatile Organic Compounds					
1,2-Diphenylhydrazine	mg/kg	<0.0013	<0.0014	<0.0014	<0.0013
2,4-Dimethylphenol	mg/kg	<0.0039	<0.0041	<0.0041	<0.0040
2,4-Dinitrotoluene	mg/kg	<0.0011	<0.0011	<0.0011	<0.0011
2,6-Dinitrotoluene	mg/kg	<0.0039	<0.0041	<0.0041	<0.0040
2-Chloronaphthalene	mg/kg	<0.0015	<0.0016	<0.0016	<0.0016
2-Methylnaphthalene	mg/kg	0.035	<0.00063	0.0078	<0.00061
4,6-Dinitro-2-methylphenol	mg/kg	<0.0025	<0.0026	<0.0026	<0.0026
4-Nitrophenol	mg/kg	<0.0022	<0.0024	<0.0024	<0.0023
Acenaphthene	mg/kg	0.29	0.0063	0.013	0.0070
Acenaphthylene	mg/kg	0.079	0.12	0.21	0.16
Anthracene	mg/kg	0.39	0.059	0.13	0.068
Benzo(a)anthracene	mg/kg	0.54	0.085	0.069	0.83
Benzo(a)pyrene	mg/kg	0.27	0.34	0.39	0.49
bis(2-Chloroethoxy)methane	mg/kg	<0.0011	<0.0011	<0.0011	<0.0011
bis(2-Ethylhexyl)phthalate (DEHP)	mg/kg	0.038	0.021	0.020	<0.0021
Chrysene	mg/kg	0.65	0.15	0.15	0.86
Di-n-butylphthalate (DBP)	mg/kg	<0.0014	<0.0015	<0.0015	<0.0015
Dibenzofuran	mg/kg	0.25	<0.00088	0.0069	<0.00085
Fluoranthene	mg/kg	2.6	0.10	0.056	2.3
Fluorene	mg/kg	0.26	0.012	0.037	0.020
N-Nitrosodiphenylamine	mg/kg	<0.00083	<0.00088	<0.00087	<0.00085
Naphthalene	mg/kg	0.028	0.0029 J	0.0082	<0.00073
Nitrobenzene	mg/kg	<0.0011	<0.0011	<0.0011	<0.0011
Pentachlorophenol	mg/kg	<0.0039	<0.0041	<0.0041	<0.0040
Phenanthrene	mg/kg	1.9	0.0088	0.051	0.096
Phenol	mg/kg	<0.0013	0.0069 J	0.0096	0.0070 J
Pyrene	mg/kg	2.5	0.098	0.068	1.9
Metals					
Arsenic	mg/kg	1.87	3.49	3.37	1.91
Lead	mg/kg	5.90	11.1	10.9	6.87

Soil Analytical Results Summary
Response Action Soil Sampling Event
Union Pacific Railroad (UPRR)/ Houston TX-Wood Preserving Works
Houston, Texas
January - February 2016

Location ID:		DSB-7	DSB-8	ESB-1	ESB-2
Sample Name:		SO-1620-DSB7(0-5)-20160127	SO-1620-DSB8(0-5)-20160127	SO-1620-ESB1(0-5)-20160127	SO-1620-ESB2(0-5)-20160127
Sample Date:		01/27/2016	01/27/2016	01/27/2016	01/27/2016
Depth:		0-5 ft bgs	0-5 ft bgs	0-5 ft bgs	0-5 ft bgs
Parameters	**Unit**				
Semi-volatile Organic Compounds					
1,2-Diphenylhydrazine	mg/kg	<0.0013	<0.0069	<0.0014	<0.0014
2,4-Dimethylphenol	mg/kg	<0.0040	<0.021	<0.0043	<0.0041
2,4-Dinitrotoluene	mg/kg	<0.0011	<0.0056	<0.0012	<0.0011
2,6-Dinitrotoluene	mg/kg	<0.0040	<0.021	<0.0043	<0.0041
2-Chloronaphthalene	mg/kg	<0.0016	<0.0081	<0.0017	<0.0016
2-Methylnaphthalene	mg/kg	0.085	0.047	<0.00065	<0.00062
4,6-Dinitro-2-methylphenol	mg/kg	<0.0026	<0.013	<0.0027	<0.0026
4-Nitrophenol	mg/kg	<0.0023	<0.012	<0.0025	<0.0023
Acenaphthene	mg/kg	0.24	0.24	0.013	0.013
Acenaphthylene	mg/kg	0.29	0.51	0.49	0.10
Anthracene	mg/kg	0.39	0.62	0.31	0.13
Benzo(a)anthracene	mg/kg	0.26	0.74	0.67	0.62
Benzo(a)pyrene	mg/kg	0.51	1.3	1.2	0.27
bis(2-Chloroethoxy)methane	mg/kg	<0.0011	<0.0056	<0.0012	<0.0011
bis(2-Ethylhexyl)phthalate (DEHP)	mg/kg	<0.0021	<0.011	<0.0022	<0.0021
Chrysene	mg/kg	0.33	0.88	0.77	0.56
Di-n-butylphthalate (DBP)	mg/kg	0.0038 J	<0.0075	<0.0016	<0.0015
Dibenzofuran	mg/kg	0.16	0.10	0.0073	<0.00086
Fluoranthene	mg/kg	0.50	1.3	0.80	2.4
Fluorene	mg/kg	0.28	0.30	0.058	0.021
N-Nitrosodiphenylamine	mg/kg	<0.00086	<0.0044	<0.00091	<0.00086
Naphthalene	mg/kg	0.19	0.13	0.0042 J	<0.00074
Nitrobenzene	mg/kg	<0.0011	<0.0056	<0.0012	<0.0011
Pentachlorophenol	mg/kg	<0.0040	<0.021	0.023	<0.0041
Phenanthrene	mg/kg	0.71	1.1	0.052	0.15
Phenol	mg/kg	0.017	0.041 J	0.0065 J	<0.0014
Pyrene	mg/kg	0.50	1.4	1.0	2.7
Metals					
Arsenic	mg/kg	1.28	339	1.37	1.44
Lead	mg/kg	7.16	8.06	7.80	6.86

Soil Analytical Results Summary
Response Action Soil Sampling Event
Union Pacific Railroad (UPRR)/ Houston TX-Wood Preserving Works
Houston, Texas
January - February 2016

Location ID:		ESB-3	ESB-4	FSB-1	FSB-2
Sample Name:		SO-1620-ESB3(0-5)-20160127	SO-1620-ESB4(0-5)-20160127	SO-1620-FSB1(0-5)-20160126	SO-1620-FSB2(0-5)-20160126
Sample Date:		01/27/2016	01/27/2016	01/26/2016	01/26/2016
Depth:		0-5 ft bgs	0-5 ft bgs	0-5 ft bgs	0-5 ft bgs
Parameters	**Unit**				
Semi-volatile Organic Compounds					
1,2-Diphenylhydrazine	mg/kg	<0.0013	<0.0013	<0.0013	<0.0013
2,4-Dimethylphenol	mg/kg	<0.0040	<0.0039	<0.0040	<0.0039
2,4-Dinitrotoluene	mg/kg	<0.0011	<0.0011	<0.0011	<0.0011
2,6-Dinitrotoluene	mg/kg	<0.0040	<0.0039	<0.0040	<0.0039
2-Chloronaphthalene	mg/kg	<0.0016	<0.0015	<0.0016	<0.0015
2-Methylnaphthalene	mg/kg	<0.00060	<0.00059	<0.00061	<0.00059
4,6-Dinitro-2-methylphenol	mg/kg	<0.0025	<0.0025	<0.0025	<0.0025
4-Nitrophenol	mg/kg	<0.0023	<0.0022	<0.0023	<0.0023
Acenaphthene	mg/kg	<0.00060	<0.00059	<0.00061	<0.00059
Acenaphthylene	mg/kg	0.0043	0.036	<0.0012	0.0061
Anthracene	mg/kg	0.0054	0.031	<0.00061	0.0046
Benzo(a)anthracene	mg/kg	0.011	0.043	0.033	0.011
Benzo(a)pyrene	mg/kg	0.011	0.067	0.042	0.037
bis(2-Chloroethoxy)methane	mg/kg	<0.0011	<0.0011	<0.0011	<0.0011
bis(2-Ethylhexyl)phthalate (DEHP)	mg/kg	<0.0021	<0.0020	0.0042 J	0.0047 J
Chrysene	mg/kg	0.024	0.057	0.049	0.020
Di-n-butylphthalate (DBP)	mg/kg	<0.0015	0.0023 J	0.0030 J	0.0024 J
Dibenzofuran	mg/kg	<0.00085	<0.00082	<0.00085	<0.00083
Fluoranthene	mg/kg	0.018	0.021	0.015	0.0085
Fluorene	mg/kg	<0.0013	0.0078	<0.0013	<0.0013
N-Nitrosodiphenylamine	mg/kg	<0.00085	<0.00082	<0.00085	<0.00083
Naphthalene	mg/kg	<0.00073	<0.00071	<0.00073	0.0021 J
Nitrobenzene	mg/kg	<0.0011	<0.0011	<0.0011	<0.0011
Pentachlorophenol	mg/kg	<0.0040	<0.0039	<0.0040	<0.0039
Phenanthrene	mg/kg	0.0047	0.0091	<0.0018	0.0027 J
Phenol	mg/kg	<0.0013	<0.0013	0.0021 J	<0.0013
Pyrene	mg/kg	0.019	0.037	0.045	0.022
Metals					
Arsenic	mg/kg	1.39	2.53	2.70	1.18
Lead	mg/kg	6.71	8.25	10.9	8.25

Soil Analytical Results Summary
Response Action Soil Sampling Event
Union Pacific Railroad (UPRR)/ Houston TX-Wood Preserving Works
Houston, Texas
January - February 2016

Location ID:		FSB-3	GSB-1	GSB-2	GSB-3
Sample Name:		SO-1620-FSB3(0-5)-20160126	SO-1620-GSB1(0-1.5)-20160128	SO-1620-GSB2(0-3)-20160128	SO-1620-GSB3(0-3)-20160128
Sample Date:		01/26/2016	01/28/2016	01/28/2016	01/28/2016
Depth:		0-5 ft bgs	0-1.5 ft bgs	0-3 ft bgs	0-3 ft bgs
Parameters	**Unit**				
Semi-volatile Organic Compounds					
1,2-Diphenylhydrazine	mg/kg	0.0021 J	<0.0014	<0.0014	<0.0014
2,4-Dimethylphenol	mg/kg	<0.0039	<0.0043	<0.0041	<0.0041
2,4-Dinitrotoluene	mg/kg	<0.0011	<0.0012	<0.0011	<0.0011
2,6-Dinitrotoluene	mg/kg	<0.0039	<0.0043	<0.0041	<0.0041
2-Chloronaphthalene	mg/kg	<0.0016	<0.0017	<0.0016	<0.0016
2-Methylnaphthalene	mg/kg	<0.00060	<0.00065	<0.00062	<0.00062
4,6-Dinitro-2-methylphenol	mg/kg	<0.0025	<0.0027	<0.0026	<0.0026
4-Nitrophenol	mg/kg	<0.0023	<0.0025	<0.0024	<0.0023
Acenaphthene	mg/kg	<0.00060	0.0023 J	<0.00062	<0.00062
Acenaphthylene	mg/kg	0.0077	0.037	0.0057	0.032
Anthracene	mg/kg	0.0078	0.076	0.022	0.080
Benzo(a)anthracene	mg/kg	0.017	0.075	0.0063	0.11
Benzo(a)pyrene	mg/kg	0.055	0.11	0.019	0.12
bis(2-Chloroethoxy)methane	mg/kg	<0.0011	<0.0012	<0.0011	<0.0011
bis(2-Ethylhexyl)phthalate (DEHP)	mg/kg	0.0058 J	0.024	<0.0021	0.017
Chrysene	mg/kg	0.027	0.13	0.011	0.14
Di-n-butylphthalate (DBP)	mg/kg	<0.0014	0.0042 J	<0.0015	<0.0015
Dibenzofuran	mg/kg	<0.00084	0.0024 J	<0.00087	<0.00086
Fluoranthene	mg/kg	0.013	0.12	0.012	0.091
Fluorene	mg/kg	<0.0013	0.0059	<0.0014	<0.0014
N-Nitrosodiphenylamine	mg/kg	<0.00084	<0.00091	<0.00087	<0.00086
Naphthalene	mg/kg	0.0023 J	0.0016 J	<0.00075	<0.00074
Nitrobenzene	mg/kg	<0.0011	<0.0012	<0.0011	<0.0011
Pentachlorophenol	mg/kg	<0.0039	<0.0043	<0.0041	<0.0041
Phenanthrene	mg/kg	0.0043	0.017	0.0032 J	0.0058
Phenol	mg/kg	<0.0013	0.0089	<0.0014	0.0058 J
Pyrene	mg/kg	0.026	0.17	0.0099	0.20
Metals					
Arsenic	mg/kg	1.27	8.31	3.27	4.45
Lead	mg/kg	11.3	39.4	11.9	12.6

Soil Analytical Results Summary
Response Action Soil Sampling Event
Union Pacific Railroad (UPRR)/ Houston TX-Wood Preserving Works
Houston, Texas
January - February 2016

Location ID:		GSB-4	GSB-5	GSB-6	GSB-7
Sample Name:		SO-1620-GSB4(0-3)-20160128	SO-1620-GSB5(0-3)-20160128	SO-1620-GSB6(0-3)-20160128	SO-1620-GSB7(0-3)-20160206
Sample Date:		01/28/2016	01/28/2016	01/28/2016	02/06/2016
Depth:		0-3 ft bgs	0-3 ft bgs	0-3 ft bgs	0-3 ft bgs
Parameters	**Unit**				
Semi-volatile Organic Compounds					
1,2-Diphenylhydrazine	mg/kg	<0.0014	<0.0014	<0.0014	<0.0018
2,4-Dimethylphenol	mg/kg	<0.0041	<0.0041	<0.0041	<0.0053
2,4-Dinitrotoluene	mg/kg	<0.0011	<0.0011	<0.0011	<0.0014
2,6-Dinitrotoluene	mg/kg	<0.0041	<0.0041	<0.0041	<0.0053
2-Chloronaphthalene	mg/kg	<0.0016	<0.0016	<0.0016	<0.0021
2-Methylnaphthalene	mg/kg	<0.00062	<0.00062	<0.00063	<0.00080
4,6-Dinitro-2-methylphenol	mg/kg	<0.0026	<0.0026	<0.0026	<0.0034
4-Nitrophenol	mg/kg	<0.0024	<0.0024	<0.0024	0.013 J
Acenaphthene	mg/kg	0.0046	<0.00062	<0.00063	0.0048 J
Acenaphthylene	mg/kg	0.031	<0.0012	0.044	0.042
Anthracene	mg/kg	0.11	<0.00062	0.083	0.056
Benzo(a)anthracene	mg/kg	0.056	0.0078	0.16	0.085
Benzo(a)pyrene	mg/kg	0.078	0.0073	0.23	0.10
bis(2-Chloroethoxy)methane	mg/kg	<0.0011	<0.0011	<0.0011	<0.0014
bis(2-Ethylhexyl)phthalate (DEHP)	mg/kg	0.013	0.0031 J	0.17	0.51
Chrysene	mg/kg	0.084	0.0075	0.24	0.13
Di-n-butylphthalate (DBP)	mg/kg	0.0033 J	0.0039 J	<0.0015	<0.0019
Dibenzofuran	mg/kg	0.0079	<0.00087	<0.00088	0.0041 J
Fluoranthene	mg/kg	0.12	0.011	0.19	0.098
Fluorene	mg/kg	0.0087	<0.0014	0.0091	0.0074
N-Nitrosodiphenylamine	mg/kg	<0.00087	<0.00087	<0.00088	<0.0011
Naphthalene	mg/kg	0.0099	<0.00074	<0.00075	0.0027 J
Nitrobenzene	mg/kg	<0.0011	<0.0011	<0.0011	<0.0014
Pentachlorophenol	mg/kg	<0.0041	<0.0041	<0.0041	<0.0053
Phenanthrene	mg/kg	0.047	<0.0019	0.0065	0.019
Phenol	mg/kg	0.0041 J	<0.0014	0.0044 J	<0.0018
Pyrene	mg/kg	0.15	0.012	0.32	0.13
Metals					
Arsenic	mg/kg	5.21	1.60	2.38	5.54
Lead	mg/kg	21.5	7.92	10.9	27.3

Soil Analytical Results Summary
Response Action Soil Sampling Event
Union Pacific Railroad (UPRR)/ Houston TX-Wood Preserving Works
Houston, Texas
January - February 2016

Location ID:		GSB-8	GSB-9	GSG-1	SB-212
Sample Name:		SO-1620-GSB8(0-3)-20160206	SO-1620-GSB9(0-3)-20160206	SO-1620-CSG1(3)-20160212	SO-1620-SB212(0-5)-20160203
Sample Date:		02/06/2016	02/06/2016	02/12/2016	02/03/2016
Depth:		0-3 ft bgs	0-3 ft bgs	0-3 ft bgs	0-5 ft bgs
Parameters	**Unit**				
Semi-volatile Organic Compounds					
1,2-Diphenylhydrazine	mg/kg	<0.0014	<0.014	0.0025 J	<0.013
2,4-Dimethylphenol	mg/kg	<0.0041	<0.043	<0.0040	<0.039
2,4-Dinitrotoluene	mg/kg	<0.0011	<0.012	<0.0011	<0.011
2,6-Dinitrotoluene	mg/kg	<0.0041	<0.043	<0.0040	<0.039
2-Chloronaphthalene	mg/kg	<0.0016	<0.017	<0.0016	<0.015
2-Methylnaphthalene	mg/kg	<0.00062	0.0089 J	0.0043	82
4,6-Dinitro-2-methylphenol	mg/kg	<0.0026	<0.028	<0.0025	<0.025
4-Nitrophenol	mg/kg	<0.0024	<0.025	<0.0023	<0.022
Acenaphthene	mg/kg	0.0028 J	1.1	0.0014 J	92
Acenaphthylene	mg/kg	0.0066	0.26	<0.0012	0.77
Anthracene	mg/kg	0.013	1.1	0.0033 J	38
Benzo(a)anthracene	mg/kg	0.023	3.0	0.0086	11
Benzo(a)pyrene	mg/kg	0.032	2.5	0.0022 J	2.6
bis(2-Chloroethoxy)methane	mg/kg	<0.0011	<0.012	<0.0011	<0.011
bis(2-Ethylhexyl)phthalate (DEHP)	mg/kg	0.013	0.065 J	<0.0021	0.62
Chrysene	mg/kg	0.036	3.9	0.014	11
Di-n-butylphthalate (DBP)	mg/kg	0.0023 J	<0.016	<0.0015	<0.014
Dibenzofuran	mg/kg	<0.00087	0.24	0.011	72
Fluoranthene	mg/kg	0.046	12	0.099	130
Fluorene	mg/kg	0.0022 J	0.77	0.0031 J	110
N-Nitrosodiphenylamine	mg/kg	<0.00087	<0.0092	0.0026 J	0.80
Naphthalene	mg/kg	<0.00075	<0.0079	<0.00073	390
Nitrobenzene	mg/kg	<0.0011	<0.012	<0.0011	<0.011
Pentachlorophenol	mg/kg	<0.0041	<0.043	<0.0040	<0.039
Phenanthrene	mg/kg	0.0098	4.1	0.085	260
Phenol	mg/kg	<0.0014	<0.014	0.0022 J	0.99
Pyrene	mg/kg	0.039	12	0.028	86
Metals					
Arsenic	mg/kg	3.49	8.26	8.67	1.46
Lead	mg/kg	12.8	12.3	10.8	7.56

Table 2A

Soil Analytical Results Summary
Response Action Soil Sampling Event
Union Pacific Railroad (UPRR)/ Houston TX-Wood Preserving Works
Houston, Texas
January - February 2016

Location ID:		**SB-213**	**SB-214**	**SB-215**
Sample Name:		**SO-1620-SB213(0-5)-20160203**	**SO-1620-SB214(0-5)-20160203**	**SO-1620-SB215(0-5)-20160203**
Sample Date:		**02/03/2016**	**02/03/2016**	**02/03/2016**
Depth:		**0-5 ft bgs**	**0-5 ft bgs**	**0-5 ft bgs**
Parameters	**Unit**			
Semi-volatile Organic Compounds				
1,2-Diphenylhydrazine	mg/kg	<0.013	<0.013	<0.012
2,4-Dimethylphenol	mg/kg	<0.039	<0.038	<0.037
2,4-Dinitrotoluene	mg/kg	<0.011	<0.010	<0.010
2,6-Dinitrotoluene	mg/kg	<0.039	<0.038	<0.037
2-Chloronaphthalene	mg/kg	<0.015	<0.015	<0.014
2-Methylnaphthalene	mg/kg	1.8	2.9	11
4,6-Dinitro-2-methylphenol	mg/kg	<0.025	<0.024	<0.023
4-Nitrophenol	mg/kg	<0.022	<0.022	<0.021
Acenaphthene	mg/kg	3.7	6.6	15
Acenaphthylene	mg/kg	3.3	2.2	1.1
Anthracene	mg/kg	10	6.2	10
Benzo(a)anthracene	mg/kg	8.4	8.8	4.0
Benzo(a)pyrene	mg/kg	11	4.8	1.4
bis(2-Chloroethoxy)methane	mg/kg	<0.011	<0.010	<0.010
bis(2-Ethylhexyl)phthalate (DEHP)	mg/kg	2.3	0.45	0.46
Chrysene	mg/kg	15	10	3.5
Di-n-butylphthalate (DBP)	mg/kg	<0.014	<0.014	<0.013
Dibenzofuran	mg/kg	2.7	2.3	12
Fluoranthene	mg/kg	51	49	29
Fluorene	mg/kg	4.5	5.1	22
N-Nitrosodiphenylamine	mg/kg	<0.0083	<0.0080	0.33
Naphthalene	mg/kg	5.0	12	12
Nitrobenzene	mg/kg	<0.011	<0.010	<0.010
Pentachlorophenol	mg/kg	0.23	0.41	0.25
Phenanthrene	mg/kg	17	28	47
Phenol	mg/kg	0.35	0.16	0.10
Pyrene	mg/kg	39	40	17
Metals				
Arsenic	mg/kg	7.18	5.09	6.58
Lead	mg/kg	107	76.3	108

Notes:

J - Estimated concentration
< - Not detected at the associated reporting limit
ft bgs - Feet below ground surface

Table 2B

Surface Water Analytical Results Summary
Response Action Soil Sampling Event
Union Pacific Railroad (UPRR)/ Houston TX-Wood Preserving Works
Houston, Texas
January - February 2016

Location ID:	**Ditch**
Sample Name:	**WS-1620-Ditch-20160204**
Sample Date:	**02/04/2016**

Parameters	**Unit**	
Volatile Organic Compounds		
1,2-Dichloroethane	mg/L	<0.00020
Benzene	mg/L	<0.00020
Chlorobenzene	mg/L	<0.00030
Ethylbenzene	mg/L	<0.00030
Methylene chloride	mg/L	<0.0010
Toluene	mg/L	0.0011
Vinyl chloride	mg/L	<0.00020
Xylenes (total)	mg/L	<0.00050
Semi-volatile Organic Compounds		
1,2-Diphenylhydrazine	mg/L	<0.000021
2,4-Dimethylphenol	mg/L	<0.000040
2,4-Dinitrotoluene	mg/L	<0.000058
2,6-Dinitrotoluene	mg/L	<0.000042
2-Chloronaphthalene	mg/L	<0.000021
2-Methylnaphthalene	mg/L	<0.000019
4,6-Dinitro-2-methylphenol	mg/L	<0.000020
4-Nitrophenol	mg/L	<0.000047
Acenaphthene	mg/L	<0.000027
Acenaphthylene	mg/L	0.00033
Anthracene	mg/L	0.00061
Benzo(a)anthracene	mg/L	0.00053
Benzo(a)pyrene	mg/L	0.00093
bis(2-Chloroethoxy)methane	mg/L	<0.000030
bis(2-Ethylhexyl)phthalate (DEHP)	mg/L	0.00027
Chrysene	mg/L	0.00076
Di-n-butylphthalate (DBP)	mg/L	<0.000020
Dibenzofuran	mg/L	<0.000020
Fluoranthene	mg/L	0.00054
Fluorene	mg/L	<0.000030
N-Nitrosodiphenylamine	mg/L	<0.000025
Naphthalene	mg/L	<0.000020
Nitrobenzene	mg/L	<0.000024

Table 2B

Surface Water Analytical Results Summary
Response Action Soil Sampling Event
Union Pacific Railroad (UPRR)/ Houston TX-Wood Preserving Works
Houston, Texas
January - February 2016

Location ID:	**Ditch**
Sample Name:	**WS-1620-Ditch-20160204**
Sample Date:	**02/04/2016**

Parameters	**Unit**	
Semi-volatile Organic Compounds (Continued)		
Pentachlorophenol	mg/L	<0.000079
Phenanthrene	mg/L	0.000079 J
Phenol	mg/L	0.000062 J
Pyrene	mg/L	0.00096
Metals		
Arsenic	mg/L	0.0223
Lead	mg/L	0.0339

Notes:

J - Estimated concentration

< - Not detected at the associated reporting limit

Table 3

Analytical Methods
Response Action Soil Sampling Event
Union Pacific Railroad (UPRR)/ Houston TX-Wood Preserving Works
Houston, Texas
January - February 2016

Parameter	Method	Matrix	Holding Time	
			Collection to Extraction (Days)	Collection or Extraction to Analysis (Days)
VOCs	SW-846 8260C	Water	-	14
SVOCs	SW-846 8270	Soil	14	40
		Water	7	40
Metals	SW-846 6020A	Soil	-	180
		Water	-	180

Notes:

VOCs - Volatile Organic Compounds
SVOCs - Semi-volatile Organic Compounds

Method References:

SW-846 - "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", SW-846, Third Edition, 1986, with subsequent revisions

Attachment A
Laboratory Reports
(Available Upon Request)

Attachment B
Laboratory NELAP Certificate

Texas Commission on Environmental Quality

NELAP-Recognized Laboratory Accreditation is hereby awarded to

ALS Laboratory Group, Environmental Services Division (Houston, Texas)

10450 Stancliff Road, Suite 210
Houston, TX 77099-4338

in accordance with Texas Water Code Chapter 5, Subchapter R, Title 30 Texas Administrative Code Chapter 25, and the National Environmental Laboratory Accreditation Program.

The laboratory's scope of accreditation includes the fields of accreditation that accompany this certificate. Continued accreditation depends upon successful ongoing participation in the program. The Texas Commission on Environmental Quality urges customers to verify the laboratory's current location(s) and accreditation status for particular methods and analyses (www.tceq.texas.gov/goto/lab). Accreditation does not imply that a product, process, system or person is approved by the Texas Commission on Environmental Quality.

Certificate Number: T104704231-15-15
Effective Date: 5/1/2015
Expiration Date: 4/30/2016

Executive Director Texas Commission on Environmental Quality

Texas Commission on Environmental Quality

NELAP - Recognized Laboratory Fields of Accreditation

Certificate: T104704231-15-15

ALS Laboratory Group, Environmental Services Division (Houston, Texas)

Expiration Date: 4/30/2016

10450 Stancliff Road, Suite 210
Houston, TX 77099-4338

Issue Date: 5/1/2015

These fields of accreditation supercede all previous fields. The Texas Commission on Environmental Quality urges customers to verify the laboratory's current accreditation status for particular methods and analyses.

Matrix: ***Non-Potable Water***

Method EPA 1010

Analyte	AB	Analyte ID	Method ID
Ignitability	TX	1780	10116606

Method EPA 110.1

Analyte	AB	Analyte ID	Method ID
Color	TX	1605	10005206

Method EPA 120.1

Analyte	AB	Analyte ID	Method ID
Conductivity	TX	1610	10006403

Method EPA 1311

Analyte	AB	Analyte ID	Method ID
TCLP	TX	849	10118806

Method EPA 1312

Analyte	AB	Analyte ID	Method ID
SPLP	TX	850	10119003

Method EPA 150.1

Analyte	AB	Analyte ID	Method ID
pH	TX	1900	10008409

Method EPA 160.1

Analyte	AB	Analyte ID	Method ID
Residue-filterable (TDS)	TX	1955	10009208

Method EPA 160.2

Analyte	AB	Analyte ID	Method ID
Residue-nonfilterable (TSS)	TX	1960	10009606

Method EPA 160.3

Analyte	AB	Analyte ID	Method ID
Residue-total (total solids)	TX	1950	10010001

Method EPA 160.4

Analyte	AB	Analyte ID	Method ID
Residue-volatile	TX	1970	10010409

Method EPA 1664

Analyte	AB	Analyte ID	Method ID

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10450 Stancliff Road, Suite 210
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Issue Date: 5/1/2015

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Matrix: ***Non-Potable Water***

n-Hexane Extractable Material (HEM) (O&G)	TX	1803	10127807

Method EPA 180.1

Analyte	AB	Analyte ID	Method ID
Turbidity	TX	2055	10011606

Method EPA 200.8

Analyte	AB	Analyte ID	Method ID
Aluminum	TX	1000	10014605
Antimony	TX	1005	10014605
Arsenic	TX	1010	10014605
Barium	TX	1015	10014605
Beryllium	TX	1020	10014605
Boron	TX	1025	10014605
Cadmium	TX	1030	10014605
Calcium	TX	1035	10014605
Chromium	TX	1040	10014605
Cobalt	TX	1050	10014605
Copper	TX	1055	10014605
Iron	TX	1070	10014605
Lead	TX	1075	10014605
Magnesium	TX	1085	10014605
Manganese	TX	1090	10014605
Molybdenum	TX	1100	10014605
Nickel	TX	1105	10014605
Potassium	TX	1125	10014605
Selenium	TX	1140	10014605
Silver	TX	1150	10014605
Sodium	TX	1155	10014605
Strontium	TX	1160	10014605
Thallium	TX	1165	10014605
Tin	TX	1175	10014605
Titanium	TX	1180	10014605

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Matrix: ***Non-Potable Water***

Uranium	TX	3035	10014605
Vanadium	TX	1185	10014605
Zinc	TX	1190	10014605

Method EPA 245.1

Analyte	AB	Analyte ID	Method ID
Mercury	TX	1095	10036609

Method EPA 300.0

Analyte	AB	Analyte ID	Method ID
Bromide	TX	1540	10053006
Chloride	TX	1575	10053006
Fluoride	TX	1730	10053006
Nitrate as N	TX	1810	10053006
Nitrate-nitrite	TX	1820	10053006
Nitrite as N	TX	1840	10053006
Orthophosphate as P	TX	1870	10053006
Sulfate	TX	2000	10053006

Method EPA 305.1

Analyte	AB	Analyte ID	Method ID
Acidity, as CaCO3	TX	1500	10054203

Method EPA 310.1

Analyte	AB	Analyte ID	Method ID
Alkalinity as CaCO3	TX	1505	10054805

Method EPA 335.1

Analyte	AB	Analyte ID	Method ID
Amenable cyanide	TX	1510	10060001

Method EPA 335.2

Analyte	AB	Analyte ID	Method ID
Total cyanide	TX	1645	10060205

Method EPA 335.3

Analyte	AB	Analyte ID	Method ID
Total cyanide	TX	1645	10061004

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Matrix: ***Non-Potable Water***

Method EPA 335.4

Analyte	AB	Analyte ID	Method ID
Total cyanide	TX	1645	10061402

Method EPA 350.3

Analyte	AB	Analyte ID	Method ID
Ammonia as N	TX	1515	10064401

Method EPA 351.3

Analyte	AB	Analyte ID	Method ID
Kjeldahl nitrogen - total (TKN)	TX	1795	10065802

Method EPA 360.1

Analyte	AB	Analyte ID	Method ID
Oxygen, dissolved	TX	1880	10069008

Method EPA 365.3

Analyte	AB	Analyte ID	Method ID
Orthophosphate as P	TX	1870	10070801
Phosphorus	TX	1910	10070801

Method EPA 376.1

Analyte	AB	Analyte ID	Method ID
Sulfide	TX	2005	10074201

Method EPA 405.1

Analyte	AB	Analyte ID	Method ID
Biochemical oxygen demand (BOD)	TX	1530	10075602
Carbonaceous BOD, CBOD	TX	1555	10075602

Method EPA 410.4

Analyte	AB	Analyte ID	Method ID
Chemical oxygen demand (COD)	TX	1565	10077200

Method EPA 415.1

Analyte	AB	Analyte ID	Method ID
Total Organic Carbon (TOC)	TX	2040	10078407

Method EPA 420.1

Analyte	AB	Analyte ID	Method ID
Total phenolics	TX	1905	10079400

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Matrix: ***Non-Potable Water***

Method EPA 420.4

Analyte	AB	Analyte ID	Method ID
Total phenolics	TX	1905	10080203

Method EPA 425.1

Analyte	AB	Analyte ID	Method ID
Surfactants - MBAS	TX	2025	10080601

Method EPA 602

Analyte	AB	Analyte ID	Method ID
Benzene	TX	4375	10102202
Ethylbenzene	TX	4765	10102202
m+p-xylene	TX	5240	10102202
Methyl tert-butyl ether (MTBE)	TX	5000	10102202
o-Xylene	TX	5250	10102202
Toluene	TX	5140	10102202
Xylene (total)	TX	5260	10102202

Method EPA 6020

Analyte	AB	Analyte ID	Method ID
Aluminum	TX	1000	10156408
Antimony	TX	1005	10156408
Arsenic	TX	1010	10156408
Barium	TX	1015	10156408
Beryllium	TX	1020	10156408
Boron	TX	1025	10156408
Cadmium	TX	1030	10156408
Calcium	TX	1035	10156408
Chromium	TX	1040	10156408
Cobalt	TX	1050	10156408
Copper	TX	1055	10156408
Iron	TX	1070	10156408
Lead	TX	1075	10156408
Lithium	TX	1080	10156408

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Matrix: ***Non-Potable Water***

Magnesium	TX	1085	10156408
Manganese	TX	1090	10156408
Molybdenum	TX	1100	10156408
Nickel	TX	1105	10156408
Potassium	TX	1125	10156408
Selenium	TX	1140	10156408
Silver	TX	1150	10156408
Sodium	TX	1155	10156408
Strontium	TX	1160	10156408
Thallium	TX	1165	10156408
Tin	TX	1175	10156408
Titanium	TX	1180	10156408
Vanadium	TX	1185	10156408
Zinc	TX	1190	10156408

Method EPA 608

Analyte	**AB**	**Analyte ID**	**Method ID**
4,4'-DDD	TX	7355	10103603
4,4'-DDE	TX	7360	10103603
4,4'-DDT	TX	7365	10103603
Aldrin	TX	7025	10103603
alpha-BHC (alpha-Hexachlorocyclohexane)	TX	7110	10103603
alpha-Chlordane	TX	7240	10103603
Aroclor-1016 (PCB-1016)	TX	8880	10103603
Aroclor-1221 (PCB-1221)	TX	8885	10103603
Aroclor-1232 (PCB-1232)	TX	8890	10103603
Aroclor-1242 (PCB-1242)	TX	8895	10103603
Aroclor-1248 (PCB-1248)	TX	8900	10103603
Aroclor-1254 (PCB-1254)	TX	8905	10103603
Aroclor-1260 (PCB-1260)	TX	8910	10103603
beta-BHC (beta-Hexachlorocyclohexane)	TX	7115	10103603

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Matrix: ***Non-Potable Water***

Chlordane (tech.)	TX	7250	10103603
delta-BHC (delta-Hexachlorocyclohexane)	TX	7105	10103603
Dieldrin	TX	7470	10103603
Endosulfan I	TX	7510	10103603
Endosulfan II	TX	7515	10103603
Endosulfan sulfate	TX	7520	10103603
Endrin	TX	7540	10103603
Endrin aldehyde	TX	7530	10103603
Endrin ketone	TX	7535	10103603
gamma-BHC (Lindane, gamma-Hexachlorocyclohexane)	TX	7120	10103603
gamma-Chlordane	TX	7245	10103603
Heptachlor	TX	7685	10103603
Heptachlor epoxide	TX	7690	10103603
Methoxychlor	TX	7810	10103603
Toxaphene (Chlorinated camphene)	TX	8250	10103603

Method EPA 624

Analyte	**AB**	**Analyte ID**	**Method ID**
1,1,1-Trichloroethane	TX	5160	10107207
1,1,2,2-Tetrachloroethane	TX	5110	10107207
1,1,2-Trichloroethane	TX	5165	10107207
1,1-Dichloroethane	TX	4630	10107207
1,1-Dichloroethylene	TX	4640	10107207
1,2-Dibromoethane (EDB, Ethylene dibromide)	TX	4585	10107207
1,2-Dichlorobenzene	TX	4610	10107207
1,2-Dichloroethane (Ethylene dichloride)	TX	4635	10107207
1,2-Dichloropropane	TX	4655	10107207
1,3-Dichlorobenzene	TX	4615	10107207
1,4-Dichlorobenzene	TX	4620	10107207
2-Butanone (Methyl ethyl ketone, MEK)	TX	4410	10107207
2-Chloroethyl vinyl ether	TX	4500	10107207

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Matrix: ***Non-Potable Water***

Acetone (2-Propanone)	TX	4315	10107207
Acrolein (Propenal)	TX	4325	10107207
Acrylonitrile	TX	4340	10107207
Benzene	TX	4375	10107207
Bromodichloromethane	TX	4395	10107207
Bromoform	TX	4400	10107207
Carbon tetrachloride	TX	4455	10107207
Chlorobenzene	TX	4475	10107207
Chlorodibromomethane	TX	4575	10107207
Chloroethane (Ethyl chloride)	TX	4485	10107207
Chloroform	TX	4505	10107207
cis-1,2-Dichloroethylene	TX	4645	10107207
cis-1,3-Dichloropropene	TX	4680	10107207
Ethylbenzene	TX	4765	10107207
m+p-xylene	TX	5240	10107207
Methyl bromide (Bromomethane)	TX	4950	10107207
Methyl chloride (Chloromethane)	TX	4960	10107207
Methyl tert-butyl ether (MTBE)	TX	5000	10107207
Methylene chloride (Dichloromethane)	TX	4975	10107207
Naphthalene	TX	5005	10107207
o-Xylene	TX	5250	10107207
Tetrachloroethylene (Perchloroethylene)	TX	5115	10107207
Toluene	TX	5140	10107207
trans-1,2-Dichloroethylene	TX	4700	10107207
trans-1,3-Dichloropropylene	TX	4685	10107207
Trichloroethene (Trichloroethylene)	TX	5170	10107207
Trichlorofluoromethane (Fluorotrichloromethane, Freon 11)	TX	5175	10107207
Vinyl chloride	TX	5235	10107207
Xylene (total)	TX	5260	10107207

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Matrix: ***Non-Potable Water***

Method EPA 625

Analyte	AB	Analyte ID	Method ID
1,2,4,5-Tetrachlorobenzene	TX	6715	10107401
1,2,4-Trichlorobenzene	TX	5155	10107401
1,2-Dichlorobenzene	TX	4610	10107401
1,2-Diphenylhydrazine	TX	6220	10107401
1,3-Dichlorobenzene	TX	4615	10107401
1,4-Dichlorobenzene	TX	4620	10107401
2,4,5-Trichlorophenol	TX	6835	10107401
2,4,6-Trichlorophenol	TX	6840	10107401
2,4-Dichlorophenol	TX	6000	10107401
2,4-Dimethylphenol	TX	6130	10107401
2,4-Dinitrophenol	TX	6175	10107401
2,4-Dinitrotoluene (2,4-DNT)	TX	6185	10107401
2,6-Dinitrotoluene (2,6-DNT)	TX	6190	10107401
2-Chloronaphthalene	TX	5795	10107401
2-Chlorophenol	TX	5800	10107401
2-Methyl-4,6-dinitrophenol (4,6-Dinitro-2-methylphenol)	TX	6360	10107401
2-Methylphenol (o-Cresol)	TX	6400	10107401
2-Nitrophenol	TX	6490	10107401
3,3'-Dichlorobenzidine	TX	5945	10107401
4-Bromophenyl phenyl ether (BDE-3)	TX	5660	10107401
4-Chloro-3-methylphenol	TX	5700	10107401
4-Chlorophenyl phenylether	TX	5825	10107401
4-Methylphenol (p-Cresol)	TX	6410	10107401
4-Nitrophenol	TX	6500	10107401
Acenaphthene	TX	5500	10107401
Acenaphthylene	TX	5505	10107401
Anthracene	TX	5555	10107401
Benzidine	TX	5595	10107401

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Matrix: ***Non-Potable Water***

Benzo(a)anthracene	TX	5575	10107401
Benzo(a)pyrene	TX	5580	10107401
Benzo(b)fluoranthene	TX	5585	10107401
Benzo(g,h,i)perylene	TX	5590	10107401
Benzo(k)fluoranthene	TX	5600	10107401
bis(2-Chloroethoxy)methane	TX	5760	10107401
bis(2-Chloroethyl) ether	TX	5765	10107401
bis(2-Chloroisopropyl) ether	TX	5780	10107401
bis(2-Ethylhexyl) phthalate (Di(2-Ethylhexyl) phthalate, DEHP)	TX	6065	10107401
Butyl benzyl phthalate	TX	5670	10107401
Chrysene	TX	5855	10107401
Dibenz(a,h) anthracene	TX	5895	10107401
Diethyl phthalate	TX	6070	10107401
Dimethyl phthalate	TX	6135	10107401
Di-n-butyl phthalate	TX	5925	10107401
Di-n-octyl phthalate	TX	6200	10107401
Fluoranthene	TX	6265	10107401
Fluorene	TX	6270	10107401
Hexachlorobenzene	TX	6275	10107401
Hexachlorobutadiene	TX	4835	10107401
Hexachlorocyclopentadiene	TX	6285	10107401
Hexachloroethane	TX	4840	10107401
Indeno(1,2,3-cd) pyrene	TX	6315	10107401
Isophorone	TX	6320	10107401
Naphthalene	TX	5005	10107401
Nitrobenzene	TX	5015	10107401
n-Nitrosodiethylamine	TX	6525	10107401
n-Nitrosodimethylamine	TX	6530	10107401
n-Nitrosodi-n-butylamine	TX	5025	10107401
n-Nitrosodi-n-propylamine	TX	6545	10107401

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Matrix: ***Non-Potable Water***

n-Nitrosodiphenylamine	TX	6535	10107401
Pentachlorobenzene	TX	6590	10107401
Pentachlorophenol	TX	6605	10107401
Phenanthrene	TX	6615	10107401
Phenol	TX	6625	10107401
Pyrene	TX	6665	10107401
Pyridine	TX	5095	10107401

Method EPA 7196

Analyte	**AB**	**Analyte ID**	**Method ID**
Chromium (VI)	TX	1045	10162206

Method EPA 7470

Analyte	**AB**	**Analyte ID**	**Method ID**
Mercury	TX	1095	10165603

Method EPA 8011

Analyte	**AB**	**Analyte ID**	**Method ID**
1,2,3-Trichloropropane	TX	5180	10173009
1,2-Dibromo-3-chloropropane (DBCP)	TX	4570	10173009
1,2-Dibromoethane (EDB, Ethylene dibromide)	TX	4585	10173009

Method EPA 8015

Analyte	**AB**	**Analyte ID**	**Method ID**
Diesel range organics (DRO)	TX	9369	10173203
Ethanol	TX	4750	10173203
Ethylene glycol	TX	4785	10173203
Gasoline range organics (GRO)	TX	9408	10173203
Isobutyl alcohol (2-Methyl-1-propanol)	TX	4875	10173203
Isopropyl alcohol (2-Propanol, Isopropanol)	TX	4895	10173203
Methanol	TX	4930	10173203
n-Butyl alcohol (1-Butanol, n-Butanol)	TX	4425	10173203
n-Propanol (1-Propanol)	TX	5055	10173203
Propylene Glycol	TX	6657	10173203
tert-Butyl alcohol	TX	4420	10173203

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Matrix: ***Non-Potable Water***

Method EPA 8021

Analyte	AB	Analyte ID	Method ID
Benzene	TX	4375	10174400
Ethylbenzene	TX	4765	10174400
m+p-xylene	TX	5240	10174400
Methyl tert-butyl ether (MTBE)	TX	5000	10174400
o-Xylene	TX	5250	10174400
Toluene	TX	5140	10174400
Xylene (total)	TX	5260	10174400

Method EPA 8081

Analyte	AB	Analyte ID	Method ID
4,4'-DDD	TX	7355	10178402
4,4'-DDE	TX	7360	10178402
4,4'-DDT	TX	7365	10178402
Aldrin	TX	7025	10178402
alpha-BHC (alpha-Hexachlorocyclohexane)	TX	7110	10178402
alpha-Chlordane	TX	7240	10178402
beta-BHC (beta-Hexachlorocyclohexane)	TX	7115	10178402
Chlordane (tech.)	TX	7250	10178402
delta-BHC (delta-Hexachlorocyclohexane)	TX	7105	10178402
Dieldrin	TX	7470	10178402
Endosulfan I	TX	7510	10178402
Endosulfan II	TX	7515	10178402
Endosulfan sulfate	TX	7520	10178402
Endrin	TX	7540	10178402
Endrin aldehyde	TX	7530	10178402
Endrin ketone	TX	7535	10178402
gamma-BHC (Lindane, gamma-Hexachlorocyclohexane)	TX	7120	10178402
gamma-Chlordane	TX	7245	10178402
Heptachlor	TX	7685	10178402
Heptachlor epoxide	TX	7690	10178402

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Matrix: ***Non-Potable Water***

Hexachlorobenzene	TX	6275	10178402
Methoxychlor	TX	7810	10178402
Mirex	TX	7870	10178402
Toxaphene (Chlorinated camphene)	TX	8250	10178402

Method EPA 8082

Analyte	AB	Analyte ID	Method ID
Aroclor-1016 (PCB-1016)	TX	8880	10179201
Aroclor-1221 (PCB-1221)	TX	8885	10179201
Aroclor-1232 (PCB-1232)	TX	8890	10179201
Aroclor-1242 (PCB-1242)	TX	8895	10179201
Aroclor-1248 (PCB-1248)	TX	8900	10179201
Aroclor-1254 (PCB-1254)	TX	8905	10179201
Aroclor-1260 (PCB-1260)	TX	8910	10179201
PCBs (total)	TX	8870	10179201

Method EPA 8151

Analyte	AB	Analyte ID	Method ID
2,4,5-T	TX	8655	10183003
2,4-D	TX	8545	10183003
2,4-DB	TX	8560	10183003
Dalapon	TX	8555	10183003
Dicamba	TX	8595	10183003
Dichloroprop (Dichlorprop, Weedone)	TX	8605	10183003
Dinoseb (2-sec-butyl-4,6-dinitrophenol, DNBP)	TX	8620	10183003
MCPA	TX	7775	10183003
MCPP	TX	7780	10183003
Silvex (2,4,5-TP)	TX	8650	10183003

Method EPA 8260

Analyte	AB	Analyte ID	Method ID
1,1,1,2-Tetrachloroethane	TX	5105	10184404
1,1,1-Trichloroethane	TX	5160	10184404
1,1,2,2-Tetrachloroethane	TX	5110	10184404

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Matrix: ***Non-Potable Water***

1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	TX	5195	10184404
1,1,2-Trichloroethane	TX	5165	10184404
1,1-Dichloroethane	TX	4630	10184404
1,1-Dichloroethylene	TX	4640	10184404
1,1-Dichloropropene	TX	4670	10184404
1,2,3-Trichlorobenzene	TX	5150	10184404
1,2,3-Trichloropropane	TX	5180	10184404
1,2,4-Trichlorobenzene	TX	5155	10184404
1,2,4-Trimethylbenzene	TX	5210	10184404
1,2-Dibromo-3-chloropropane (DBCP)	TX	4570	10184404
1,2-Dibromoethane (EDB, Ethylene dibromide)	TX	4585	10184404
1,2-Dichlorobenzene	TX	4610	10184404
1,2-Dichloroethane (Ethylene dichloride)	TX	4635	10184404
1,2-Dichloropropane	TX	4655	10184404
1,3,5-Trimethylbenzene	TX	5215	10184404
1,3-Dichlorobenzene	TX	4615	10184404
1,3-Dichloropropane	TX	4660	10184404
1,4-Dichlorobenzene	TX	4620	10184404
1,4-Dioxane (1,4-Diethyleneoxide)	TX	4735	10184404
1-Chlorohexane	TX	4510	10184404
1-Propanol	TX	5060	10184404
2,2-Dichloropropane	TX	4665	10184404
2-Butanone (Methyl ethyl ketone, MEK)	TX	4410	10184404
2-Chloroethyl vinyl ether	TX	4500	10184404
2-Chlorotoluene	TX	4535	10184404
2-Hexanone (MBK)	TX	4860	10184404
2-Pentanone	TX	5045	10184404
2-Propanol	TX	5065	10184404
4-Chlorotoluene	TX	4540	10184404
4-Isopropyltoluene (p-Cymene)	TX	4915	10184404

Texas Commission on Environmental Quality

NELAP - Recognized Laboratory Fields of Accreditation

Certificate: T104704231-15-15

ALS Laboratory Group, Environmental Services Division (Houston, Texas)

Expiration Date: 4/30/2016

10450 Stancliff Road, Suite 210
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Issue Date: 5/1/2015

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Matrix: ***Non-Potable Water***

4-Methyl-2-pentanone (MIBK)	TX	4995	10184404
Acetone (2-Propanone)	TX	4315	10184404
Acetonitrile	TX	4320	10184404
Acrolein (Propenal)	TX	4325	10184404
Acrylonitrile	TX	4340	10184404
Allyl alcohol	TX	4350	10184404
Allyl chloride (3-Chloropropene)	TX	4355	10184404
Benzene	TX	4375	10184404
Benzyl chloride	TX	5635	10184404
Bromobenzene	TX	4385	10184404
Bromochloromethane	TX	4390	10184404
Bromodichloromethane	TX	4395	10184404
Bromoform	TX	4400	10184404
Carbon disulfide	TX	4450	10184404
Carbon tetrachloride	TX	4455	10184404
Chlorobenzene	TX	4475	10184404
Chlorodibromomethane	TX	4575	10184404
Chloroethane (Ethyl chloride)	TX	4485	10184404
Chloroform	TX	4505	10184404
Chloroprene (2-Chloro-1,3-butadiene)	TX	4525	10184404
cis-1,2-Dichloroethylene	TX	4645	10184404
cis-1,3-Dichloropropene	TX	4680	10184404
Dibromofluoromethane	TX	4590	10184404
Dibromomethane (Methylene bromide)	TX	4595	10184404
Dichlorodifluoromethane (Freon-12)	TX	4625	10184404
Diethyl ether	TX	4725	10184404
Epichlorohydrin (1-Chloro-2,3-epoxypropane)	TX	4745	10184404
Ethanol	TX	4750	10184404
Ethyl acetate	TX	4755	10184404
Ethyl methacrylate	TX	4810	10184404

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Matrix: ***Non-Potable Water***

Ethylbenzene	TX	4765	10184404
Ethylene oxide	TX	4795	10184404
Ethyl-t-butylether (ETBE) (2-Ethoxy-2-methylpropane)	TX	4770	10184404
Hexachlorobutadiene	TX	4835	10184404
Iodomethane (Methyl iodide)	TX	4870	10184404
Isobutyl alcohol (2-Methyl-1-propanol)	TX	4875	10184404
Isopropyl ether	TX	4905	10184404
Isopropylbenzene (Cumene)	TX	4900	10184404
m+p-xylene	TX	5240	10184404
Methacrylonitrile	TX	4925	10184404
Methyl acetate	TX	4940	10184404
Methyl acrylate	TX	4945	10184404
Methyl bromide (Bromomethane)	TX	4950	10184404
Methyl chloride (Chloromethane)	TX	4960	10184404
Methyl methacrylate	TX	4990	10184404
Methyl tert-butyl ether (MTBE)	TX	5000	10184404
Methylcyclohexane	TX	4965	10184404
Methylene chloride (Dichloromethane)	TX	4975	10184404
Naphthalene	TX	5005	10184404
n-Butyl alcohol (1-Butanol, n-Butanol)	TX	4425	10184404
n-Butylbenzene	TX	4435	10184404
n-Propylbenzene	TX	5090	10184404
o-Xylene	TX	5250	10184404
Pentachloroethane	TX	5035	10184404
Propionitrile (Ethyl cyanide)	TX	5080	10184404
Pyridine	TX	5095	10184404
sec-Butylbenzene	TX	4440	10184404
Styrene	TX	5100	10184404
T-amylmethylether (TAME)	TX	4370	10184404
tert-Butyl alcohol	TX	4420	10184404

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Matrix: ***Non-Potable Water***

tert-Butylbenzene	TX	4445	10184404
Tetrachloroethylene (Perchloroethylene)	TX	5115	10184404
Toluene	TX	5140	10184404
trans-1,2-Dichloroethylene	TX	4700	10184404
trans-1,3-Dichloropropylene	TX	4685	10184404
trans-1,4-Dichloro-2-butene	TX	4605	10184404
Trichloroethene (Trichloroethylene)	TX	5170	10184404
Trichlorofluoromethane (Fluorotrichloromethane, Freon 11)	TX	5175	10184404
Vinyl acetate	TX	5225	10184404
Vinyl chloride	TX	5235	10184404
Xylene (total)	TX	5260	10184404

Method EPA 8270

Analyte	AB	Analyte ID	Method ID
1,2,4,5-Tetrachlorobenzene	TX	6715	10185203
1,2,4-Trichlorobenzene	TX	5155	10185203
1,2-Dibromo-3-chloropropane (DBCP)	TX	4570	10185203
1,2-Dichlorobenzene	TX	4610	10185203
1,2-Dinitrobenzene	TX	6155	10185203
1,2-Diphenylhydrazine	TX	6220	10185203
1,3,5-Trinitrobenzene (1,3,5-TNB)	TX	6885	10185203
1,3-Dichlorobenzene	TX	4615	10185203
1,3-Dinitrobenzene (1,3-DNB)	TX	6160	10185203
1,4-Dichlorobenzene	TX	4620	10185203
1,4-Dinitrobenzene	TX	6165	10185203
1,4-Naphthoquinone	TX	6420	10185203
1,4-Phenylenediamine	TX	6630	10185203
1-Chloronaphthalene	TX	5790	10185203
1-Naphthylamine	TX	6425	10185203
2,3,4,6-Tetrachlorophenol	TX	6735	10185203
2,4,5-Trichlorophenol	TX	6835	10185203

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Matrix: ***Non-Potable Water***

2,4,5-Trimethylaniline	TX	6880	10185203
2,4,6-Trichlorophenol	TX	6840	10185203
2,4-Diaminotoluene	TX	5880	10185203
2,4-Dichlorophenol	TX	6000	10185203
2,4-Dimethylphenol	TX	6130	10185203
2,4-Dinitrophenol	TX	6175	10185203
2,4-Dinitrotoluene (2,4-DNT)	TX	6185	10185203
2,6-Dichlorophenol	TX	6005	10185203
2,6-Dinitrotoluene (2,6-DNT)	TX	6190	10185203
2-Acetylaminofluorene	TX	5515	10185203
2-Chloronaphthalene	TX	5795	10185203
2-Chlorophenol	TX	5800	10185203
2-Methyl-4,6-dinitrophenol (4,6-Dinitro-2-methylphenol)	TX	6360	10185203
2-Methylaniline (o-Toluidine)	TX	5145	10185203
2-Methylnaphthalene	TX	6385	10185203
2-Methylphenol (o-Cresol)	TX	6400	10185203
2-Naphthylamine	TX	6430	10185203
2-Nitroaniline	TX	6460	10185203
2-Nitrophenol	TX	6490	10185203
2-Picoline (2-Methylpyridine)	TX	5050	10185203
3,3'-Dichlorobenzidine	TX	5945	10185203
3,3'-Dimethylbenzidine	TX	6120	10185203
3-Methylcholanthrene	TX	6355	10185203
3-Methylphenol (m-Cresol)	TX	6405	10185203
3-Nitroaniline	TX	6465	10185203
4-Aminobiphenyl	TX	5540	10185203
4-Bromophenyl phenyl ether (BDE-3)	TX	5660	10185203
4-Chloro-3-methylphenol	TX	5700	10185203
4-Chloroaniline	TX	5745	10185203
4-Chlorophenyl phenylether	TX	5825	10185203

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Matrix: ***Non-Potable Water***

4-Dimethyl aminoazobenzene	TX	6105	10185203
4-Methylphenol (p-Cresol)	TX	6410	10185203
4-Nitroaniline	TX	6470	10185203
4-Nitrobiphenyl	TX	6480	10185203
4-Nitrophenol	TX	6500	10185203
4-Nitroquinoline-1-oxide	TX	6510	10185203
5-Chloro-2-methylaniline	TX	5695	10185203
5-Nitro-o-toluidine	TX	6570	10185203
7,12-Dimethylbenz(a) anthracene	TX	6115	10185203
a-a-Dimethylphenethylamine	TX	6125	10185203
Acenaphthene	TX	5500	10185203
Acenaphthylene	TX	5505	10185203
Acetophenone	TX	5510	10185203
Aniline	TX	5545	10185203
Anthracene	TX	5555	10185203
Aramite	TX	5560	10185203
Atrazine	TX	7065	10185203
Azinphos-methyl (Guthion)	TX	7075	10185203
Azobenzene	TX	5562	10185203
Benzenethiol (Thiophenol)	TX	6750	10185203
Benzidine	TX	5595	10185203
Benzo(a)anthracene	TX	5575	10185203
Benzo(a)pyrene	TX	5580	10185203
Benzo(b)fluoranthene	TX	5585	10185203
Benzo(e)pyrene	TX	5605	10185203
Benzo(g,h,i)perylene	TX	5590	10185203
Benzo(k)fluoranthene	TX	5600	10185203
Benzoic acid	TX	5610	10185203
Benzyl alcohol	TX	5630	10185203
Biphenyl	TX	5640	10185203

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Matrix: ***Non-Potable Water***

bis(2-Chloroethoxy)methane	TX	5760	10185203
bis(2-Chloroethyl) ether	TX	5765	10185203
bis(2-Chloroisopropyl) ether	TX	5780	10185203
bis(2-Ethylhexyl) phthalate (Di(2-Ethylhexyl) phthalate, DEHP)	TX	6065	10185203
Butyl benzyl phthalate	TX	5670	10185203
Caprolactam	TX	7180	10185203
Captan	TX	7190	10185203
Carbaryl (Sevin)	TX	7195	10185203
Carbazole	TX	5680	10185203
Carbophenothion	TX	7220	10185203
Chlorobenzilate	TX	7260	10185203
Chrysene	TX	5855	10185203
Coumaphos	TX	7315	10185203
Demeton	TX	7390	10185203
Demeton	TX	7390	10185203
Demeton-o	TX	7395	10185203
Demeton-s	TX	7385	10185203
Diallate	TX	7405	10185203
Dibenz(a,h) anthracene	TX	5895	10185203
Dibenz(a,j) acridine	TX	5900	10185203
Dibenzofuran	TX	5905	10185203
Dichlorovos (DDVP, Dichlorvos)	TX	8610	10185203
Diethyl phthalate	TX	6070	10185203
Dimethoate	TX	7475	10185203
Dimethoate	TX	7475	10185203
Dimethyl phthalate	TX	6135	10185203
Di-n-butyl phthalate	TX	5925	10185203
Di-n-octyl phthalate	TX	6200	10185203
Dinoseb (2-sec-butyl-4,6-dinitrophenol, DNBP)	TX	8620	10185203
Dioxathion	TX	7495	10185203

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Matrix: ***Non-Potable Water***

Diphenylamine	TX	6205	10185203
Disulfoton	TX	8625	10185203
Ethion	TX	7565	10185203
Ethyl methanesulfonate	TX	6260	10185203
Famphur	TX	7580	10185203
Fluoranthene	TX	6265	10185203
Fluorene	TX	6270	10185203
Hexachlorobenzene	TX	6275	10185203
Hexachlorobutadiene	TX	4835	10185203
Hexachlorocyclopentadiene	TX	6285	10185203
Hexachloroethane	TX	4840	10185203
Hexachlorophene	TX	6290	10185203
Hexachloropropene	TX	6295	10185203
Indeno(1,2,3-cd) pyrene	TX	6315	10185203
Isodrin	TX	7725	10185203
Isophorone	TX	6320	10185203
Isosafrole	TX	6325	10185203
Kepone	TX	7740	10185203
Maleic anhydride	TX	6335	10185203
Methapyrilene	TX	6345	10185203
Methyl methanesulfonate	TX	6375	10185203
Methyl parathion (Parathion, methyl)	TX	7825	10185203
Mevinphos	TX	7850	10185203
Naled	TX	7905	10185203
Naphthalene	TX	5005	10185203
Nitrobenzene	TX	5015	10185203
n-Nitrosodiethylamine	TX	6525	10185203
n-Nitrosodimethylamine	TX	6530	10185203
n-Nitrosodi-n-butylamine	TX	5025	10185203
n-Nitrosodi-n-propylamine	TX	6545	10185203

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Matrix: ***Non-Potable Water***

n-Nitrosodiphenylamine	TX	6535	10185203
n-Nitrosomethylethylamine	TX	6550	10185203
n-Nitrosomorpholine	TX	6555	10185203
n-Nitrosopiperidine	TX	6560	10185203
n-Nitrosopyrrolidine	TX	6565	10185203
o,o,o-Triethyl phosphorothioate	TX	8290	10185203
o-Anisidine	TX	5550	10185203
Parathion, ethyl	TX	7955	10185203
p-Cresidine	TX	5860	10185203
Pentachlorobenzene	TX	6590	10185203
Pentachloronitrobenzene (PCNB)	TX	6600	10185203
Pentachlorophenol	TX	6605	10185203
Phenacetin	TX	6610	10185203
Phenanthrene	TX	6615	10185203
Phenol	TX	6625	10185203
Phorate	TX	7985	10185203
Phosmet (Imidan)	TX	8000	10185203
Phthalic anhydride	TX	6640	10185203
Pronamide (Kerb)	TX	6650	10185203
Pyrene	TX	6665	10185203
Pyridine	TX	5095	10185203
Quinoline	TX	6670	10185203
Resorcinol	TX	6680	10185203
Safrole	TX	6685	10185203
Sulfotepp	TX	8155	10185203
Terbufos	TX	8185	10185203
Tetrachlorvinphos (Stirophos, Gardona)	TX	8197	10185203
Thionazin (Zinophos)	TX	8235	10185203
Toluene diisocyanate	TX	6775	10185203
Trifluralin (Treflan)	TX	8295	10185203

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Matrix: ***Non-Potable Water***

Method EPA 8315

Analyte	AB	Analyte ID	Method ID
Formaldehyde	TX	4815	10187801

Method EPA 8316

Analyte	AB	Analyte ID	Method ID
Acrylamide	TX	4330	10188202

Method EPA 8330

Analyte	AB	Analyte ID	Method ID
1,3,5-Trinitrobenzene (1,3,5-TNB)	TX	6885	10189807
1,3-Dinitrobenzene (1,3-DNB)	TX	6160	10189807
2,4,6-Trinitrotoluene (2,4,6-TNT)	TX	9651	10189807
2,4-Dinitrotoluene (2,4-DNT)	TX	6185	10189807
2,6-Dinitrotoluene (2,6-DNT)	TX	6190	10189807
2-Amino-4,6-dinitrotoluene (2-am-dnt)	TX	9303	10189807
2-Nitrotoluene	TX	9507	10189807
3-Nitrotoluene	TX	9510	10189807
4-Amino-2,6-dinitrotoluene (4-am-dnt)	TX	9306	10189807
4-Nitrotoluene	TX	9513	10189807
Methyl-2,4,6-trinitrophenylnitramine (tetryl)	TX	6415	10189807
Nitrobenzene	TX	5015	10189807
Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	TX	9522	10189807
RDX (hexahydro-1,3,5-trinitro-1,3,5-triazine)	TX	9432	10189807

Method EPA 9012

Analyte	AB	Analyte ID	Method ID
Amenable cyanide	TX	1510	10243228
Total cyanide	TX	1645	10243228

Method EPA 9014

Analyte	AB	Analyte ID	Method ID
Amenable cyanide	TX	1510	10193803
Total Cyanide	TX	1635	10193803

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Matrix: ***Non-Potable Water***

Method EPA 9040

Analyte	AB	Analyte ID	Method ID
pH	TX	1900	10196802

Method EPA 9050

Analyte	AB	Analyte ID	Method ID
Conductivity	TX	1610	10198604

Method EPA 9056

Analyte	AB	Analyte ID	Method ID
Bromide	TX	1540	10199209
Chloride	TX	1575	10199209
Fluoride	TX	1730	10199209
Nitrate as N	TX	1810	10199209
Nitrate-nitrite	TX	1820	10199209
Nitrite as N	TX	1840	10199209
Orthophosphate as P	TX	1870	10199209
Sulfate	TX	2000	10199209

Method EPA 9060

Analyte	AB	Analyte ID	Method ID
Total Organic Carbon (TOC)	TX	2040	10200201

Method EPA 9065

Analyte	AB	Analyte ID	Method ID
Total phenolics	TX	1905	10200405

Method EPA 9066

Analyte	AB	Analyte ID	Method ID
Total phenolics	TX	1905	10200609

Method EPA RSK 175

Analyte	AB	Analyte ID	Method ID
2-methylpropane (Isobutane)	TX	4942	10212905
Ethane	TX	4747	10212905
Ethene	TX	4752	10212905
Methane	TX	4926	10212905

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Matrix: ***Non-Potable Water***

n-Butane	TX	5007	10212905
n-Propane	TX	5029	10212905

Method HACH 8000

Analyte	**AB**	**Analyte ID**	**Method ID**
Chemical oxygen demand (COD)	TX	1565	60003001

Method SM 2120 B

Analyte	**AB**	**Analyte ID**	**Method ID**
Color	TX	1605	20223807

Method SM 2310 B (4a)

Analyte	**AB**	**Analyte ID**	**Method ID**
Acidity, as CaCO3	TX	1500	20002806

Method SM 2320 B

Analyte	**AB**	**Analyte ID**	**Method ID**
Alkalinity as CaCO3	TX	1505	20045005

Method SM 2340 B

Analyte	**AB**	**Analyte ID**	**Method ID**
Total hardness as CaCO3	TX	1755	20046008

Method SM 2510 B

Analyte	**AB**	**Analyte ID**	**Method ID**
Conductivity	TX	1610	20048004

Method SM 2540 B

Analyte	**AB**	**Analyte ID**	**Method ID**
Residue-total (total solids)	TX	1950	20004608

Method SM 2540 C

Analyte	**AB**	**Analyte ID**	**Method ID**
Residue-filterable (TDS)	TX	1955	20049803

Method SM 2540 D

Analyte	**AB**	**Analyte ID**	**Method ID**
Residue-nonfilterable (TSS)	TX	1960	20004802

Method SM 3500-Cr B

Analyte	**AB**	**Analyte ID**	**Method ID**
Chromium (VI)	TX	1045	20065809

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Matrix: ***Non-Potable Water***

Method SM 4500-Cl F

Analyte	AB	Analyte ID	Method ID
Total residual chlorine	TX	1940	20080482

Method SM 4500-CN^- C

Analyte	AB	Analyte ID	Method ID
Total cyanide	TX	1645	20020808

Method SM 4500-CN^- E

Analyte	AB	Analyte ID	Method ID
Total Cyanide	TX	1635	20021209

Method SM 4500-CN^- G

Analyte	AB	Analyte ID	Method ID
Amenable cyanide	TX	1510	20021607

Method SM 4500-H+ B

Analyte	AB	Analyte ID	Method ID
pH	TX	1900	20104603

Method SM 4500-NH3 D

Analyte	AB	Analyte ID	Method ID
Ammonia as N	TX	1515	20108809
Kjeldahl nitrogen - total (TKN)	TX	1795	20108809

Method SM 4500-NH3 F

Analyte	AB	Analyte ID	Method ID
Ammonia as N	TX	1515	20023001

Method SM 4500-O G

Analyte	AB	Analyte ID	Method ID
Oxygen, dissolved	TX	1880	20025405

Method SM 4500-P E

Analyte	AB	Analyte ID	Method ID
Orthophosphate as P	TX	1870	20025803
Phosphorus	TX	1910	20025803

Method SM 4500-$S2^-$ D

Analyte	AB	Analyte ID	Method ID
Sulfide	TX	2005	20125400

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Matrix: ***Non-Potable Water***

Method SM 4500-$S2^{-}$ F

Analyte	AB	Analyte ID	Method ID
Sulfide	TX	2005	20126209

Method SM 4500-SiO2 D

Analyte	AB	Analyte ID	Method ID
Silica as SiO2	TX	1990	20127202

Method SM 4500-$SO3^{-}$ B

Analyte	AB	Analyte ID	Method ID
Sulfite	TX	2015	20026806

Method SM 5210 B

Analyte	AB	Analyte ID	Method ID
Biochemical oxygen demand (BOD)	TX	1530	20027401
Carbonaceous BOD, CBOD	TX	1555	20027401

Method SM 5310 B

Analyte	AB	Analyte ID	Method ID
Total Organic Carbon (TOC)	TX	2040	20137206

Method SM 5310 C

Analyte	AB	Analyte ID	Method ID
Total Organic Carbon (TOC)	TX	2040	20138209

Method SM 5540 C

Analyte	AB	Analyte ID	Method ID
Surfactants - MBAS	TX	2025	20144405

Method TCEQ 1005

Analyte	AB	Analyte ID	Method ID
Total Petroleum Hydrocarbons (TPH)	TX	2050	90019208

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Matrix: ***Solid & Chemical Materials***

Method ASTM D2216

Analyte	AB	Analyte ID	Method ID
Moisture	TX	10337	ASTM D2216-05

Method EPA 1010

Analyte	AB	Analyte ID	Method ID
Ignitability	TX	1780	10116606

Method EPA 1030

Analyte	AB	Analyte ID	Method ID
Ignitability	TX	1780	10117201

Method EPA 1311

Analyte	AB	Analyte ID	Method ID
TCLP	TX	849	10118806

Method EPA 1312

Analyte	AB	Analyte ID	Method ID
SPLP	TX	850	10119003

Method EPA 200.8

Analyte	AB	Analyte ID	Method ID
Uranium	TX	3035	10014605

Method EPA 300.0

Analyte	AB	Analyte ID	Method ID
Bromide	TX	1540	10053006
Chloride	TX	1575	10053006
Fluoride	TX	1730	10053006
Nitrate as N	TX	1810	10053006
Nitrate-nitrite	TX	1820	10053006
Nitrite as N	TX	1840	10053006
Orthophosphate as P	TX	1870	10053006
Sulfate	TX	2000	10053006

Method EPA 310.1

Analyte	AB	Analyte ID	Method ID
Alkalinity as CaCO3	TX	1505	10054805

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Matrix: ***Solid & Chemical Materials***

Method EPA 350.3

Analyte	AB	Analyte ID	Method ID
Ammonia as N	TX	1515	10064401

Method EPA 365.3

Analyte	AB	Analyte ID	Method ID
Orthophosphate as P	TX	1870	10070801
Phosphorus	TX	1910	10070801

Method EPA 6020

Analyte	AB	Analyte ID	Method ID
Aluminum	TX	1000	10156204
Antimony	TX	1005	10156204
Arsenic	TX	1010	10156204
Barium	TX	1015	10156204
Beryllium	TX	1020	10156204
Boron	TX	1025	10156204
Cadmium	TX	1030	10156204
Calcium	TX	1035	10156204
Chromium	TX	1040	10156204
Cobalt	TX	1050	10156204
Copper	TX	1055	10156204
Iron	TX	1070	10156204
Lead	TX	1075	10156204
Lithium	TX	1080	10156204
Magnesium	TX	1085	10156204
Manganese	TX	1090	10156204
Molybdenum	TX	1100	10156204
Nickel	TX	1105	10156204
Potassium	TX	1125	10156204
Selenium	TX	1140	10156204
Silver	TX	1150	10156204
Sodium	TX	1155	10156204

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Matrix: ***Solid & Chemical Materials***

Strontium	TX	1160	10156204
Thallium	TX	1165	10156204
Tin	TX	1175	10156204
Titanium	TX	1180	10156204
Vanadium	TX	1185	10156204
Zinc	TX	1190	10156204

Method EPA 7196

Analyte	**AB**	**Analyte ID**	**Method ID**
Chromium (VI)	TX	1045	10162206

Method EPA 7470

Analyte	**AB**	**Analyte ID**	**Method ID**
Mercury	TX	1095	10165603

Method EPA 7471

Analyte	**AB**	**Analyte ID**	**Method ID**
Mercury	TX	1095	10166004

Method EPA 8015

Analyte	**AB**	**Analyte ID**	**Method ID**
Diesel range organics (DRO)	TX	9369	10173203
Ethanol	TX	4750	10173203
Ethylene glycol	TX	4785	10173203
Gasoline range organics (GRO)	TX	9408	10173203
Isobutyl alcohol (2-Methyl-1-propanol)	TX	4875	10173203
Isopropyl alcohol (2-Propanol, Isopropanol)	TX	4895	10173203
Methanol	TX	4930	10173203
n-Butyl alcohol (1-Butanol, n-Butanol)	TX	4425	10173203
n-Propanol (1-Propanol)	TX	5055	10173203
Propylene Glycol	TX	6657	10173203
tert-Butyl alcohol	TX	4420	10173203

Method EPA 8021

Analyte	**AB**	**Analyte ID**	**Method ID**
Benzene	TX	4375	10174400

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Matrix: ***Solid & Chemical Materials***

Ethylbenzene	TX	4765	10174400
m+p-xylene	TX	5240	10174400
Methyl tert-butyl ether (MTBE)	TX	5000	10174400
o-Xylene	TX	5250	10174400
Toluene	TX	5140	10174400
Xylene (total)	TX	5260	10174400

Method EPA 8081

Analyte	AB	Analyte ID	Method ID
4,4'-DDD	TX	7355	10178402
4,4'-DDE	TX	7360	10178402
4,4'-DDT	TX	7365	10178402
Aldrin	TX	7025	10178402
alpha-BHC (alpha-Hexachlorocyclohexane)	TX	7110	10178402
alpha-Chlordane	TX	7240	10178402
beta-BHC (beta-Hexachlorocyclohexane)	TX	7115	10178402
Chlordane (tech.)	TX	7250	10178402
delta-BHC (delta-Hexachlorocyclohexane)	TX	7105	10178402
Dieldrin	TX	7470	10178402
Endosulfan I	TX	7510	10178402
Endosulfan II	TX	7515	10178402
Endosulfan sulfate	TX	7520	10178402
Endrin	TX	7540	10178402
Endrin aldehyde	TX	7530	10178402
Endrin ketone	TX	7535	10178402
gamma-BHC (Lindane, gamma-Hexachlorocyclohexane)	TX	7120	10178402
gamma-Chlordane	TX	7245	10178402
Heptachlor	TX	7685	10178402
Heptachlor epoxide	TX	7690	10178402
Methoxychlor	TX	7810	10178402
Mirex	TX	7870	10178402

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Matrix: ***Solid & Chemical Materials***

Toxaphene (Chlorinated camphene)	TX	8250	10178402

Method EPA 8082

Analyte	AB	Analyte ID	Method ID
Aroclor-1016 (PCB-1016)	TX	8880	10179201
Aroclor-1221 (PCB-1221)	TX	8885	10179201
Aroclor-1232 (PCB-1232)	TX	8890	10179201
Aroclor-1242 (PCB-1242)	TX	8895	10179201
Aroclor-1248 (PCB-1248)	TX	8900	10179201
Aroclor-1254 (PCB-1254)	TX	8905	10179201
Aroclor-1260 (PCB-1260)	TX	8910	10179201
PCBs (total)	TX	8870	10179201

Method EPA 8151

Analyte	AB	Analyte ID	Method ID
2,4,5-T	TX	8655	10183003
2,4-D	TX	8545	10183003
2,4-DB	TX	8560	10183003
Dalapon	TX	8555	10183003
Dicamba	TX	8595	10183003
Dichloroprop (Dichlorprop, Weedone)	TX	8605	10183003
Dinoseb (2-sec-butyl-4,6-dinitrophenol, DNBP)	TX	8620	10183003
MCPA	TX	7775	10183003
MCPP	TX	7780	10183003
Silvex (2,4,5-TP)	TX	8650	10183003

Method EPA 8260

Analyte	AB	Analyte ID	Method ID
1,1,1,2-Tetrachloroethane	TX	5105	10184404
1,1,1-Trichloroethane	TX	5160	10184404
1,1,2,2-Tetrachloroethane	TX	5110	10184404
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	TX	5195	10184404
1,1,2-Trichloroethane	TX	5165	10184404
1,1-Dichloroethane	TX	4630	10184404

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Matrix: ***Solid & Chemical Materials***

1,1-Dichloroethylene	TX	4640	10184404
1,1-Dichloropropene	TX	4670	10184404
1,2,3-Trichlorobenzene	TX	5150	10184404
1,2,3-Trichloropropane	TX	5180	10184404
1,2,4-Trichlorobenzene	TX	5155	10184404
1,2,4-Trimethylbenzene	TX	5210	10184404
1,2-Dibromo-3-chloropropane (DBCP)	TX	4570	10184404
1,2-Dibromoethane (EDB, Ethylene dibromide)	TX	4585	10184404
1,2-Dichlorobenzene	TX	4610	10184404
1,2-Dichloroethane (Ethylene dichloride)	TX	4635	10184404
1,2-Dichloropropane	TX	4655	10184404
1,3,5-Trimethylbenzene	TX	5215	10184404
1,3-Dichlorobenzene	TX	4615	10184404
1,3-Dichloropropane	TX	4660	10184404
1,4-Dichlorobenzene	TX	4620	10184404
1,4-Dioxane (1,4-Diethyleneoxide)	TX	4735	10184404
1-Chlorohexane	TX	4510	10184404
1-Propanol	TX	5060	10184404
2,2-Dichloropropane	TX	4665	10184404
2-Butanone (Methyl ethyl ketone, MEK)	TX	4410	10184404
2-Chloroethyl vinyl ether	TX	4500	10184404
2-Chlorotoluene	TX	4535	10184404
2-Hexanone (MBK)	TX	4860	10184404
2-Propanol	TX	5065	10184404
4-Chlorotoluene	TX	4540	10184404
4-Isopropyltoluene (p-Cymene)	TX	4915	10184404
4-Methyl-2-pentanone (MIBK)	TX	4995	10184404
Acetone (2-Propanone)	TX	4315	10184404
Acetonitrile	TX	4320	10184404
Acrolein (Propenal)	TX	4325	10184404

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Matrix: ***Solid & Chemical Materials***

Acrylonitrile	TX	4340	10184404
Allyl chloride (3-Chloropropene)	TX	4355	10184404
Benzene	TX	4375	10184404
Benzyl chloride	TX	5635	10184404
Bromobenzene	TX	4385	10184404
Bromochloromethane	TX	4390	10184404
Bromodichloromethane	TX	4395	10184404
Bromoform	TX	4400	10184404
Carbon disulfide	TX	4450	10184404
Carbon tetrachloride	TX	4455	10184404
Chlorobenzene	TX	4475	10184404
Chlorodibromomethane	TX	4575	10184404
Chloroethane (Ethyl chloride)	TX	4485	10184404
Chloroform	TX	4505	10184404
Chloroprene (2-Chloro-1,3-butadiene)	TX	4525	10184404
cis-1,2-Dichloroethylene	TX	4645	10184404
cis-1,3-Dichloropropene	TX	4680	10184404
Dibromofluoromethane	TX	4590	10184404
Dibromomethane (Methylene bromide)	TX	4595	10184404
Dichlorodifluoromethane (Freon-12)	TX	4625	10184404
Diethyl ether	TX	4725	10184404
Epichlorohydrin (1-Chloro-2,3-epoxypropane)	TX	4745	10184404
Ethanol	TX	4750	10184404
Ethyl acetate	TX	4755	10184404
Ethyl methacrylate	TX	4810	10184404
Ethylbenzene	TX	4765	10184404
Ethylene oxide	TX	4795	10184404
Hexachlorobutadiene	TX	4835	10184404
Iodomethane (Methyl iodide)	TX	4870	10184404
Isobutyl alcohol (2-Methyl-1-propanol)	TX	4875	10184404

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Matrix: ***Solid & Chemical Materials***

Isopropylbenzene (Cumene)	TX	4900	10184404
m+p-xylene	TX	5240	10184404
Methacrylonitrile	TX	4925	10184404
Methyl acetate	TX	4940	10184404
Methyl acrylate	TX	4945	10184404
Methyl bromide (Bromomethane)	TX	4950	10184404
Methyl chloride (Chloromethane)	TX	4960	10184404
Methyl methacrylate	TX	4990	10184404
Methyl tert-butyl ether (MTBE)	TX	5000	10184404
Methylcyclohexane	TX	4965	10184404
Methylene chloride (Dichloromethane)	TX	4975	10184404
Naphthalene	TX	5005	10184404
n-Butyl alcohol (1-Butanol, n-Butanol)	TX	4425	10184404
n-Butylbenzene	TX	4435	10184404
n-Propylbenzene	TX	5090	10184404
o-Xylene	TX	5250	10184404
Pentachloroethane	TX	5035	10184404
Propionitrile (Ethyl cyanide)	TX	5080	10184404
Pyridine	TX	5095	10184404
sec-Butylbenzene	TX	4440	10184404
Styrene	TX	5100	10184404
tert-Butyl alcohol	TX	4420	10184404
tert-Butylbenzene	TX	4445	10184404
Tetrachloroethylene (Perchloroethylene)	TX	5115	10184404
Toluene	TX	5140	10184404
trans-1,2-Dichloroethylene	TX	4700	10184404
trans-1,3-Dichloropropylene	TX	4685	10184404
trans-1,4-Dichloro-2-butene	TX	4605	10184404
Trichloroethene (Trichloroethylene)	TX	5170	10184404
Trichlorofluoromethane (Fluorotrichloromethane, Freon 11)	TX	5175	10184404

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Matrix: ***Solid & Chemical Materials***

Vinyl acetate	TX	5225	10184404
Vinyl chloride	TX	5235	10184404
Xylene (total)	TX	5260	10184404

Method EPA 8270

Analyte	AB	Analyte ID	Method ID
1,2,4,5-Tetrachlorobenzene	TX	6715	10185203
1,2,4-Trichlorobenzene	TX	5155	10185203
1,2-Dibromo-3-chloropropane (DBCP)	TX	4570	10185203
1,2-Dichlorobenzene	TX	4610	10185203
1,2-Dinitrobenzene	TX	6155	10185203
1,2-Diphenylhydrazine	TX	6220	10185203
1,3,5-Trinitrobenzene (1,3,5-TNB)	TX	6885	10185203
1,3-Dichlorobenzene	TX	4615	10185203
1,3-Dinitrobenzene (1,3-DNB)	TX	6160	10185203
1,4-Dichlorobenzene	TX	4620	10185203
1,4-Dinitrobenzene	TX	6165	10185203
1,4-Naphthoquinone	TX	6420	10185203
1,4-Phenylenediamine	TX	6630	10185203
1-Chloronaphthalene	TX	5790	10185203
1-Naphthylamine	TX	6425	10185203
2,3,4,6-Tetrachlorophenol	TX	6735	10185203
2,4,5-Trichlorophenol	TX	6835	10185203
2,4,5-Trimethylaniline	TX	6880	10185203
2,4,6-Trichlorophenol	TX	6840	10185203
2,4-Diaminotoluene	TX	5880	10185203
2,4-Dichlorophenol	TX	6000	10185203
2,4-Dimethylphenol	TX	6130	10185203
2,4-Dinitrophenol	TX	6175	10185203
2,4-Dinitrotoluene (2,4-DNT)	TX	6185	10185203
2,6-Dichlorophenol	TX	6005	10185203

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Matrix: ***Solid & Chemical Materials***

2,6-Dinitrotoluene (2,6-DNT)	TX	6190	10185203
2-Acetylaminofluorene	TX	5515	10185203
2-Chloronaphthalene	TX	5795	10185203
2-Chlorophenol	TX	5800	10185203
2-Methyl-4,6-dinitrophenol (4,6-Dinitro-2-methylphenol)	TX	6360	10185203
2-Methylaniline (o-Toluidine)	TX	5145	10185203
2-Methylnaphthalene	TX	6385	10185203
2-Methylphenol (o-Cresol)	TX	6400	10185203
2-Naphthylamine	TX	6430	10185203
2-Nitroaniline	TX	6460	10185203
2-Nitrophenol	TX	6490	10185203
2-Picoline (2-Methylpyridine)	TX	5050	10185203
3,3'-Dichlorobenzidine	TX	5945	10185203
3,3'-Dimethylbenzidine	TX	6120	10185203
3-Methylcholanthrene	TX	6355	10185203
3-Methylphenol (m-Cresol)	TX	6405	10185203
3-Nitroaniline	TX	6465	10185203
4-Aminobiphenyl	TX	5540	10185203
4-Bromophenyl phenyl ether (BDE-3)	TX	5660	10185203
4-Chloro-3-methylphenol	TX	5700	10185203
4-Chloroaniline	TX	5745	10185203
4-Chlorophenyl phenylether	TX	5825	10185203
4-Methylphenol (p-Cresol)	TX	6410	10185203
4-Nitroaniline	TX	6470	10185203
4-Nitrophenol	TX	6500	10185203
4-Nitroquinoline-1-oxide	TX	6510	10185203
5-Nitro-o-toluidine	TX	6570	10185203
7,12-Dimethylbenz(a) anthracene	TX	6115	10185203
a-a-Dimethylphenethylamine	TX	6125	10185203
Acenaphthene	TX	5500	10185203

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Matrix: ***Solid & Chemical Materials***

Acenaphthylene	TX	5505	10185203
Acetophenone	TX	5510	10185203
Aniline	TX	5545	10185203
Anthracene	TX	5555	10185203
Aramite	TX	5560	10185203
Atrazine	TX	7065	10185203
Azinphos-methyl (Guthion)	TX	7075	10185203
Azobenzene	TX	5562	10185203
Benzenethiol (Thiophenol)	TX	6750	10185203
Benzidine	TX	5595	10185203
Benzo(a)anthracene	TX	5575	10185203
Benzo(a)pyrene	TX	5580	10185203
Benzo(b)fluoranthene	TX	5585	10185203
Benzo(e)pyrene	TX	5605	10185203
Benzo(g,h,i)perylene	TX	5590	10185203
Benzo(k)fluoranthene	TX	5600	10185203
Benzoic acid	TX	5610	10185203
Benzyl alcohol	TX	5630	10185203
Biphenyl	TX	5640	10185203
bis(2-Chloroethoxy)methane	TX	5760	10185203
bis(2-Chloroethyl) ether	TX	5765	10185203
bis(2-Chloroisopropyl) ether	TX	5780	10185203
bis(2-Ethylhexyl) phthalate (Di(2-Ethylhexyl) phthalate, DEHP)	TX	6065	10185203
Butyl benzyl phthalate	TX	5670	10185203
Caprolactam	TX	7180	10185203
Carbaryl (Sevin)	TX	7195	10185203
Carbazole	TX	5680	10185203
Carbophenothion	TX	7220	10185203
Chlorobenzilate	TX	7260	10185203
Chrysene	TX	5855	10185203

Texas Commission on Environmental Quality

NELAP - Recognized Laboratory Fields of Accreditation

Certificate: T104704231-15-15

ALS Laboratory Group, Environmental Services Division (Houston, Texas)

Expiration Date: 4/30/2016

10450 Stancliff Road, Suite 210
Houston, TX 77099-4338

Issue Date: 5/1/2015

These fields of accreditation supercede all previous fields. The Texas Commission on Environmental Quality urges customers to verify the laboratory's current accreditation status for particular methods and analyses.

Matrix: ***Solid & Chemical Materials***

Demeton	TX	7390	10185203
Demeton-o	TX	7395	10185203
Demeton-s	TX	7385	10185203
Diallate	TX	7405	10185203
Dibenz(a,h) anthracene	TX	5895	10185203
Dibenz(a,j) acridine	TX	5900	10185203
Dibenzo(a,e) pyrene	TX	5890	10185203
Dibenzofuran	TX	5905	10185203
Dichlorovos (DDVP, Dichlorvos)	TX	8610	10185203
Diethyl phthalate	TX	6070	10185203
Dimethoate	TX	7475	10185203
Dimethyl phthalate	TX	6135	10185203
Di-n-butyl phthalate	TX	5925	10185203
Di-n-octyl phthalate	TX	6200	10185203
Dinoseb (2-sec-butyl-4,6-dinitrophenol, DNBP)	TX	8620	10185203
Diphenylamine	TX	6205	10185203
Disulfoton	TX	8625	10185203
Ethyl methanesulfonate	TX	6260	10185203
Fluoranthene	TX	6265	10185203
Fluorene	TX	6270	10185203
Hexachlorobenzene	TX	6275	10185203
Hexachlorobutadiene	TX	4835	10185203
Hexachlorocyclopentadiene	TX	6285	10185203
Hexachloroethane	TX	4840	10185203
Hexachlorophene	TX	6290	10185203
Hexachloropropene	TX	6295	10185203
Indeno(1,2,3-cd) pyrene	TX	6315	10185203
Isodrin	TX	7725	10185203
Isophorone	TX	6320	10185203
Isosafrole	TX	6325	10185203

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Matrix: ***Solid & Chemical Materials***

Kepone	TX	7740	10185203
Malathion	TX	7770	10185203
Methapyrilene	TX	6345	10185203
Methyl methanesulfonate	TX	6375	10185203
Methyl parathion (Parathion, methyl)	TX	7825	10185203
Mevinphos	TX	7850	10185203
Naphthalene	TX	5005	10185203
Nitrobenzene	TX	5015	10185203
n-Nitrosodiethylamine	TX	6525	10185203
n-Nitrosodimethylamine	TX	6530	10185203
n-Nitrosodi-n-butylamine	TX	5025	10185203
n-Nitrosodi-n-propylamine	TX	6545	10185203
n-Nitrosodiphenylamine	TX	6535	10185203
n-Nitrosomethylethylamine	TX	6550	10185203
n-Nitrosomorpholine	TX	6555	10185203
n-Nitrosopiperidine	TX	6560	10185203
n-Nitrosopyrrolidine	TX	6565	10185203
o,o,o-Triethyl phosphorothioate	TX	8290	10185203
o-Anisidine	TX	5550	10185203
Parathion, ethyl	TX	7955	10185203
p-Cresidine	TX	5860	10185203
Pentachlorobenzene	TX	6590	10185203
Pentachloronitrobenzene (PCNB)	TX	6600	10185203
Pentachlorophenol	TX	6605	10185203
Phenacetin	TX	6610	10185203
Phenanthrene	TX	6615	10185203
Phenol	TX	6625	10185203
Phorate	TX	7985	10185203
Pronamide (Kerb)	TX	6650	10185203
Pyrene	TX	6665	10185203

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Matrix: ***Solid & Chemical Materials***

Pyridine	TX	5095	10185203
Quinoline	TX	6670	10185203
Safrole	TX	6685	10185203
Sulfotepp	TX	8155	10185203
Terbufos	TX	8185	10185203
Tetrachlorvinphos (Stirophos, Gardona)	TX	8197	10185203
Thionazin (Zinophos)	TX	8235	10185203
Toluene diisocyanate	TX	6775	10185203

Method EPA 8315

Analyte	**AB**	**Analyte ID**	**Method ID**
Formaldehyde	TX	4815	10187801

Method EPA 8316

Analyte	**AB**	**Analyte ID**	**Method ID**
Acrylamide	TX	4330	10188202

Method EPA 8330

Analyte	**AB**	**Analyte ID**	**Method ID**
1,3,5-Trinitrobenzene (1,3,5-TNB)	TX	6885	10189807
1,3-Dinitrobenzene (1,3-DNB)	TX	6160	10189807
2,4,6-Trinitrotoluene (2,4,6-TNT)	TX	9651	10189807
2,4-Dinitrotoluene (2,4-DNT)	TX	6185	10189807
2,6-Dinitrotoluene (2,6-DNT)	TX	6190	10189807
2-Amino-4,6-dinitrotoluene (2-am-dnt)	TX	9303	10189807
2-Nitrotoluene	TX	9507	10189807
3-Nitrotoluene	TX	9510	10189807
4-Amino-2,6-dinitrotoluene (4-am-dnt)	TX	9306	10189807
4-Nitrotoluene	TX	9513	10189807
Methyl-2,4,6-trinitrophenylnitramine (tetryl)	TX	6415	10189807
Nitrobenzene	TX	5015	10189807
Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	TX	9522	10189807
RDX (hexahydro-1,3,5-trinitro-1,3,5-triazine)	TX	9432	10189807

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Matrix: ***Solid & Chemical Materials***

Method EPA 9014

Analyte	AB	Analyte ID	Method ID
Amenable cyanide	TX	1510	10193803
Total Cyanide	TX	1635	10193803

Method EPA 9040

Analyte	AB	Analyte ID	Method ID
Corrosivity	TX	1615	10197203
pH	TX	1900	10196802

Method EPA 9045

Analyte	AB	Analyte ID	Method ID
Corrosivity	TX	1615	10197805
pH	TX	1900	10197805

Method EPA 9050

Analyte	AB	Analyte ID	Method ID
Conductivity	TX	1610	10198604

Method EPA 9056

Analyte	AB	Analyte ID	Method ID
Bromide	TX	1540	10199209
Chloride	TX	1575	10199209
Fluoride	TX	1730	10199209
Nitrate as N	TX	1810	10199209
Nitrate-nitrite	TX	1820	10199209
Nitrite as N	TX	1840	10199209
Orthophosphate as P	TX	1870	10199209
Sulfate	TX	2000	10199209

Method EPA 9060

Analyte	AB	Analyte ID	Method ID
Total Organic Carbon (TOC)	TX	2040	10200201

Method EPA 9065

Analyte	AB	Analyte ID	Method ID
Total phenolics	TX	1905	10200405

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Matrix: ***Solid & Chemical Materials***

Method EPA 9071

Analyte	AB	Analyte ID	Method ID
n-Hexane Extractable Material (HEM) (O&G)	TX	1803	10201204

Method EPA 9095

Analyte	AB	Analyte ID	Method ID
Paint Filter Liquids Test	TX	10312	10204009

Method SM 2320 B

Analyte	AB	Analyte ID	Method ID
Alkalinity as CaCO3	TX	1505	20045005

Method SM 2510 B

Analyte	AB	Analyte ID	Method ID
Conductivity	TX	1610	20048004

Method SM 2540 G

Analyte	AB	Analyte ID	Method ID
Residue-total (total solids)	TX	1950	20005203

Method SSA/ASA Part 3:34

Analyte	AB	Analyte ID	Method ID
Carbon, organic (Walkley-Black)	TX	10340	SSA/ASA Pt 3:34

Method TCEQ 1005

Analyte	AB	Analyte ID	Method ID
Total Petroleum Hydrocarbons (TPH)	TX	2050	90019208

10450 Stancliff Rd. Suite 210
Houston, TX 77099
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January 27, 2016

Eric Matzner
Pastor, Behling & Wheeler, LLC
2201 Double Creek Drive
Suite 4004
Round Rock, TX 78664

Work Order: **HS16010952**

Laboratory Results for: **1620-10-Rev1 HoustonTX-Wood**

Dear Eric,

ALS Environmental received 8 sample(s) on Jan 26, 2016 for the analysis presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested. Results are expressed as "as received" unless otherwise noted.

QC sample results for this data met EPA or laboratory specifications except as noted in the Case Narrative or as noted with qualifiers in the QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained by ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

If you have any questions regarding this report, please feel free to call me.

Sincerely,

Generated By: Jumoke.Lawal
Dane J. Wacasey

Client:	Pastor, Behling & Wheeler, LLC	**TRRP Laboratory Data Package Cover Page**
Project:	1620-10-Rev1 HoustonTX-Wood	
WorkOrder:	**HS16010952**	

This data package consists of all or some of the following as applicable:

This signature page, the laboratory review checklist, and the following reportable data:

R1 Field chain-of-custody documentation;

R2 Sample identification cross-reference;

R3 Test reports (analytical data sheets) for each environmental sample that includes:

a) Items consistent with NELAC Chapter 5,
b) dilution factors,
c) preparation methods,
d) cleanup methods, and
e) if required for the project, tentatively identified compounds (TICs).

R4 Surrogate recovery data including:

a) Calculated recovery (%R), and
b) The laboratory's surrogate QC limits.

R5 Test reports/summary forms for blank samples;

R6 Test reports/summary forms for laboratory control samples (LCSs) including:

a) LCS spiking amounts,
b) Calculated %R for each analyte, and
c)The laboratory's LCS QC limits.

R7 Test reports for project matrix spike/matrix spike duplicates (MS/MSDs) including:

a) Samples associated with the MS/MSD clearly identified,
b) MS/MSD spiking amounts,
c) Concentration of each MS/MSD analyte measured in the parent and spiked samples,
d) Calculated %Rs and relative percent differences (RPDs), and
e) The laboratory's MS/MSD QC limits.

R8 Laboratory analytical duplicate (if applicable) recovery and precision:

a) the amount of analyte measured in the duplicate,
b) the calculated RPD, and
c) the laboratory's QC limits for analytical duplicates.

R9 List of method quantitation limits (MQLs) and detectability check sample results for each analyte for each method and matrix.

R10 Other problems or anomalies.
The Exception Report for each "No" or "Not Reviewed (NR)" item in Laboratory Review Checklist and for each analyte, matrix, and method for which the laboratory does not hold NELAC accreditation under the Texas Laboratory Accreditation Program.

Client:	Pastor, Behling & Wheeler, LLC
Project:	1620-10-Rev1 HoustonTX-Wood
WorkOrder:	**HS16010952**

TRRP Laboratory Data Package Cover Page

Release Statement: I am responsible for the release of this laboratory data package. This laboratory is NELAC accredited under the Texas Laboratory Accreditation Program for all the methods, analytes and matrices reported in this data package except as noted in the Exception Reports. The data have been reviewed and are technically compliant with the requirements of the methods used, except where noted by the laboratory in the attached exception reports. By my signature below, I affirm to the best of my knowledge, all problems/anomalies, observed by the laboratory have been identified by the laboratory in the Laboratory Review Checklist, and no information affecting the quality of the data has been knowingly withheld.

Check, if applicable: [NA] This laboratory meets an exception under 30 TAC §25.6 and was last inspected by [ ] TCEQ or [ ] _____ on (enter date of last inspection). Any findings affecting the data in this laboratory data package are noted in the Exception Reports herein. The official signing the cover page of the report in which these data are used is responsible for releasing this data package and is by signature affirming the above release statement is true.

Dane J. Wacasey

Laboratory Review Checklist: Reportable Data								
Laboratory Name: ALS Laboratory Group			LRC Date: 1/29/2016					
Project Name: 1620-10-Rev1 HoustonTX-Wood			Laboratory Job Number: HS16010952					
Reviewer Name: Dane J. Wacasey			Prep Batch Number(s): 100900, 100927, R268289					
#[1]	A[2]	**Description**	**Yes**	**No**	**NA[3]**	**NR[4]**	**ER#[5]**
R1	OI	**Chain-of-custody (C-O-C)**					
		Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?	X				
		Were all departures from standard conditions described in an exception report?	X				
R2	OI	**Sample and quality control (QC) identification**					
		Are all field sample ID numbers cross-referenced to the laboratory ID numbers?	X				
		Are all laboratory ID numbers cross-referenced to the corresponding QC data?	X				
R3	OI	**Test reports**					
		Were all samples prepared and analyzed within holding times?	X				
		Other than those results < MQL, were all other raw values bracketed by calibration standards?	X				
		Were calculations checked by a peer or supervisor?	X				
		Were all analyte identifications checked by a peer or supervisor?	X				
		Were sample detection limits reported for all analytes not detected?	X				
		Were all results for soil and sediment samples reported on a dry weight basis?	X				
		Were % moisture (or solids) reported for all soil and sediment samples?	X				
		Were bulk soils/solids samples for volatile analysis extracted with methanol per SW-846 Method 5035?			X		
		If required for the project, TICs reported?			X		
R4	O	**Surrogate recovery data**					
		Were surrogates added prior to extraction?	X				
		Were surrogate percent recoveries in all samples within the laboratory QC limits?		X			1
R5	OI	**Test reports/summary forms for blank samples**					
		Were appropriate type(s) of blanks analyzed?	X				
		Were blanks analyzed at the appropriate frequency?	X				
		Were method blanks taken through the entire analytical process, including preparation and, if applicable, cleanup procedures?	X				
		Were blank concentrations < MQL?	X				
R6	OI	**Laboratory control samples (LCS):**					
		Were all COCs included in the LCS?	X				
		Was each LCS taken through the entire analytical procedure, including prep and cleanup steps?	X				
		Were LCSs analyzed at the required frequency?	X				
		Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?	X				
		Does the detectability data document the laboratory's capability to detect the COCs at the MDL used to calculate the SDLs?	X				
		Was the LCSD RPD within QC limits?			X		
R7	OI	**Matrix spike (MS) and matrix spike duplicate (MSD) data**					
		Were the project/method specified analytes included in the MS and MSD?	X				
		Were MS/MSD analyzed at the appropriate frequency?	X				
		Were MS (and MSD, if applicable) %Rs within the laboratory QC limits?		X			2
		Were MS/MSD RPDs within laboratory QC limits?	X				
R8	OI	**Analytical duplicate data**					
		Were appropriate analytical duplicates analyzed for each matrix?	X				
		Were analytical duplicates analyzed at the appropriate frequency?	X				
		Were RPDs or relative standard deviations within the laboratory QC limits?	X				
R9	OI	**Method quantitation limits (MQLs):**					
		Are the MQLs for each method analyte included in the laboratory data package?	X				
		Do the MQLs correspond to the concentration of the lowest non-zero calibration standard?	X				
		Are unadjusted MQLs and DCSs included in the laboratory data package?	X				
R10	OI	**Other problems/anomalies**					
		Are all known problems/anomalies/special conditions noted in this LRC and ER?	X				
		Were all necessary corrective actions performed for the reported data?	X				
		Was applicable and available technology used to lower the SDL and minimize the matrix interference affects on the sample results?	X				
		Is the laboratory NELAC-accredited under the Texas Laboratory Program for the analytes, matrices and methods associated with this laboratory data package?	X				

Laboratory Review Checklist: Reportable Data							
Laboratory Name: ALS Laboratory Group			LRC Date: 1/29/2016				
Project Name: 1620-10-Rev1 HoustonTX-Wood			Laboratory Job Number: HS16010952				
Reviewer Name: Dane J. Wacasey			Prep Batch Number(s): 100900, 100927, R268289				
#[1]	A[2]	Description	Yes	No	NA[3]	NR[4]	ER#[5]
S1	OI	**Initial calibration (ICAL)**					
		Were response factors and/or relative response factors for each analyte within QC limits?	X				
		Were percent RSDs or correlation coefficient criteria met?	X				
		Was the number of standards recommended in the method used for all analytes?	X				
		Were all points generated between the lowest and highest standard used to calculate the curve?	X				
		Are ICAL data available for all instruments used?	X				
		Has the initial calibration curve been verified using an appropriate second source standard?	X				
S2	OI	**Initial and continuing calibration verification (ICCV and CCV) and continuing calibration blank (CCB)**					
		Was the CCV analyzed at the method-required frequency?	X				
		Were percent differences for each analyte within the method-required QC limits?	X				
		Was the ICAL curve verified for each analyte?	X				
		Was the absolute value of the analyte concentration in the inorganic CCB < MDL?	X				
S3	O	**Mass spectral tuning:**					
		Was the appropriate compound for the method used for tuning?	X				
		Were ion abundance data within the method-required QC limits?	X				
S4	O	**Internal standards (IS):**					
		Were IS area counts and retention times within the method-required QC limits?	X				
S5	OI	**Raw data** (NELAC section 1 appendix A glossary, and section 5.12 or ISO/IEC 17025 section					
		Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst?	X				
		Were data associated with manual integrations flagged on the raw data?	X				
S6	O	**Dual column confirmation**					
		Did dual column confirmation results meet the method-required QC?			X		
S7	O	**Tentatively identified compounds (TICs):**					
		If TICs were requested, were the mass spectra and TIC data subject to appropriate checks?			X		
S8	I	**Interference Check Sample (ICS) results:**					
		Were percent recoveries within method QC limits?	X				
S9	I	**Serial dilutions, post digestion spikes, and method of standard additions**					
		Were percent differences, recoveries, and the linearity within the QC limits specified in the method?	X				
S10	OI	**Method detection limit (MDL) studies**					
		Was a MDL study performed for each reported analyte?	X				
		Is the MDL either adjusted or supported by the analysis of DCSs?	X				
S11	OI	**Proficiency test reports:**					
		Was the laboratory's performance acceptable on the applicable proficiency tests or evaluation studies?	X				
S12	OI	**Standards documentation**					
		Are all standards used in the analyses NIST-traceable or obtained from other appropriate sources?	X				
S13	OI	**Compound/analyte identification procedures**					
		Are the procedures for compound/analyte identification documented?	X				
S14	OI	**Demonstration of analyst competency (DOC)**					
		Was DOC conducted consistent with NELAC Chapter 5C or ISO/IEC 4?	X				
		Is documentation of the analyst's competency up-to-date and on file?	X				
S15	OI	**Verification/validation documentation for methods** (NELAC Chap 5 or ISO/IEC 17025 Section 5)					
		Are all the methods used to generate the data documented, verified, and validated, where applicable?	X				
S16	OI	**Laboratory standard operating procedures (SOPs):**					
		Are laboratory SOPs current and on file for each method performed?	X				

Items identified by the letter "R" must be included in the laboratory data package submitted in the TRRP-required report(s). Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period.
O = Organic Analyses; I = Inorganic Analyses (and general chemistry, when applicable);
NA = Not Applicable;
NR = Not Reviewed;
R# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

Laboratory Review Checklist: Reportable Data	
Laboratory Name: ALS Laboratory Group	LRC Date: 1/29/2016
Project Name: 1620-10-Rev1 HoustonTX-Wood	Laboratory Job Number: HS16010952
Reviewer Name: Dane J. Wacasey	Prep Batch Number(s): 100900, 100927, R268289

ER#[5]	Description
1	Batch 100900, Method SW8270, Sample SO-1620-CSFN2(0-5)-20160126 (HS16010952-07): Surrogate Phenol-d6 failed recovery criteria due to suspect matrix interference. Batch 100900, Method SW8270, Sample SO-1620-CSFN2(0-5)-20160126 (HS16010952-07): One or more of the method 8270 surrogates were recovered outside of the control limits. This was due to a dilution required for sample analysis.
2	Batch 100927, Method SW6020, Sample SO-1620-CSFW1(0-5)-20160126 (HS16010952-01MSD): Lead failed in the MSD but passed in the MS and PDS.

Items identified by the letter "R" must be included in the laboratory data package submitted in the TRRP-required report(s). Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period.
O = Organic Analyses; I = Inorganic Analyses (and general chemistry, when applicable);
NA = Not Applicable;
NR = Not Reviewed;
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Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
Work Order: HS16010952

SAMPLE SUMMARY

Lab Samp ID	Client Sample ID	Matrix	TagNo	Collection Date	Date Received	Hold
HS16010952-01	SO-1620-CSFW1(0-5)-20160126	Soil		26-Jan-2016 09:15	26-Jan-2016 15:00	☐
HS16010952-02	SO-1620-CSFS1(0-5)-20160126	Soil		26-Jan-2016 10:00	26-Jan-2016 15:00	☐
HS16010952-03	SO-1620-CSFN1(0-5)-20160126	Soil		26-Jan-2016 10:15	26-Jan-2016 15:00	☐
HS16010952-04	SO-1620-FSB1(0-5)-20160126	Soil		26-Jan-2016 12:26	26-Jan-2016 15:00	☐
HS16010952-05	SO-1620-FSB2(0-5)-20160126	Soil		26-Jan-2016 13:05	26-Jan-2016 15:00	☐
HS16010952-06	SO-1620-FSB3(0-5)-20160126	Soil		26-Jan-2016 13:40	26-Jan-2016 15:00	☐
HS16010952-07	SO-1620-CSFN2(0-5)-20160126	Soil		26-Jan-2016 14:00	26-Jan-2016 15:00	☐
HS16010952-08	SO-1620-CSFS2(0-5)-20160126	Soil		26-Jan-2016 14:15	26-Jan-2016 15:00	☐

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
Sample ID: SO-1620-CSFW1(0-5)-20160126
Collection Date: 26-Jan-2016 09:15

ANALYTICAL REPORT
WorkOrder:HS16010952
Lab ID:HS16010952-01
Matrix:Soil

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES		**Method:SW8270**			Prep:SW3541 / 26-Jan-2016		Analyst: ACN
1,2-Diphenylhydrazine	U		0.0013	0.0081	mg/Kg-dry	1	26-Jan-2016 22:39
2,4-Dimethylphenol	U		0.0040	0.0081	mg/Kg-dry	1	26-Jan-2016 22:39
2,4-Dinitrotoluene	U		0.0011	0.0081	mg/Kg-dry	1	26-Jan-2016 22:39
2,6-Dinitrotoluene	U		0.0040	0.0081	mg/Kg-dry	1	26-Jan-2016 22:39
2-Chloronaphthalene	U		0.0016	0.0081	mg/Kg-dry	1	26-Jan-2016 22:39
2-Methylnaphthalene	U		0.00061	0.0040	mg/Kg-dry	1	26-Jan-2016 22:39
4,6-Dinitro-2-methylphenol	U		0.0026	0.0081	mg/Kg-dry	1	26-Jan-2016 22:39
4-Nitrophenol	U		0.0023	0.016	mg/Kg-dry	1	26-Jan-2016 22:39
Acenaphthene	U		0.00061	0.0040	mg/Kg-dry	1	26-Jan-2016 22:39
Acenaphthylene	U		0.0012	0.0040	mg/Kg-dry	1	26-Jan-2016 22:39
Anthracene	U		0.00061	0.0040	mg/Kg-dry	1	26-Jan-2016 22:39
Benz(a)anthracene	U		0.0020	0.0040	mg/Kg-dry	1	26-Jan-2016 22:39
Benzo(a)pyrene	U		0.0012	0.0040	mg/Kg-dry	1	26-Jan-2016 22:39
Bis(2-chloroethoxy)methane	U		0.0011	0.0081	mg/Kg-dry	1	26-Jan-2016 22:39
Bis(2-ethylhexyl)phthalate	**0.0055**	J	**0.0021**	**0.0081**	**mg/Kg-dry**	1	26-Jan-2016 22:39
Chrysene	U		0.00098	0.0040	mg/Kg-dry	1	26-Jan-2016 22:39
Dibenzofuran	U		0.00086	0.0040	mg/Kg-dry	1	26-Jan-2016 22:39
Di-n-butyl phthalate	U		0.0015	0.0081	mg/Kg-dry	1	26-Jan-2016 22:39
Fluoranthene	U		0.0013	0.0040	mg/Kg-dry	1	26-Jan-2016 22:39
Fluorene	U		0.0013	0.0040	mg/Kg-dry	1	26-Jan-2016 22:39
Naphthalene	U		0.00074	0.0040	mg/Kg-dry	1	26-Jan-2016 22:39
Nitrobenzene	U		0.0011	0.0081	mg/Kg-dry	1	26-Jan-2016 22:39
N-Nitrosodiphenylamine	U		0.00086	0.0081	mg/Kg-dry	1	26-Jan-2016 22:39
Pentachlorophenol	U		0.0040	0.0081	mg/Kg-dry	1	26-Jan-2016 22:39
Phenanthrene	**0.0036**	J	**0.0018**	**0.0040**	**mg/Kg-dry**	1	26-Jan-2016 22:39
Phenol	**0.0043**	J	**0.0013**	**0.0081**	**mg/Kg-dry**	1	26-Jan-2016 22:39
Pyrene	U		0.00074	0.0040	mg/Kg-dry	1	26-Jan-2016 22:39
Surr: 2,4,6-Tribromophenol	*76.3*			*36-126*	*%REC*	*1*	*26-Jan-2016 22:39*
Surr: 2-Fluorobiphenyl	*80.3*			*43-125*	*%REC*	*1*	*26-Jan-2016 22:39*
Surr: 2-Fluorophenol	*65.5*			*37-125*	*%REC*	*1*	*26-Jan-2016 22:39*
Surr: 4-Terphenyl-d14	*75.9*			*32-125*	*%REC*	*1*	*26-Jan-2016 22:39*
Surr: Nitrobenzene-d5	*79.8*			*37-125*	*%REC*	*1*	*26-Jan-2016 22:39*
Surr: Phenol-d6	*66.6*			*40-125*	*%REC*	*1*	*26-Jan-2016 22:39*
METALS BY SW6020A		**Method:SW6020**			Prep:SW3050A / 26-Jan-2016		Analyst: JDE
Arsenic	**1.49**		**0.118**	**0.589**	**mg/Kg-dry**	1	27-Jan-2016 12:04
Lead	**17.2**		**0.0589**	**0.589**	**mg/Kg-dry**	1	27-Jan-2016 12:04
MOISTURE - ASTM D2216		**Method:ASTM D2216**					Analyst: DFF
Percent Moisture	**18.9**		**0.0100**	**0.0100**	**wt%**	1	26-Jan-2016 15:39

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
Sample ID: SO-1620-CSFS1(0-5)-20160126
Collection Date: 26-Jan-2016 10:00

ANALYTICAL REPORT
WorkOrder:HS16010952
Lab ID:HS16010952-02
Matrix:Soil

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES		**Method:SW8270**			Prep:SW3541 / 26-Jan-2016		Analyst: ACN
1,2-Diphenylhydrazine	U		0.0013	0.0079	mg/Kg-dry	1	26-Jan-2016 22:59
2,4-Dimethylphenol	U		0.0039	0.0079	mg/Kg-dry	1	26-Jan-2016 22:59
2,4-Dinitrotoluene	U		0.0011	0.0079	mg/Kg-dry	1	26-Jan-2016 22:59
2,6-Dinitrotoluene	U		0.0039	0.0079	mg/Kg-dry	1	26-Jan-2016 22:59
2-Chloronaphthalene	U		0.0016	0.0079	mg/Kg-dry	1	26-Jan-2016 22:59
2-Methylnaphthalene	U		0.00060	0.0039	mg/Kg-dry	1	26-Jan-2016 22:59
4,6-Dinitro-2-methylphenol	U		0.0025	0.0079	mg/Kg-dry	1	26-Jan-2016 22:59
4-Nitrophenol	U		0.0023	0.016	mg/Kg-dry	1	26-Jan-2016 22:59
Acenaphthene	U		0.00060	0.0039	mg/Kg-dry	1	26-Jan-2016 22:59
Acenaphthylene	U		0.0012	0.0039	mg/Kg-dry	1	26-Jan-2016 22:59
Anthracene	U		0.00060	0.0039	mg/Kg-dry	1	26-Jan-2016 22:59
Benz(a)anthracene	**0.0074**		**0.0019**	**0.0039**	**mg/Kg-dry**	1	26-Jan-2016 22:59
Benzo(a)pyrene	**0.018**		**0.0012**	**0.0039**	**mg/Kg-dry**	1	26-Jan-2016 22:59
Bis(2-chloroethoxy)methane	U		0.0011	0.0079	mg/Kg-dry	1	26-Jan-2016 22:59
Bis(2-ethylhexyl)phthalate	U		0.0020	0.0079	mg/Kg-dry	1	26-Jan-2016 22:59
Chrysene	**0.015**		**0.00096**	**0.0039**	**mg/Kg-dry**	1	26-Jan-2016 22:59
Dibenzofuran	U		0.00084	0.0039	mg/Kg-dry	1	26-Jan-2016 22:59
Di-n-butyl phthalate	U		0.0014	0.0079	mg/Kg-dry	1	26-Jan-2016 22:59
Fluoranthene	**0.010**		**0.0013**	**0.0039**	**mg/Kg-dry**	1	26-Jan-2016 22:59
Fluorene	U		0.0013	0.0039	mg/Kg-dry	1	26-Jan-2016 22:59
Naphthalene	U		0.00072	0.0039	mg/Kg-dry	1	26-Jan-2016 22:59
Nitrobenzene	U		0.0011	0.0079	mg/Kg-dry	1	26-Jan-2016 22:59
N-Nitrosodiphenylamine	U		0.00084	0.0079	mg/Kg-dry	1	26-Jan-2016 22:59
Pentachlorophenol	U		0.0039	0.0079	mg/Kg-dry	1	26-Jan-2016 22:59
Phenanthrene	U		0.0018	0.0039	mg/Kg-dry	1	26-Jan-2016 22:59
Phenol	U		0.0013	0.0079	mg/Kg-dry	1	26-Jan-2016 22:59
Pyrene	**0.022**		**0.00072**	**0.0039**	**mg/Kg-dry**	1	26-Jan-2016 22:59
Surr: 2,4,6-Tribromophenol	*75.7*			*36-126*	*%REC*	*1*	*26-Jan-2016 22:59*
Surr: 2-Fluorobiphenyl	*78.5*			*43-125*	*%REC*	*1*	*26-Jan-2016 22:59*
Surr: 2-Fluorophenol	*75.2*			*37-125*	*%REC*	*1*	*26-Jan-2016 22:59*
Surr: 4-Terphenyl-d14	*77.7*			*32-125*	*%REC*	*1*	*26-Jan-2016 22:59*
Surr: Nitrobenzene-d5	*82.4*			*37-125*	*%REC*	*1*	*26-Jan-2016 22:59*
Surr: Phenol-d6	*88.4*			*40-125*	*%REC*	*1*	*26-Jan-2016 22:59*
METALS BY SW6020A		**Method:SW6020**			Prep:SW3050A / 26-Jan-2016		Analyst: JDE
Arsenic	**1.11**		**0.120**	**0.599**	**mg/Kg-dry**	1	27-Jan-2016 12:34
Lead	**8.93**		**0.0599**	**0.599**	**mg/Kg-dry**	1	27-Jan-2016 12:34
MOISTURE - ASTM D2216		**Method:ASTM D2216**					Analyst: DFF
Percent Moisture	**16.7**		**0.0100**	**0.0100**	**wt%**	1	26-Jan-2016 15:39

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
Sample ID: SO-1620-CSFN1(0-5)-20160126
Collection Date: 26-Jan-2016 10:15

ANALYTICAL REPORT
WorkOrder:HS16010952
Lab ID:HS16010952-03
Matrix:Soil

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES	**Method:SW8270**				Prep:SW3541 / 26-Jan-2016		Analyst: ACN
1,2-Diphenylhydrazine	U		0.0013	0.0078	mg/Kg-dry	1	26-Jan-2016 23:19
2,4-Dimethylphenol	U		0.0039	0.0078	mg/Kg-dry	1	26-Jan-2016 23:19
2,4-Dinitrotoluene	U		0.0011	0.0078	mg/Kg-dry	1	26-Jan-2016 23:19
2,6-Dinitrotoluene	U		0.0039	0.0078	mg/Kg-dry	1	26-Jan-2016 23:19
2-Chloronaphthalene	U		0.0015	0.0078	mg/Kg-dry	1	26-Jan-2016 23:19
2-Methylnaphthalene	**0.12**		**0.00059**	**0.0039**	**mg/Kg-dry**	1	26-Jan-2016 23:19
4,6-Dinitro-2-methylphenol	U		0.0025	0.0078	mg/Kg-dry	1	26-Jan-2016 23:19
4-Nitrophenol	U		0.0022	0.016	mg/Kg-dry	1	26-Jan-2016 23:19
Acenaphthene	**0.51**		**0.0030**	**0.020**	**mg/Kg-dry**	5	27-Jan-2016 14:44
Acenaphthylene	**0.021**		**0.0012**	**0.0039**	**mg/Kg-dry**	1	26-Jan-2016 23:19
Anthracene	**0.29**		**0.00059**	**0.0039**	**mg/Kg-dry**	1	26-Jan-2016 23:19
Benz(a)anthracene	**0.29**		**0.0019**	**0.0039**	**mg/Kg-dry**	1	26-Jan-2016 23:19
Benzo(a)pyrene	**0.27**		**0.0012**	**0.0039**	**mg/Kg-dry**	1	26-Jan-2016 23:19
Bis(2-chloroethoxy)methane	U		0.0011	0.0078	mg/Kg-dry	1	26-Jan-2016 23:19
Bis(2-ethylhexyl)phthalate	**0.016**		**0.0020**	**0.0078**	**mg/Kg-dry**	1	26-Jan-2016 23:19
Chrysene	**0.35**		**0.00095**	**0.0039**	**mg/Kg-dry**	1	26-Jan-2016 23:19
Dibenzofuran	**0.28**		**0.00083**	**0.0039**	**mg/Kg-dry**	1	26-Jan-2016 23:19
Di-n-butyl phthalate	U		0.0014	0.0078	mg/Kg-dry	1	26-Jan-2016 23:19
Fluoranthene	**1.2**		**0.0065**	**0.020**	**mg/Kg-dry**	5	27-Jan-2016 14:44
Fluorene	**0.60**		**0.0065**	**0.020**	**mg/Kg-dry**	5	27-Jan-2016 14:44
Naphthalene	**0.18**		**0.00071**	**0.0039**	**mg/Kg-dry**	1	26-Jan-2016 23:19
Nitrobenzene	U		0.0011	0.0078	mg/Kg-dry	1	26-Jan-2016 23:19
N-Nitrosodiphenylamine	**0.0067**	J	**0.00083**	**0.0078**	**mg/Kg-dry**	1	26-Jan-2016 23:19
Pentachlorophenol	U		0.0039	0.0078	mg/Kg-dry	1	26-Jan-2016 23:19
Phenanthrene	**1.9**		**0.0089**	**0.020**	**mg/Kg-dry**	5	27-Jan-2016 14:44
Phenol	U		0.0013	0.0078	mg/Kg-dry	1	26-Jan-2016 23:19
Pyrene	**1.0**		**0.0035**	**0.020**	**mg/Kg-dry**	5	27-Jan-2016 14:44
Surr: 2,4,6-Tribromophenol	*72.7*			*36-126*	*%REC*	*5*	*27-Jan-2016 14:44*
Surr: 2,4,6-Tribromophenol	*64.6*			*36-126*	*%REC*	*1*	*26-Jan-2016 23:19*
Surr: 2-Fluorobiphenyl	*69.6*			*43-125*	*%REC*	*1*	*26-Jan-2016 23:19*
Surr: 2-Fluorobiphenyl	*90.1*			*43-125*	*%REC*	*5*	*27-Jan-2016 14:44*
Surr: 2-Fluorophenol	*79.5*			*37-125*	*%REC*	*5*	*27-Jan-2016 14:44*
Surr: 2-Fluorophenol	*62.6*			*37-125*	*%REC*	*1*	*26-Jan-2016 23:19*
Surr: 4-Terphenyl-d14	*73.3*			*32-125*	*%REC*	*1*	*26-Jan-2016 23:19*
Surr: 4-Terphenyl-d14	*96.0*			*32-125*	*%REC*	*5*	*27-Jan-2016 14:44*
Surr: Nitrobenzene-d5	*80.1*			*37-125*	*%REC*	*1*	*26-Jan-2016 23:19*
Surr: Nitrobenzene-d5	*94.0*			*37-125*	*%REC*	*5*	*27-Jan-2016 14:44*
Surr: Phenol-d6	*64.9*			*40-125*	*%REC*	*1*	*26-Jan-2016 23:19*
Surr: Phenol-d6	*76.0*			*40-125*	*%REC*	*5*	*27-Jan-2016 14:44*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
Sample ID: SO-1620-CSFN1(0-5)-20160126
Collection Date: 26-Jan-2016 10:15

ANALYTICAL REPORT
WorkOrder:HS16010952
Lab ID:HS16010952-03
Matrix:Soil

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
METALS BY SW6020A	**Method:SW6020**				Prep:SW3050A / 26-Jan-2016		Analyst: JDE
Arsenic	**1.16**		**0.117**	**0.585**	**mg/Kg-dry**	1	27-Jan-2016 12:38
Lead	**8.62**		**0.0585**	**0.585**	**mg/Kg-dry**	1	27-Jan-2016 12:38
MOISTURE - ASTM D2216	**Method:ASTM D2216**						Analyst: DFF
Percent Moisture	**16.0**		**0.0100**	**0.0100**	**wt%**	1	26-Jan-2016 15:39

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
Sample ID: SO-1620-FSB1(0-5)-20160126
Collection Date: 26-Jan-2016 12:26

ANALYTICAL REPORT
WorkOrder:HS16010952
Lab ID:HS16010952-04
Matrix:Soil

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES		**Method:SW8270**			Prep:SW3541 / 26-Jan-2016		Analyst: ACN
1,2-Diphenylhydrazine	U		0.0013	0.0080	mg/Kg-dry	1	27-Jan-2016 13:03
2,4-Dimethylphenol	U		0.0040	0.0080	mg/Kg-dry	1	27-Jan-2016 13:03
2,4-Dinitrotoluene	U		0.0011	0.0080	mg/Kg-dry	1	27-Jan-2016 13:03
2,6-Dinitrotoluene	U		0.0040	0.0080	mg/Kg-dry	1	27-Jan-2016 13:03
2-Chloronaphthalene	U		0.0016	0.0080	mg/Kg-dry	1	27-Jan-2016 13:03
2-Methylnaphthalene	U		0.00061	0.0040	mg/Kg-dry	1	27-Jan-2016 13:03
4,6-Dinitro-2-methylphenol	U		0.0025	0.0080	mg/Kg-dry	1	27-Jan-2016 13:03
4-Nitrophenol	U		0.0023	0.016	mg/Kg-dry	1	27-Jan-2016 13:03
Acenaphthene	U		0.00061	0.0040	mg/Kg-dry	1	27-Jan-2016 13:03
Acenaphthylene	U		0.0012	0.0040	mg/Kg-dry	1	27-Jan-2016 13:03
Anthracene	U		0.00061	0.0040	mg/Kg-dry	1	27-Jan-2016 13:03
Benz(a)anthracene	**0.033**		**0.0019**	**0.0040**	**mg/Kg-dry**	1	27-Jan-2016 13:03
Benzo(a)pyrene	**0.042**		**0.0012**	**0.0040**	**mg/Kg-dry**	1	27-Jan-2016 13:03
Bis(2-chloroethoxy)methane	U		0.0011	0.0080	mg/Kg-dry	1	27-Jan-2016 13:03
Bis(2-ethylhexyl)phthalate	**0.0042**	J	**0.0021**	**0.0080**	**mg/Kg-dry**	1	27-Jan-2016 13:03
Chrysene	**0.049**		**0.00097**	**0.0040**	**mg/Kg-dry**	1	27-Jan-2016 13:03
Dibenzofuran	U		0.00085	0.0040	mg/Kg-dry	1	27-Jan-2016 13:03
Di-n-butyl phthalate	**0.0030**	J	**0.0015**	**0.0080**	**mg/Kg-dry**	1	27-Jan-2016 13:03
Fluoranthene	**0.015**		**0.0013**	**0.0040**	**mg/Kg-dry**	1	27-Jan-2016 13:03
Fluorene	U		0.0013	0.0040	mg/Kg-dry	1	27-Jan-2016 13:03
Naphthalene	U		0.00073	0.0040	mg/Kg-dry	1	27-Jan-2016 13:03
Nitrobenzene	U		0.0011	0.0080	mg/Kg-dry	1	27-Jan-2016 13:03
N-Nitrosodiphenylamine	U		0.00085	0.0080	mg/Kg-dry	1	27-Jan-2016 13:03
Pentachlorophenol	U		0.0040	0.0080	mg/Kg-dry	1	27-Jan-2016 13:03
Phenanthrene	U		0.0018	0.0040	mg/Kg-dry	1	27-Jan-2016 13:03
Phenol	**0.0021**	J	**0.0013**	**0.0080**	**mg/Kg-dry**	1	27-Jan-2016 13:03
Pyrene	**0.045**		**0.00073**	**0.0040**	**mg/Kg-dry**	1	27-Jan-2016 13:03
Surr: 2,4,6-Tribromophenol	*90.6*			*36-126*	*%REC*	*1*	*27-Jan-2016 13:03*
Surr: 2-Fluorobiphenyl	*79.5*			*43-125*	*%REC*	*1*	*27-Jan-2016 13:03*
Surr: 2-Fluorophenol	*69.6*			*37-125*	*%REC*	*1*	*27-Jan-2016 13:03*
Surr: 4-Terphenyl-d14	*88.2*			*32-125*	*%REC*	*1*	*27-Jan-2016 13:03*
Surr: Nitrobenzene-d5	*86.6*			*37-125*	*%REC*	*1*	*27-Jan-2016 13:03*
Surr: Phenol-d6	*74.1*			*40-125*	*%REC*	*1*	*27-Jan-2016 13:03*
METALS BY SW6020A		**Method:SW6020**			Prep:SW3050A / 26-Jan-2016		Analyst: JDE
Arsenic	**2.70**		**0.120**	**0.601**	**mg/Kg-dry**	1	27-Jan-2016 12:43
Lead	**10.9**		**0.0601**	**0.601**	**mg/Kg-dry**	1	27-Jan-2016 12:43
MOISTURE - ASTM D2216		**Method:ASTM D2216**					Analyst: DFF
Percent Moisture	**18.1**		**0.0100**	**0.0100**	**wt%**	1	26-Jan-2016 15:39

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
Sample ID: SO-1620-FSB2(0-5)-20160126
Collection Date: 26-Jan-2016 13:05

ANALYTICAL REPORT
WorkOrder:HS16010952
Lab ID:HS16010952-05
Matrix:Soil

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES		**Method:SW8270**			Prep:SW3541 / 26-Jan-2016		Analyst: ACN
1,2-Diphenylhydrazine	U		0.0013	0.0078	mg/Kg-dry	1	27-Jan-2016 13:23
2,4-Dimethylphenol	U		0.0039	0.0078	mg/Kg-dry	1	27-Jan-2016 13:23
2,4-Dinitrotoluene	U		0.0011	0.0078	mg/Kg-dry	1	27-Jan-2016 13:23
2,6-Dinitrotoluene	U		0.0039	0.0078	mg/Kg-dry	1	27-Jan-2016 13:23
2-Chloronaphthalene	U		0.0015	0.0078	mg/Kg-dry	1	27-Jan-2016 13:23
2-Methylnaphthalene	U		0.00059	0.0039	mg/Kg-dry	1	27-Jan-2016 13:23
4,6-Dinitro-2-methylphenol	U		0.0025	0.0078	mg/Kg-dry	1	27-Jan-2016 13:23
4-Nitrophenol	U		0.0023	0.016	mg/Kg-dry	1	27-Jan-2016 13:23
Acenaphthene	U		0.00059	0.0039	mg/Kg-dry	1	27-Jan-2016 13:23
Acenaphthylene	**0.0061**		**0.0012**	**0.0039**	**mg/Kg-dry**	1	27-Jan-2016 13:23
Anthracene	**0.0046**		**0.00059**	**0.0039**	**mg/Kg-dry**	1	27-Jan-2016 13:23
Benz(a)anthracene	**0.011**		**0.0019**	**0.0039**	**mg/Kg-dry**	1	27-Jan-2016 13:23
Benzo(a)pyrene	**0.037**		**0.0012**	**0.0039**	**mg/Kg-dry**	1	27-Jan-2016 13:23
Bis(2-chloroethoxy)methane	U		0.0011	0.0078	mg/Kg-dry	1	27-Jan-2016 13:23
Bis(2-ethylhexyl)phthalate	**0.0047**	J	**0.0020**	**0.0078**	**mg/Kg-dry**	1	27-Jan-2016 13:23
Chrysene	**0.020**		**0.00095**	**0.0039**	**mg/Kg-dry**	1	27-Jan-2016 13:23
Dibenzofuran	U		0.00083	0.0039	mg/Kg-dry	1	27-Jan-2016 13:23
Di-n-butyl phthalate	**0.0024**	J	**0.0014**	**0.0078**	**mg/Kg-dry**	1	27-Jan-2016 13:23
Fluoranthene	**0.0085**		**0.0013**	**0.0039**	**mg/Kg-dry**	1	27-Jan-2016 13:23
Fluorene	U		0.0013	0.0039	mg/Kg-dry	1	27-Jan-2016 13:23
Naphthalene	**0.0021**	J	**0.00071**	**0.0039**	**mg/Kg-dry**	1	27-Jan-2016 13:23
Nitrobenzene	U		0.0011	0.0078	mg/Kg-dry	1	27-Jan-2016 13:23
N-Nitrosodiphenylamine	U		0.00083	0.0078	mg/Kg-dry	1	27-Jan-2016 13:23
Pentachlorophenol	U		0.0039	0.0078	mg/Kg-dry	1	27-Jan-2016 13:23
Phenanthrene	**0.0027**	J	**0.0018**	**0.0039**	**mg/Kg-dry**	1	27-Jan-2016 13:23
Phenol	U		0.0013	0.0078	mg/Kg-dry	1	27-Jan-2016 13:23
Pyrene	**0.022**		**0.00071**	**0.0039**	**mg/Kg-dry**	1	27-Jan-2016 13:23
Surr: 2,4,6-Tribromophenol	*88.8*			*36-126*	*%REC*	*1*	*27-Jan-2016 13:23*
Surr: 2-Fluorobiphenyl	*74.5*			*43-125*	*%REC*	*1*	*27-Jan-2016 13:23*
Surr: 2-Fluorophenol	*58.4*			*37-125*	*%REC*	*1*	*27-Jan-2016 13:23*
Surr: 4-Terphenyl-d14	*78.1*			*32-125*	*%REC*	*1*	*27-Jan-2016 13:23*
Surr: Nitrobenzene-d5	*76.8*			*37-125*	*%REC*	*1*	*27-Jan-2016 13:23*
Surr: Phenol-d6	*20.5*	*S*		*40-125*	*%REC*	*1*	*27-Jan-2016 13:23*
METALS BY SW6020A		**Method:SW6020**			Prep:SW3050A / 26-Jan-2016		Analyst: JDE
Arsenic	**1.18**		**0.115**	**0.576**	**mg/Kg-dry**	1	27-Jan-2016 12:47
Lead	**8.25**		**0.0576**	**0.576**	**mg/Kg-dry**	1	27-Jan-2016 12:47
MOISTURE - ASTM D2216		**Method:ASTM D2216**					Analyst: DFF
Percent Moisture	**16.2**		**0.0100**	**0.0100**	**wt%**	1	26-Jan-2016 15:39

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
Sample ID: SO-1620-FSB3(0-5)-20160126
Collection Date: 26-Jan-2016 13:40

ANALYTICAL REPORT
WorkOrder:HS16010952
Lab ID:HS16010952-06
Matrix:Soil

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES	**Method:SW8270**				Prep:SW3541 / 26-Jan-2016		Analyst: ACN
1,2-Diphenylhydrazine	**0.0021**	J	**0.0013**	**0.0079**	**mg/Kg-dry**	1	27-Jan-2016 16:05
2,4-Dimethylphenol	U		0.0039	0.0079	mg/Kg-dry	1	27-Jan-2016 16:05
2,4-Dinitrotoluene	U		0.0011	0.0079	mg/Kg-dry	1	27-Jan-2016 16:05
2,6-Dinitrotoluene	U		0.0039	0.0079	mg/Kg-dry	1	27-Jan-2016 16:05
2-Chloronaphthalene	U		0.0016	0.0079	mg/Kg-dry	1	27-Jan-2016 16:05
2-Methylnaphthalene	U		0.00060	0.0039	mg/Kg-dry	1	27-Jan-2016 16:05
4,6-Dinitro-2-methylphenol	U		0.0025	0.0079	mg/Kg-dry	1	27-Jan-2016 16:05
4-Nitrophenol	U		0.0023	0.016	mg/Kg-dry	1	27-Jan-2016 16:05
Acenaphthene	U		0.00060	0.0039	mg/Kg-dry	1	27-Jan-2016 16:05
Acenaphthylene	**0.0077**		**0.0012**	**0.0039**	**mg/Kg-dry**	1	27-Jan-2016 16:05
Anthracene	**0.0078**		**0.00060**	**0.0039**	**mg/Kg-dry**	1	27-Jan-2016 16:05
Benz(a)anthracene	**0.017**		**0.0019**	**0.0039**	**mg/Kg-dry**	1	27-Jan-2016 16:05
Benzo(a)pyrene	**0.055**		**0.0012**	**0.0039**	**mg/Kg-dry**	1	27-Jan-2016 16:05
Bis(2-chloroethoxy)methane	U		0.0011	0.0079	mg/Kg-dry	1	27-Jan-2016 16:05
Bis(2-ethylhexyl)phthalate	**0.0058**	J	**0.0020**	**0.0079**	**mg/Kg-dry**	1	27-Jan-2016 16:05
Chrysene	**0.027**		**0.00096**	**0.0039**	**mg/Kg-dry**	1	27-Jan-2016 16:05
Dibenzofuran	U		0.00084	0.0039	mg/Kg-dry	1	27-Jan-2016 16:05
Di-n-butyl phthalate	U		0.0014	0.0079	mg/Kg-dry	1	27-Jan-2016 16:05
Fluoranthene	**0.013**		**0.0013**	**0.0039**	**mg/Kg-dry**	1	27-Jan-2016 16:05
Fluorene	U		0.0013	0.0039	mg/Kg-dry	1	27-Jan-2016 16:05
Naphthalene	**0.0023**	J	**0.00072**	**0.0039**	**mg/Kg-dry**	1	27-Jan-2016 16:05
Nitrobenzene	U		0.0011	0.0079	mg/Kg-dry	1	27-Jan-2016 16:05
N-Nitrosodiphenylamine	U		0.00084	0.0079	mg/Kg-dry	1	27-Jan-2016 16:05
Pentachlorophenol	U		0.0039	0.0079	mg/Kg-dry	1	27-Jan-2016 16:05
Phenanthrene	**0.0043**		**0.0018**	**0.0039**	**mg/Kg-dry**	1	27-Jan-2016 16:05
Phenol	U		0.0013	0.0079	mg/Kg-dry	1	27-Jan-2016 16:05
Pyrene	**0.026**		**0.00072**	**0.0039**	**mg/Kg-dry**	1	27-Jan-2016 16:05
Surr: 2,4,6-Tribromophenol	*77.3*			*36-126*	*%REC*	*1*	*27-Jan-2016 16:05*
Surr: 2-Fluorobiphenyl	*61.5*			*43-125*	*%REC*	*1*	*27-Jan-2016 16:05*
Surr: 2-Fluorophenol	*50.2*			*37-125*	*%REC*	*1*	*27-Jan-2016 16:05*
Surr: 4-Terphenyl-d14	*75.4*			*32-125*	*%REC*	*1*	*27-Jan-2016 16:05*
Surr: Nitrobenzene-d5	*60.5*			*37-125*	*%REC*	*1*	*27-Jan-2016 16:05*
Surr: Phenol-d6	*53.2*			*40-125*	*%REC*	*1*	*27-Jan-2016 16:05*
METALS BY SW6020A	**Method:SW6020**				Prep:SW3050A / 26-Jan-2016		Analyst: JDE
Arsenic	**1.27**		**0.113**	**0.566**	**mg/Kg-dry**	1	27-Jan-2016 12:51
Lead	**11.3**		**0.0566**	**0.566**	**mg/Kg-dry**	1	27-Jan-2016 12:51
MOISTURE - ASTM D2216	**Method:ASTM D2216**						Analyst: DFF
Percent Moisture	**16.9**		**0.0100**	**0.0100**	**wt%**	1	26-Jan-2016 15:39

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
Sample ID: SO-1620-CSFN2(0-5)-20160126
Collection Date: 26-Jan-2016 14:00

ANALYTICAL REPORT
WorkOrder:HS16010952
Lab ID:HS16010952-07
Matrix:Soil

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES	**Method:SW8270**				Prep:SW3541 / 26-Jan-2016		Analyst: ACN
1,2-Diphenylhydrazine	U		0.0014	0.0083	mg/Kg-dry	1	27-Jan-2016 00:40
2,4-Dimethylphenol	U		0.0042	0.0083	mg/Kg-dry	1	27-Jan-2016 00:40
2,4-Dinitrotoluene	U		0.0011	0.0083	mg/Kg-dry	1	27-Jan-2016 00:40
2,6-Dinitrotoluene	U		0.0042	0.0083	mg/Kg-dry	1	27-Jan-2016 00:40
2-Chloronaphthalene	U		0.0016	0.0083	mg/Kg-dry	1	27-Jan-2016 00:40
2-Methylnaphthalene	**8.5**		**0.063**	**0.42**	**mg/Kg-dry**	100	27-Jan-2016 15:24
4,6-Dinitro-2-methylphenol	U		0.0026	0.0083	mg/Kg-dry	1	27-Jan-2016 00:40
4-Nitrophenol	U		0.0024	0.017	mg/Kg-dry	1	27-Jan-2016 00:40
Acenaphthene	**12**		**0.063**	**0.42**	**mg/Kg-dry**	100	27-Jan-2016 15:24
Acenaphthylene	**0.13**		**0.0013**	**0.0042**	**mg/Kg-dry**	1	27-Jan-2016 00:40
Anthracene	**9.4**		**0.063**	**0.42**	**mg/Kg-dry**	100	27-Jan-2016 15:24
Benz(a)anthracene	**3.5**		**0.020**	**0.042**	**mg/Kg-dry**	10	27-Jan-2016 15:04
Benzo(a)pyrene	**0.99**		**0.013**	**0.042**	**mg/Kg-dry**	10	27-Jan-2016 15:04
Bis(2-chloroethoxy)methane	U		0.0011	0.0083	mg/Kg-dry	1	27-Jan-2016 00:40
Bis(2-ethylhexyl)phthalate	U		0.0021	0.0083	mg/Kg-dry	1	27-Jan-2016 00:40
Chrysene	**3.2**		**0.010**	**0.042**	**mg/Kg-dry**	10	27-Jan-2016 15:04
Dibenzofuran	**9.0**		**0.088**	**0.42**	**mg/Kg-dry**	100	27-Jan-2016 15:24
Di-n-butyl phthalate	U		0.0015	0.0083	mg/Kg-dry	1	27-Jan-2016 00:40
Fluoranthene	**24**		**0.14**	**0.42**	**mg/Kg-dry**	100	27-Jan-2016 15:24
Fluorene	**15**		**0.14**	**0.42**	**mg/Kg-dry**	100	27-Jan-2016 15:24
Naphthalene	**23**		**0.076**	**0.42**	**mg/Kg-dry**	100	27-Jan-2016 15:24
Nitrobenzene	U		0.0011	0.0083	mg/Kg-dry	1	27-Jan-2016 00:40
N-Nitrosodiphenylamine	U		0.00088	0.0083	mg/Kg-dry	1	27-Jan-2016 00:40
Pentachlorophenol	U		0.0042	0.0083	mg/Kg-dry	1	27-Jan-2016 00:40
Phenanthrene	**41**		**0.19**	**0.42**	**mg/Kg-dry**	100	27-Jan-2016 15:24
Phenol	**0.040**		**0.0014**	**0.0083**	**mg/Kg-dry**	1	27-Jan-2016 00:40
Pyrene	**17**		**0.076**	**0.42**	**mg/Kg-dry**	100	27-Jan-2016 15:24
Surr: 2,4,6-Tribromophenol	*0*	*S*		*36-126*	*%REC*	*100*	*27-Jan-2016 15:24*
Surr: 2,4,6-Tribromophenol	*43.5*			*36-126*	*%REC*	*1*	*27-Jan-2016 00:40*
Surr: 2,4,6-Tribromophenol	*177*	*S*		*36-126*	*%REC*	*10*	*27-Jan-2016 15:04*
Surr: 2-Fluorobiphenyl	*81.8*			*43-125*	*%REC*	*10*	*27-Jan-2016 15:04*
Surr: 2-Fluorobiphenyl	*31.1*	*S*		*43-125*	*%REC*	*1*	*27-Jan-2016 00:40*
Surr: 2-Fluorobiphenyl	*0*	*S*		*43-125*	*%REC*	*100*	*27-Jan-2016 15:24*
Surr: 2-Fluorophenol	*0*	*S*		*37-125*	*%REC*	*100*	*27-Jan-2016 15:24*
Surr: 2-Fluorophenol	*50.3*			*37-125*	*%REC*	*1*	*27-Jan-2016 00:40*
Surr: 2-Fluorophenol	*90.5*			*37-125*	*%REC*	*10*	*27-Jan-2016 15:04*
Surr: 4-Terphenyl-d14	*120*			*32-125*	*%REC*	*10*	*27-Jan-2016 15:04*
Surr: 4-Terphenyl-d14	*0*	*S*		*32-125*	*%REC*	*100*	*27-Jan-2016 15:24*
Surr: 4-Terphenyl-d14	*73.2*			*32-125*	*%REC*	*1*	*27-Jan-2016 00:40*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
Sample ID: SO-1620-CSFN2(0-5)-20160126
Collection Date: 26-Jan-2016 14:00

ANALYTICAL REPORT
WorkOrder:HS16010952
Lab ID:HS16010952-07
Matrix:Soil

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES		**Method:SW8270**			Prep:SW3541 / 26-Jan-2016		Analyst: ACN
Surr: Nitrobenzene-d5	*51.6*			*37-125*	*%REC*	*1*	*27-Jan-2016 00:40*
Surr: Nitrobenzene-d5	*0*	*S*		*37-125*	*%REC*	*100*	*27-Jan-2016 15:24*
Surr: Nitrobenzene-d5	*96.3*			*37-125*	*%REC*	*10*	*27-Jan-2016 15:04*
Surr: Phenol-d6	*74.2*			*40-125*	*%REC*	*10*	*27-Jan-2016 15:04*
Surr: Phenol-d6	*0*	*S*		*40-125*	*%REC*	*100*	*27-Jan-2016 15:24*
Surr: Phenol-d6	*54.2*			*40-125*	*%REC*	*1*	*27-Jan-2016 00:40*
METALS BY SW6020A		**Method:SW6020**			Prep:SW3050A / 26-Jan-2016		Analyst: JDE
Arsenic	**1.66**		**0.116**	**0.581**	**mg/Kg-dry**	1	27-Jan-2016 12:56
Lead	**11.3**		**0.0581**	**0.581**	**mg/Kg-dry**	1	27-Jan-2016 12:56
MOISTURE - ASTM D2216		**Method:ASTM D2216**					Analyst: DFF
Percent Moisture	**21.1**		**0.0100**	**0.0100**	**wt%**	1	26-Jan-2016 15:39

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
Sample ID: SO-1620-CSFS2(0-5)-20160126
Collection Date: 26-Jan-2016 14:15

ANALYTICAL REPORT
WorkOrder:HS16010952
Lab ID:HS16010952-08
Matrix:Soil

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES	**Method:SW8270**				Prep:SW3541 / 26-Jan-2016		Analyst: ACN
1,2-Diphenylhydrazine	U		0.0013	0.0079	mg/Kg-dry	1	27-Jan-2016 01:00
2,4-Dimethylphenol	U		0.0039	0.0079	mg/Kg-dry	1	27-Jan-2016 01:00
2,4-Dinitrotoluene	U		0.0011	0.0079	mg/Kg-dry	1	27-Jan-2016 01:00
2,6-Dinitrotoluene	U		0.0039	0.0079	mg/Kg-dry	1	27-Jan-2016 01:00
2-Chloronaphthalene	U		0.0016	0.0079	mg/Kg-dry	1	27-Jan-2016 01:00
2-Methylnaphthalene	**0.092**		**0.00060**	**0.0039**	**mg/Kg-dry**	1	27-Jan-2016 01:00
4,6-Dinitro-2-methylphenol	U		0.0025	0.0079	mg/Kg-dry	1	27-Jan-2016 01:00
4-Nitrophenol	U		0.0023	0.016	mg/Kg-dry	1	27-Jan-2016 01:00
Acenaphthene	**0.097**		**0.00060**	**0.0039**	**mg/Kg-dry**	1	27-Jan-2016 01:00
Acenaphthylene	**0.15**		**0.0012**	**0.0039**	**mg/Kg-dry**	1	27-Jan-2016 01:00
Anthracene	**0.19**		**0.00060**	**0.0039**	**mg/Kg-dry**	1	27-Jan-2016 01:00
Benz(a)anthracene	**0.21**		**0.0019**	**0.0039**	**mg/Kg-dry**	1	27-Jan-2016 01:00
Benzo(a)pyrene	**0.71**		**0.0060**	**0.020**	**mg/Kg-dry**	5	27-Jan-2016 15:44
Bis(2-chloroethoxy)methane	U		0.0011	0.0079	mg/Kg-dry	1	27-Jan-2016 01:00
Bis(2-ethylhexyl)phthalate	**0.024**		**0.0020**	**0.0079**	**mg/Kg-dry**	1	27-Jan-2016 01:00
Chrysene	**0.34**		**0.00095**	**0.0039**	**mg/Kg-dry**	1	27-Jan-2016 01:00
Dibenzofuran	**0.070**		**0.00084**	**0.0039**	**mg/Kg-dry**	1	27-Jan-2016 01:00
Di-n-butyl phthalate	U		0.0014	0.0079	mg/Kg-dry	1	27-Jan-2016 01:00
Fluoranthene	**0.61**		**0.0066**	**0.020**	**mg/Kg-dry**	5	27-Jan-2016 15:44
Fluorene	**0.12**		**0.0013**	**0.0039**	**mg/Kg-dry**	1	27-Jan-2016 01:00
Naphthalene	**0.21**		**0.00072**	**0.0039**	**mg/Kg-dry**	1	27-Jan-2016 01:00
Nitrobenzene	U		0.0011	0.0079	mg/Kg-dry	1	27-Jan-2016 01:00
N-Nitrosodiphenylamine	U		0.00084	0.0079	mg/Kg-dry	1	27-Jan-2016 01:00
Pentachlorophenol	U		0.0039	0.0079	mg/Kg-dry	1	27-Jan-2016 01:00
Phenanthrene	**0.31**		**0.0018**	**0.0039**	**mg/Kg-dry**	1	27-Jan-2016 01:00
Phenol	**0.0094**		**0.0013**	**0.0079**	**mg/Kg-dry**	1	27-Jan-2016 01:00
Pyrene	**1.0**		**0.0036**	**0.020**	**mg/Kg-dry**	5	27-Jan-2016 15:44
Surr: 2,4,6-Tribromophenol	*112*			*36-126*	*%REC*	*5*	*27-Jan-2016 15:44*
Surr: 2,4,6-Tribromophenol	*109*			*36-126*	*%REC*	*1*	*27-Jan-2016 01:00*
Surr: 2-Fluorobiphenyl	*60.6*			*43-125*	*%REC*	*1*	*27-Jan-2016 01:00*
Surr: 2-Fluorobiphenyl	*79.2*			*43-125*	*%REC*	*5*	*27-Jan-2016 15:44*
Surr: 2-Fluorophenol	*71.6*			*37-125*	*%REC*	*5*	*27-Jan-2016 15:44*
Surr: 2-Fluorophenol	*56.7*			*37-125*	*%REC*	*1*	*27-Jan-2016 01:00*
Surr: 4-Terphenyl-d14	*72.5*			*32-125*	*%REC*	*1*	*27-Jan-2016 01:00*
Surr: 4-Terphenyl-d14	*89.7*			*32-125*	*%REC*	*5*	*27-Jan-2016 15:44*
Surr: Nitrobenzene-d5	*93.5*			*37-125*	*%REC*	*1*	*27-Jan-2016 01:00*
Surr: Nitrobenzene-d5	*92.9*			*37-125*	*%REC*	*5*	*27-Jan-2016 15:44*
Surr: Phenol-d6	*58.2*			*40-125*	*%REC*	*1*	*27-Jan-2016 01:00*
Surr: Phenol-d6	*78.9*			*40-125*	*%REC*	*5*	*27-Jan-2016 15:44*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
Sample ID: SO-1620-CSFS2(0-5)-20160126
Collection Date: 26-Jan-2016 14:15

ANALYTICAL REPORT
WorkOrder:HS16010952
Lab ID:HS16010952-08
Matrix:Soil

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
METALS BY SW6020A	**Method:SW6020**				Prep:SW3050A / 26-Jan-2016		Analyst: JDE
Arsenic	**1.46**		**0.112**	**0.558**	**mg/Kg-dry**	1	27-Jan-2016 13:00
Lead	**21.6**		**0.0558**	**0.558**	**mg/Kg-dry**	1	27-Jan-2016 13:00
MOISTURE - ASTM D2216	**Method:ASTM D2216**						Analyst: DFF
Percent Moisture	**16.7**		**0.0100**	**0.0100**	**wt%**	1	26-Jan-2016 15:39

Note: See Qualifiers Page for a list of qualifiers and their explanation.

WEIGHT LOG

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
WorkOrder: HS16010952

Batch ID: 100900 **Method:** LOW-LEVEL SEMIVOLATILES **Prep:** 3541_B_LOW

SampID	Container	Sample Wt/Vol	Final Volume	Prep Factor
HS16010952-01	1	30.15	1 (mL)	0.03317
HS16010952-02	1	30.11	1 (mL)	0.03321
HS16010952-03	1	30.19	1 (mL)	0.03312
HS16010952-04	1	30.17	1 (mL)	0.03315
HS16010952-05	1	30.12	1 (mL)	0.0332
HS16010952-06	1	30.18	1 (mL)	0.03313
HS16010952-07	1	30.18	1 (mL)	0.03313
HS16010952-08	1	30.17	1 (mL)	0.03315

Batch ID: 100927 **Method:** METALS BY SW6020A **Prep:** 3050_I_LOW

SampID	Container	Sample Wt/Vol	Final Volume	Prep Factor
HS16010952-01	1	0.5237	50 (mL)	95.47
HS16010952-02	1	0.5011	50 (mL)	99.78
HS16010952-03	1	0.5085	50 (mL)	98.33
HS16010952-04	1	0.5083	50 (mL)	98.37
HS16010952-05	1	0.5178	50 (mL)	96.56
HS16010952-06	1	0.5314	50 (mL)	94.09
HS16010952-07	1	0.5454	50 (mL)	91.68
HS16010952-08	1	0.5379	50 (mL)	92.95

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
WorkOrder: HS16010952

DATES REPORT

Sample ID	Client Samp ID	Collection Date	TCLP Date	Prep Date	Analysis Date	DF
Batch ID 100900	**Test Name :** LOW-LEVEL SEMIVOLATILES			**Matrix:** Soil		
HS16010952-01	SO-1620-CSFW1(0-5)-20160126	26 Jan 2016 09:15		26 Jan 2016 09:25	26 Jan 2016 22:39	1
HS16010952-02	SO-1620-CSFS1(0-5)-20160126	26 Jan 2016 10:00		26 Jan 2016 09:25	26 Jan 2016 22:59	1
HS16010952-03	SO-1620-CSFN1(0-5)-20160126	26 Jan 2016 10:15		26 Jan 2016 09:25	27 Jan 2016 14:44	5
HS16010952-03	SO-1620-CSFN1(0-5)-20160126	26 Jan 2016 10:15		26 Jan 2016 09:25	26 Jan 2016 23:19	1
HS16010952-04	SO-1620-FSB1(0-5)-20160126	26 Jan 2016 12:26		26 Jan 2016 09:25	27 Jan 2016 13:03	1
HS16010952-05	SO-1620-FSB2(0-5)-20160126	26 Jan 2016 13:05		26 Jan 2016 09:25	27 Jan 2016 13:23	1
HS16010952-06	SO-1620-FSB3(0-5)-20160126	26 Jan 2016 13:40		26 Jan 2016 09:25	27 Jan 2016 16:05	1
HS16010952-07	SO-1620-CSFN2(0-5)-20160126	26 Jan 2016 14:00		26 Jan 2016 09:25	27 Jan 2016 15:24	100
HS16010952-07	SO-1620-CSFN2(0-5)-20160126	26 Jan 2016 14:00		26 Jan 2016 09:25	27 Jan 2016 15:04	10
HS16010952-07	SO-1620-CSFN2(0-5)-20160126	26 Jan 2016 14:00		26 Jan 2016 09:25	27 Jan 2016 00:40	1
HS16010952-08	SO-1620-CSFS2(0-5)-20160126	26 Jan 2016 14:15		26 Jan 2016 09:25	27 Jan 2016 15:44	5
HS16010952-08	SO-1620-CSFS2(0-5)-20160126	26 Jan 2016 14:15		26 Jan 2016 09:25	27 Jan 2016 01:00	1
Batch ID 100927	**Test Name :** METALS BY SW6020A			**Matrix:** Soil		
HS16010952-01	SO-1620-CSFW1(0-5)-20160126	26 Jan 2016 09:15		26 Jan 2016 20:36	27 Jan 2016 12:04	1
HS16010952-02	SO-1620-CSFS1(0-5)-20160126	26 Jan 2016 10:00		26 Jan 2016 20:36	27 Jan 2016 12:34	1
HS16010952-03	SO-1620-CSFN1(0-5)-20160126	26 Jan 2016 10:15		26 Jan 2016 20:36	27 Jan 2016 12:38	1
HS16010952-04	SO-1620-FSB1(0-5)-20160126	26 Jan 2016 12:26		26 Jan 2016 20:36	27 Jan 2016 12:43	1
HS16010952-05	SO-1620-FSB2(0-5)-20160126	26 Jan 2016 13:05		26 Jan 2016 20:36	27 Jan 2016 12:47	1
HS16010952-06	SO-1620-FSB3(0-5)-20160126	26 Jan 2016 13:40		26 Jan 2016 20:36	27 Jan 2016 12:51	1
HS16010952-07	SO-1620-CSFN2(0-5)-20160126	26 Jan 2016 14:00		26 Jan 2016 20:36	27 Jan 2016 12:56	1
HS16010952-08	SO-1620-CSFS2(0-5)-20160126	26 Jan 2016 14:15		26 Jan 2016 20:36	27 Jan 2016 13:00	1
Batch ID R268289	**Test Name :** MOISTURE - ASTM D2216			**Matrix:** Soil		
HS16010952-01	SO-1620-CSFW1(0-5)-20160126	26 Jan 2016 09:15			26 Jan 2016 15:39	1
HS16010952-02	SO-1620-CSFS1(0-5)-20160126	26 Jan 2016 10:00			26 Jan 2016 15:39	1
HS16010952-03	SO-1620-CSFN1(0-5)-20160126	26 Jan 2016 10:15			26 Jan 2016 15:39	1
HS16010952-04	SO-1620-FSB1(0-5)-20160126	26 Jan 2016 12:26			26 Jan 2016 15:39	1
HS16010952-05	SO-1620-FSB2(0-5)-20160126	26 Jan 2016 13:05			26 Jan 2016 15:39	1
HS16010952-06	SO-1620-FSB3(0-5)-20160126	26 Jan 2016 13:40			26 Jan 2016 15:39	1
HS16010952-07	SO-1620-CSFN2(0-5)-20160126	26 Jan 2016 14:00			26 Jan 2016 15:39	1
HS16010952-08	SO-1620-CSFS2(0-5)-20160126	26 Jan 2016 14:15			26 Jan 2016 15:39	1

WorkOrder: HS16010952
InstrumentID: ICPMS04
Test Code: ICP_S_Low
Test Number: SW6020
Test Name: Metals by SW6020A

METHOD DETECTION / REPORTING LIMITS

Matrix: Solid **Units:** mg/Kg

Type	Analyte	CAS	DCS Spike	DCS	MDL	PQL
A	Arsenic	7440-38-2	0.100	0.119	0.100	0.500
A	Lead	7439-92-1	0.100	0.0949	0.0500	0.500

WorkOrder: HS16010952
InstrumentID: SV-4
Test Code: 8270_LOW_S
Test Number: SW8270
Test Name: Low-Level Semivolatiles

METHOD DETECTION / REPORTING LIMITS

Matrix: Solid **Units:** mg/Kg

Type	Analyte	CAS	DCS Spike	DCS	MDL	PQL
A	1,2-Diphenylhydrazine	122-66-7	0.0033	0.0029	0.0011	0.0066
A	2,4-Dimethylphenol	105-67-9	0.0033	0.00084	0.0033	0.0066
A	2,4-Dinitrotoluene	121-14-2	0.0033	0.0025	0.00090	0.0066
A	2,6-Dinitrotoluene	606-20-2	0.0033	0.0030	0.0033	0.0066
A	2-Chloronaphthalene	91-58-7	0.0033	0.0025	0.0013	0.0066
A	2-Methylnaphthalene	91-57-6	0.0033	0.0034	0.00050	0.0033
A	4,6-Dinitro-2-methylphenol	534-52-1	0.0033	0.0036	0.0021	0.0066
A	4-Nitrophenol	100-02-7	0.0033	0.0043	0.0019	0.013
A	Acenaphthene	83-32-9	0.0033	0.0029	0.00050	0.0033
A	Acenaphthene	83-32-9	0.0017	0.0015	0.00050	0.0033
A	Acenaphthylene	208-96-8	0.0017	0.0017	0.0010	0.0033
A	Acenaphthylene	208-96-8	0.0033	0.0023	0.0010	0.0033
A	Anthracene	120-12-7	0.0017	0.0017	0.00050	0.0033
A	Anthracene	120-12-7	0.0033	0.0031	0.00050	0.0033
A	Benz(a)anthracene	56-55-3	0.0033	0.0032	0.0016	0.0033
A	Benz(a)anthracene	56-55-3	0.0017	0.0020	0.0016	0.0033
A	Benzo(a)pyrene	50-32-8	0.0017	0.0018	0.0010	0.0033
A	Benzo(a)pyrene	50-32-8	0.0033	0.0032	0.0010	0.0033
A	Bis(2-chloroethoxy)methane	111-91-1	0.0033	0.0033	0.00090	0.0066
A	Bis(2-ethylhexyl)phthalate	117-81-7	0.0033	0.0060	0.0017	0.0066
A	Chrysene	218-01-9	0.0033	0.0044	0.00080	0.0033
A	Chrysene	218-01-9	0.0017	0.0017	0.00080	0.0033
A	Dibenzofuran	132-64-9	0.0033	0.0028	0.00070	0.0033
A	Di-n-butyl phthalate	84-74-2	0.0033	0.0038	0.0012	0.0066
A	Fluoranthene	206-44-0	0.0033	0.0038	0.0011	0.0033
A	Fluoranthene	206-44-0	0.0017	0.0019	0.0011	0.0033
A	Fluorene	86-73-7	0.0017	0.0015	0.0011	0.0033
A	Fluorene	86-73-7	0.0033	0.0027	0.0011	0.0033
A	Naphthalene	91-20-3	0.0017	0.0019	0.00060	0.0033
A	Naphthalene	91-20-3	0.0033	0.0034	0.00060	0.0033
A	Nitrobenzene	98-95-3	0.0033	0.0038	0.00090	0.0066
A	N-Nitrosodiphenylamine	86-30-6	0.0033	0.0037	0.00070	0.0066
A	Pentachlorophenol	87-86-5	0.0033	0.0023	0.0033	0.0066
A	Phenanthrene	85-01-8	0.0033	0.0031	0.0015	0.0033
A	Phenanthrene	85-01-8	0.0017	0.0017	0.0015	0.0033
A	Phenol	108-95-2	0.0033	0.0038	0.0011	0.0066
A	Pyrene	129-00-0	0.0017	0.0019	0.00060	0.0033
A	Pyrene	129-00-0	0.0033	0.0045	0.00060	0.0033
S	2,4,6-Tribromophenol	118-79-6	0	0	0	0
S	2-Fluorobiphenyl	321-60-8	0	0	0	0
S	2-Fluorophenol	367-12-4	0	0	0	0

WorkOrder: HS16010952
InstrumentID: SV-4
Test Code: 8270_LOW_S
Test Number: SW8270
Test Name: Low-Level Semivolatiles

METHOD DETECTION / REPORTING LIMITS

Matrix: Solid **Units:** mg/Kg

Type	Analyte	CAS	DCS Spike	DCS	MDL	PQL
S	4-Terphenyl-d14	1718-51-0	0	0	0	0
S	Nitrobenzene-d5	4165-60-0	0	0	0	0
S	Phenol-d6	13127-88-3	0	0	0	0

WorkOrder: HS16010952
InstrumentID: Balance1
Test Code: MOIST_ASTM
Test Number: ASTM D2216
Test Name: Moisture - ASTM D2216

METHOD DETECTION / REPORTING LIMITS

Matrix: Solid **Units:** wt%

Type	Analyte	CAS	DCS Spike	DCS	MDL	PQL
A	Percent Moisture	MOIST	0.0100	0.0100	0.0100	0.0100

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
WorkOrder: HS16010952

QC BATCH REPORT

Batch ID: 100927 **Instrument: ICPMS04** **Method: SW6020**

MBLK Sample ID: **MBLK-100927** Units: **mg/Kg** Analysis Date: **27-Jan-2016 11:55**
Client ID: Run ID: **ICPMS04_268301** SeqNo: **3565618** PrepDate: **26-Jan-2016** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	U	0.500								
Lead	U	0.500								

LCS Sample ID: **MLCS-100927** Units: **mg/Kg** Analysis Date: **27-Jan-2016 12:00**
Client ID: Run ID: **ICPMS04_268301** SeqNo: **3565619** PrepDate: **26-Jan-2016** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	4.279	0.500	5	0	85.6	80 - 120				
Lead	4.573	0.500	5	0	91.5	80 - 120				

MS Sample ID: **HS16010952-01MS** Units: **mg/Kg** Analysis Date: **27-Jan-2016 12:13**
Client ID: **SO-1620-CSFW1(0-5)-20160126** Run ID: **ICPMS04_268301** SeqNo: **3565622** PrepDate: **26-Jan-2016** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	5.196	0.485	4.852	1.209	82.2	75 - 125				
Lead	17.69	0.485	4.852	13.95	77.0	75 - 125				

MSD Sample ID: **HS16010952-01MSD** Units: **mg/Kg** Analysis Date: **27-Jan-2016 12:17**
Client ID: **SO-1620-CSFW1(0-5)-20160126** Run ID: **ICPMS04_268301** SeqNo: **3565623** PrepDate: **26-Jan-2016** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	4.925	0.470	4.701	1.209	79.0	75 - 125	5.196	5.35	20	
Lead	16.5	0.470	4.701	13.95	54.2	75 - 125	17.69	6.95	20	S

PDS Sample ID: **HS16010952-01BS** Units: **mg/Kg** Analysis Date: **27-Jan-2016 12:21**
Client ID: **SO-1620-CSFW1(0-5)-20160126** Run ID: **ICPMS04_268301** SeqNo: **3565624** PrepDate: **26-Jan-2016** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	9.564	0.477	9.547	1.209	87.5	75 - 125				
Lead	22.22	0.477	9.547	13.95	86.6	75 - 125				

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
WorkOrder: HS16010952

QC BATCH REPORT

Batch ID: 100927 **Instrument: ICPMS04** **Method: SW6020**

SD Sample ID: **HS16010952-01 DIL SX** Units: **mg/Kg** Analysis Date: **27-Jan-2016 12:08**
Client ID: **SO-1620-CSFW1(0-5)-20160126** Run ID: **ICPMS04_268301** SeqNo: **3565621** PrepDate: **26-Jan-2016** DF: **5**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%D	%D Limit	Qual
Arsenic	1.289	2.39					1.209	0	10	J
Lead	14.42	2.39					13.95	3.39	10	

The following samples were anayzed in this batch:

HS16010952-01	HS16010952-02	HS16010952-03	HS16010952-04
HS16010952-05	HS16010952-06	HS16010952-07	HS16010952-08

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
WorkOrder: HS16010952

QC BATCH REPORT

Batch ID: 100900 **Instrument: SV-4** **Method: SW8270**

MBLK Sample ID: **MBLK-100900** Units: **ug/Kg** Analysis Date: **27-Jan-2016 12:23**
Client ID: Run ID: **SV-4_268324** SeqNo: **3565910** PrepDate: **26-Jan-2016** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Diphenylhydrazine	U	6.6								
2,4-Dimethylphenol	U	6.6								
2,4-Dinitrotoluene	U	6.6								
2,6-Dinitrotoluene	U	6.6								
2-Chloronaphthalene	U	6.6								
2-Methylnaphthalene	U	3.3								
4,6-Dinitro-2-methylphenol	U	6.6								
4-Nitrophenol	U	13								
Acenaphthene	U	3.3								
Acenaphthylene	U	3.3								
Anthracene	U	3.3								
Benz(a)anthracene	U	3.3								
Benzo(a)pyrene	U	3.3								
Bis(2-chloroethoxy)methane	U	6.6								
Bis(2-ethylhexyl)phthalate	U	6.6								
Chrysene	U	3.3								
Dibenzofuran	U	3.3								
Di-n-butyl phthalate	U	6.6								
Fluoranthene	U	3.3								
Fluorene	U	3.3								
Naphthalene	U	3.3								
Nitrobenzene	U	6.6								
N-Nitrosodiphenylamine	U	6.6								
Pentachlorophenol	U	6.6								
Phenanthrene	U	3.3								
Phenol	U	6.6								
Pyrene	U	3.3								
Surr: 2,4,6-Tribromophenol	*127*	*0*	*167*	*0*	*76.0*	*36 - 126*				
Surr: 2-Fluorobiphenyl	*142.2*	*0*	*167*	*0*	*85.2*	*43 - 125*				
Surr: 2-Fluorophenol	*118.1*	*0*	*167*	*0*	*70.7*	*37 - 125*				
Surr: 4-Terphenyl-d14	*135.7*	*0*	*167*	*0*	*81.3*	*32 - 125*				
Surr: Nitrobenzene-d5	*152.2*	*0*	*167*	*0*	*91.1*	*37 - 125*				
Surr: Phenol-d6	*119.1*	*0*	*167*	*0*	*71.3*	*40 - 125*				

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
WorkOrder: HS16010952

QC BATCH REPORT

Batch ID: 100900 **Instrument: SV-4** **Method: SW8270**

LCS Sample ID: **LCS-100900** Units: **ug/Kg** Analysis Date: **26-Jan-2016 20:59**
Client ID: Run ID: **SV-4_268324** SeqNo: **3565851** PrepDate: **26-Jan-2016** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Diphenylhydrazine	129.5	6.6	167	0	77.5	50 - 135				
2,4-Dimethylphenol	135.7	6.6	167	0	81.2	45 - 120				
2,4-Dinitrotoluene	142.1	6.6	167	0	85.1	50 - 130				
2,6-Dinitrotoluene	142.3	6.6	167	0	85.2	50 - 125				
2-Chloronaphthalene	110.2	6.6	167	0	66.0	50 - 145				
2-Methylnaphthalene	142.6	3.3	167	0	85.4	50 - 120				
4,6-Dinitro-2-methylphenol	159.3	6.6	167	0	95.4	15 - 135				
4-Nitrophenol	124.9	13	167	0	74.8	40 - 147				
Acenaphthene	129.3	3.3	167	0	77.5	50 - 120				
Acenaphthylene	121.6	3.3	167	0	72.8	50 - 120				
Anthracene	135.1	3.3	167	0	80.9	50 - 123				
Benz(a)anthracene	140.1	3.3	167	0	83.9	50 - 131				
Benzo(a)pyrene	138.9	3.3	167	0	83.1	50 - 130				
Bis(2-chloroethoxy)methane	127.4	6.6	167	0	76.3	50 - 120				
Bis(2-ethylhexyl)phthalate	182.6	6.6	167	0	109	21 - 148				
Chrysene	130.7	3.3	167	0	78.3	50 - 130				
Dibenzofuran	130.6	3.3	167	0	78.2	50 - 125				
Di-n-butyl phthalate	153.1	6.6	167	0	91.7	50 - 140				
Fluoranthene	149.8	3.3	167	0	89.7	50 - 131				
Fluorene	138.4	3.3	167	0	82.9	50 - 125				
Naphthalene	135.7	3.3	167	0	81.3	50 - 125				
Nitrobenzene	137.2	6.6	167	0	82.1	50 - 125				
N-Nitrosodiphenylamine	165.4	6.6	167	0	99.1	50 - 130				
Pentachlorophenol	130.6	6.6	167	0	78.2	23 - 136				
Phenanthrene	136.8	3.3	167	0	81.9	50 - 125				
Phenol	119.7	6.6	167	0	71.7	45 - 130				
Pyrene	160.1	3.3	167	0	95.9	45 - 130				
Surr: 2,4,6-Tribromophenol	*125.9*	*0*	*167*	*0*	*75.4*	*36 - 126*				
Surr: 2-Fluorobiphenyl	*134.7*	*0*	*167*	*0*	*80.7*	*43 - 125*				
Surr: 2-Fluorophenol	*122.2*	*0*	*167*	*0*	*73.1*	*37 - 125*				
Surr: 4-Terphenyl-d14	*134.7*	*0*	*167*	*0*	*80.6*	*32 - 125*				
Surr: Nitrobenzene-d5	*132.7*	*0*	*167*	*0*	*79.4*	*37 - 125*				
Surr: Phenol-d6	*119.2*	*0*	*167*	*0*	*71.4*	*40 - 125*				

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
WorkOrder: HS16010952

QC BATCH REPORT

Batch ID: 100900 **Instrument: SV-4** **Method: SW8270**

MS Sample ID: **HS16010921-01MS** Units: **ug/Kg** Analysis Date: **26-Jan-2016 21:59**
Client ID: Run ID: **SV-4_268324** SeqNo: **3565853** PrepDate: **26-Jan-2016** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Diphenylhydrazine	165.4	9.8	248.4	0	66.6	50 - 135				
2,4-Dimethylphenol	171.3	9.8	248.4	0	69.0	45 - 120				
2,4-Dinitrotoluene	180.4	9.8	248.4	0	72.6	50 - 130				
2,6-Dinitrotoluene	190	9.8	248.4	0	76.5	50 - 125				
2-Chloronaphthalene	145.3	9.8	248.4	0	58.5	50 - 145				
2-Methylnaphthalene	168.6	4.9	248.4	0	67.9	50 - 120				
4,6-Dinitro-2-methylphenol	182.1	9.8	248.4	0	73.3	15 - 135				
4-Nitrophenol	156.9	20	248.4	0	63.2	40 - 147				
Acenaphthene	148.9	4.9	248.4	0	60.0	50 - 120				
Acenaphthylene	147.9	4.9	248.4	0	59.6	50 - 120				
Anthracene	185.3	4.9	248.4	0	74.6	50 - 123				
Benz(a)anthracene	193.2	4.9	248.4	0	77.8	50 - 131				
Benzo(a)pyrene	191.5	4.9	248.4	0	77.1	50 - 130				
Bis(2-chloroethoxy)methane	171.2	9.8	248.4	0	68.9	50 - 120				
Bis(2-ethylhexyl)phthalate	277.6	9.8	248.4	5.286	110	21 - 148				
Chrysene	178.1	4.9	248.4	0	71.7	50 - 130				
Dibenzofuran	161.8	4.9	248.4	0	65.1	50 - 125				
Di-n-butyl phthalate	211.8	9.8	248.4	0	85.3	50 - 140				
Fluoranthene	206.2	4.9	248.4	0	83.0	50 - 131				
Fluorene	160.5	4.9	248.4	0	64.6	50 - 125				
Naphthalene	175.2	4.9	248.4	0	70.5	50 - 125				
Nitrobenzene	172.5	9.8	248.4	0	69.4	50 - 125				
N-Nitrosodiphenylamine	207.9	9.8	248.4	0	83.7	50 - 130				
Pentachlorophenol	181.7	9.8	248.4	0	73.1	23 - 136				
Phenanthrene	181.5	4.9	248.4	0	73.1	50 - 125				
Phenol	164.5	9.8	248.4	3.103	65.0	45 - 130				
Pyrene	227.9	4.9	248.4	0	91.7	45 - 130				
Surr: 2,4,6-Tribromophenol	*184.5*	*0*	*248.4*	*0*	*74.3*	*36 - 126*				
Surr: 2-Fluorobiphenyl	*172.3*	*0*	*248.4*	*0*	*69.4*	*43 - 125*				
Surr: 2-Fluorophenol	*146.8*	*0*	*248.4*	*0*	*59.1*	*37 - 125*				
Surr: 4-Terphenyl-d14	*182.5*	*0*	*248.4*	*0*	*73.5*	*32 - 125*				
Surr: Nitrobenzene-d5	*182.9*	*0*	*248.4*	*0*	*73.6*	*37 - 125*				
Surr: Phenol-d6	*150.2*	*0*	*248.4*	*0*	*60.5*	*40 - 125*				

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
WorkOrder: HS16010952

QC BATCH REPORT

Batch ID: 100900 **Instrument: SV-4** **Method: SW8270**

MSD Sample ID: **HS16010921-01MSD** Units: **ug/Kg** Analysis Date: **26-Jan-2016 22:19**
Client ID: Run ID: **SV-4_268324** SeqNo: **3565854** PrepDate: **26-Jan-2016** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual
1,2-Diphenylhydrazine	186.3	9.8	248.6	0	74.9	50 - 135	165.4	11.9	30	
2,4-Dimethylphenol	197.1	9.8	248.6	0	79.3	45 - 120	171.3	14	30	
2,4-Dinitrotoluene	224	9.8	248.6	0	90.1	50 - 130	180.4	21.5	30	
2,6-Dinitrotoluene	206.7	9.8	248.6	0	83.1	50 - 125	190	8.4	30	
2-Chloronaphthalene	181.9	9.8	248.6	0	73.2	50 - 145	145.3	22.4	30	
2-Methylnaphthalene	194.4	4.9	248.6	0	78.2	50 - 120	168.6	14.2	30	
4,6-Dinitro-2-methylphenol	228.6	9.8	248.6	0	91.9	15 - 135	182.1	22.6	30	
4-Nitrophenol	173.9	20	248.6	0	69.9	40 - 147	156.9	10.3	30	
Acenaphthene	177.8	4.9	248.6	0	71.5	50 - 120	148.9	17.7	30	
Acenaphthylene	175.9	4.9	248.6	0	70.8	50 - 120	147.9	17.3	30	
Anthracene	207.1	4.9	248.6	0	83.3	50 - 123	185.3	11.1	30	
Benz(a)anthracene	201	4.9	248.6	0	80.8	50 - 131	193.2	3.95	30	
Benzo(a)pyrene	181.7	4.9	248.6	0	73.1	50 - 130	191.5	5.27	30	
Bis(2-chloroethoxy)methane	193.7	9.8	248.6	0	77.9	50 - 120	171.2	12.3	30	
Bis(2-ethylhexyl)phthalate	287.3	9.8	248.6	5.286	113	21 - 148	277.6	3.44	30	
Chrysene	186.9	4.9	248.6	0	75.2	50 - 130	178.1	4.8	30	
Dibenzofuran	185.5	4.9	248.6	0	74.6	50 - 125	161.8	13.7	30	
Di-n-butyl phthalate	239.3	9.8	248.6	0	96.2	50 - 140	211.8	12.2	30	
Fluoranthene	232.5	4.9	248.6	0	93.5	50 - 131	206.2	12	30	
Fluorene	194.6	4.9	248.6	0	78.3	50 - 125	160.5	19.2	30	
Naphthalene	192.8	4.9	248.6	0	77.6	50 - 125	175.2	9.57	30	
Nitrobenzene	192.9	9.8	248.6	0	77.6	50 - 125	172.5	11.2	30	
N-Nitrosodiphenylamine	235.7	9.8	248.6	0	94.8	50 - 130	207.9	12.5	30	
Pentachlorophenol	195.9	9.8	248.6	0	78.8	23 - 136	181.7	7.54	30	
Phenanthrene	203.7	4.9	248.6	0	81.9	50 - 125	181.5	11.5	30	
Phenol	170	9.8	248.6	3.103	67.1	45 - 130	164.5	3.29	30	
Pyrene	235.1	4.9	248.6	0	94.6	45 - 130	227.9	3.13	30	
Surr: 2,4,6-Tribromophenol	*190.6*	*0*	*248.6*	*0*	*76.7*	*36 - 126*	*184.5*	*3.26*	*30*	
Surr: 2-Fluorobiphenyl	*185.6*	*0*	*248.6*	*0*	*74.6*	*43 - 125*	*172.3*	*7.41*	*30*	
Surr: 2-Fluorophenol	*157*	*0*	*248.6*	*0*	*63.2*	*37 - 125*	*146.8*	*6.73*	*30*	
Surr: 4-Terphenyl-d14	*187.2*	*0*	*248.6*	*0*	*75.3*	*32 - 125*	*182.5*	*2.52*	*30*	
Surr: Nitrobenzene-d5	*182.6*	*0*	*248.6*	*0*	*73.5*	*37 - 125*	*182.9*	*0.16*	*30*	
Surr: Phenol-d6	*169.4*	*0*	*248.6*	*0*	*68.1*	*40 - 125*	*150.2*	*12*	*30*	

The following samples were anayzed in this batch: HS16010952-01, HS16010952-02, HS16010952-03, HS16010952-04, HS16010952-05, HS16010952-06, HS16010952-07, HS16010952-08

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
WorkOrder: HS16010952

QC BATCH REPORT

Batch ID: **R268289** **Instrument:** **Balance1** **Method:** **ASTM D2216**

DUP Sample ID: **HS16010952-08DUP** Units: **wt%** Analysis Date: **26-Jan-2016 15:39**
Client ID: **SO-1620-CSFS2(0-5)-20160126** Run ID: **Balance1_268289** SeqNo: **3565140** PrepDate: DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Percent Moisture	17.6	0.0100					16.7	5.25	20	

The following samples were anayzed in this batch: HS16010952-01, HS16010952-02, HS16010952-03, HS16010952-04, HS16010952-05, HS16010952-06, HS16010952-07, HS16010952-08

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
WorkOrder: **HS16010952**

QUALIFIERS, ACRONYMS, UNITS

Qualifier	Description
*	Value exceeds Regulatory Limit
a	Not accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte detected below quantitation limit
M	Manually integrated, see raw data for justification
n	Not offered for accreditation
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL/SDL

Acronym	Description
DCS	Detectability Check Study
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
MBLK	Method Blank
MDL	Method Detection Limit
MQL	Method Quantitation Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PDS	Post Digestion Spike
PQL	Practical Quantitaion Limit
SD	Serial Dilution
SDL	Sample Detection Limit
TRRP	Texas Risk Reduction Program

Unit Reported	Description
mg/Kg-dry	Milligrams per Kilogram- Dry weight corrected

CERTIFICATIONS,ACCREDITATIONS & LICENSES

Agency	Number	Expire Date
Arkansas	15-024-0	27-Mar-2016
California	2919	31-Jul-2016
Illinois	003622	09-May-2016
Kansas	E-10352 2014-2015	31-Jan-2016
Kentucky	KY 2015-2016	30-Apr-2016
Louisiana	03087 2015/2016	30-Jun-2016
North Carolina	624 - 2016	31-Dec-2016
North Dakota	R-193 2015-2016	30-Apr-2016
Oklahoma	2015-047	31-Aug-2016
Texas	T104704231-15-15	30-Apr-2016

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
Work Order: HS16010952

SAMPLE TRACKING

Lab Samp ID	Client Sample ID	Action	Date	Person	New Location
HS16010952-01	SO-1620-CSFW1(0-5)-20160126	Login	1/26/2016 3:30:29 PM	CGG	10D
HS16010952-02	SO-1620-CSFS1(0-5)-20160126	Login	1/26/2016 3:30:29 PM	CGG	10D
HS16010952-03	SO-1620-CSFN1(0-5)-20160126	Login	1/26/2016 3:30:29 PM	CGG	10D
HS16010952-04	SO-1620-FSB1(0-5)-20160126	Login	1/26/2016 3:30:29 PM	CGG	10D
HS16010952-05	SO-1620-FSB2(0-5)-20160126	Login	1/26/2016 3:30:29 PM	CGG	10D
HS16010952-06	SO-1620-FSB3(0-5)-20160126	Login	1/26/2016 3:30:29 PM	CGG	10D
HS16010952-07	SO-1620-CSFN2(0-5)-20160126	Login	1/26/2016 3:30:29 PM	CGG	10D
HS16010952-08	SO-1620-CSFS2(0-5)-20160126	Login	1/26/2016 3:30:29 PM	CGG	10D

Sample Receipt Checklist

Client Name: PBW
Work Order: HS16010952

Date/Time Received: **26-Jan-2016 15:00**
Received by: **CGG**

Checklist completed by: *Corey Grandits* eSignature — 26-Jan-2016 Date

Reviewed by: *Dane J. Wacasey* eSignature — 26-Jan-2016 Date

Matrices: **Soil**

Carrier name: **Client**

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on shipping container/cooler?	Yes ☐	No ☐	Not Present ☑
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☑	No ☐	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
TX1005 solids received in hermetically sealed vials?	Yes ☐	No ☐	N/A ☑
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time?	Yes ☑	No ☐	
Container/Temp Blank temperature in compliance?	Yes ☑	No ☐	
Temperature(s)/Thermometer(s):	0.4c/0.9c uc.c	IR#5	
Cooler(s)/Kit(s):	24624		
Date/Time sample(s) sent to storage:	01/26/2016 15:35		
Water - VOA vials have zero headspace?	Yes ☐	No ☐	No VOA vials submitted ☑
Water - pH acceptable upon receipt?	Yes ☐	No ☐	N/A ☑
pH adjusted?	Yes ☐	No ☐	N/A ☑
pH adjusted by:			

Login Notes:

Client Contacted: Date Contacted: Person Contacted:

Contacted By: 0 Regarding:

Comments:

Corrective Action:

ALS Environmental

Cincinnati, OH +1 513 733 5336 | Fort Collins, CO +1 970 490 1511
Everett, WA +1 425 356 2600 | Holland, MI +1 616 399 6070

Chain of Custody Forr

Page _____ of _____

COC ID: 135245

HS16010952

, WV

Pastor, Behling & Wheeler, LLC
1620-10-Rev1 HoustonTX-Wood

ALS Project Manager:

Customer Information		Project Information			
Purchase Order	UPRR	Project Name	1620-10-Rev1 HoustonTX-Wood	A	8270_LOW_S (5632532 SemiVolatiles)
Work Order		Project Number	1620-10-Rev1	B	ICP_S_Low (5636002 5652646 Metals - As, Pb)
Company Name	Pastor, Behling & Wheeler, LLC	Bill To Company	Union Pacific Railroad- A/P	C	MOIST_ASTM (5631931 Gen.Chem. MOIST%)
Send Report To	Eric Matzner	Invoice Attn	Accounts Payable	D	
Address	2201 Double Creek Drive Suite 4004	Address	1400 Douglas Street Stop 0750	E	
				F	
City/State/Zip	Round Rock, TX 78664	City/State/Zip	Omaha, NE 681790750	G	
Phone	(512) 671-3434	Phone		H	
Fax	(512) 671-3446	Fax		I	
e-Mail Address		e-Mail Address		J	

No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
1	SO-1620-CSFW1(0-5)-20160126	01/26/2016	915	Soil	8	1	X	X	X								
2	SO-1620-CSFS1(0-5)-20160126	01/26/2016	1000	Soil	8	1	X	X	X								
3	SO-1620-CSFN1(0-5)-20160126	01/26/2016	1015	Soil	8	1	X	X	X								
4	SO-1620-FSB1(0-5)-20160126	01/26/2016	1220	Soil	8	1	X	X	X								
5	SO-1620-FSB2(0-5)-20160126	01/26/2016	1305	Soil	8	1	X	X	X								
6	SO-1620-FSB3(0-5)-20160126	01/26/2016	1340	Soil	8	1	X	X	X								
7	SO-1620-CSFN2(0-5)-20160126	01/26/2016	1400	Soil	8	1	X	X	X								
8	SO-1620-CSF																
9	SO-1620-CSFS2(0-5)-20160126	01/26/2016	1415	Soil	8	1	X	X	X								
10																	

Sampler(s) Please Print & Sign: Christopher Kalkowski

Shipment Method:

Required Turnaround Time: (Check Box) TAT 1 days Other

Results Due Date:

Relinquished by:	Date: 1/26/16	Time: 1500	Received by:	Notes: UPRR Houston MWRW1	
Relinquished by:	Date:	Time:	Received by (Laboratory): CC 1/26/16 1500	Cooler ID: 24624, IR5	Cooler Temp.: 0.4, UIL
Logged by (Laboratory):	Date:	Time:	Checked by (Laboratory):		

QC Package: (Check One Box Below)
QC Level: TRRP LRC
Other:

Preservative Key: 1-HCl 2-HNO_3 3-H_2SO_4 4-NaOH 5-$Na_2S_2O_3$ 6-$NaHSO_4$ 7-Other 8-4°C 9-5035

Note:
1. Any changes must be made in writing once samples and COC Form have been submitted to ALS Environmental.
2. Unless otherwise agreed in a formal contract, services provided by ALS Environmental are expressly limited to the terms and conditions stated on the reverse.
3. The Chain of Custody is a legal document. All information must be completed accurately.

10450 Stancliff Rd. Suite 210
Houston, TX 77099
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F: +1 281 530 5887
www.alsglobal.com

January 29, 2016

Eric Matzner
Pastor, Behling & Wheeler, LLC
2201 Double Creek Drive
Suite 4004
Round Rock, TX 78664

Work Order: **HS16011020**

Laboratory Results for: **1620-10-Rev1 HoustonTX-Wood**

Dear Eric,

ALS Environmental received 8 sample(s) on Jan 27, 2016 for the analysis presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested. Results are expressed as "as received" unless otherwise noted.

QC sample results for this data met EPA or laboratory specifications except as noted in the Case Narrative or as noted with qualifiers in the QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained by ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

If you have any questions regarding this report, please feel free to call me.

Sincerely,

Generated By: Dane.Wacasey
Dane J. Wacasey

Client:	Pastor, Behling & Wheeler, LLC	**TRRP Laboratory Data Package Cover Page**
Project:	1620-10-Rev1 HoustonTX-Wood	
WorkOrder:	**HS16011020**	

This data package consists of all or some of the following as applicable:

This signature page, the laboratory review checklist, and the following reportable data:

R1 Field chain-of-custody documentation;

R2 Sample identification cross-reference;

R3 Test reports (analytical data sheets) for each environmental sample that includes:

a) Items consistent with NELAC Chapter 5,
b) dilution factors,
c) preparation methods,
d) cleanup methods, and
e) if required for the project, tentatively identified compounds (TICs).

R4 Surrogate recovery data including:

a) Calculated recovery (%R), and
b) The laboratory's surrogate QC limits.

R5 Test reports/summary forms for blank samples;

R6 Test reports/summary forms for laboratory control samples (LCSs) including:

a) LCS spiking amounts,
b) Calculated %R for each analyte, and
c)The laboratory's LCS QC limits.

R7 Test reports for project matrix spike/matrix spike duplicates (MS/MSDs) including:

a) Samples associated with the MS/MSD clearly identified,
b) MS/MSD spiking amounts,
c) Concentration of each MS/MSD analyte measured in the parent and spiked samples,
d) Calculated %Rs and relative percent differences (RPDs), and
e) The laboratory's MS/MSD QC limits.

R8 Laboratory analytical duplicate (if applicable) recovery and precision:

a) the amount of analyte measured in the duplicate,
b) the calculated RPD, and
c) the laboratory's QC limits for analytical duplicates.

R9 List of method quantitation limits (MQLs) and detectability check sample results for each analyte for each method and matrix.

R10 Other problems or anomalies.
The Exception Report for each "No" or "Not Reviewed (NR)" item in Laboratory Review Checklist and for each analyte, matrix, and method for which the laboratory does not hold NELAC accreditation under the Texas Laboratory Accreditation Program.

Client:	Pastor, Behling & Wheeler, LLC
Project:	1620-10-Rev1 HoustonTX-Wood
WorkOrder:	**HS16011020**

TRRP Laboratory Data Package Cover Page

Release Statement: I am responsible for the release of this laboratory data package. This laboratory is NELAC accredited under the Texas Laboratory Accreditation Program for all the methods, analytes and matrices reported in this data package except as noted in the Exception Reports. The data have been reviewed and are technically compliant with the requirements of the methods used, except where noted by the laboratory in the attached exception reports. By my signature below, I affirm to the best of my knowledge, all problems/anomalies, observed by the laboratory have been identified by the laboratory in the Laboratory Review Checklist, and no information affecting the quality of the data has been knowingly withheld.

Check, if applicable: [NA] This laboratory meets an exception under 30 TAC §25.6 and was last inspected by [ ] TCEQ or [ ] _____ on (enter date of last inspection). Any findings affecting the data in this laboratory data package are noted in the Exception Reports herein. The official signing the cover page of the report in which these data are used is responsible for releasing this data package and is by signature affirming the above release statement is true.

Dane J. Wacasey

Laboratory Review Checklist: Reportable Data								
Laboratory Name: ALS Laboratory Group			LRC Date: 01/29/2016					
Project Name: 1620-10-Rev1 HoustonTX-Wood			Laboratory Job Number: HS16011020					
Reviewer Name: Dane Wacasey			Prep Batch Number(s): 100953, 100963, R268372					
#[1]	**A[2]**	**Description**	**Yes**	**No**	**NA[3]**	**NR[4]**	**ER#[5]**
R1	OI	**Chain-of-custody (C-O-C)**					
		Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?	X				
		Were all departures from standard conditions described in an exception report?	X				
R2	OI	**Sample and quality control (QC) identification**					
		Are all field sample ID numbers cross-referenced to the laboratory ID numbers?	X				
		Are all laboratory ID numbers cross-referenced to the corresponding QC data?	X				
R3	OI	**Test reports**					
		Were all samples prepared and analyzed within holding times?	X				
		Other than those results < MQL, were all other raw values bracketed by calibration standards?	X				
		Were calculations checked by a peer or supervisor?	X				
		Were all analyte identifications checked by a peer or supervisor?	X				
		Were sample detection limits reported for all analytes not detected?	X				
		Were all results for soil and sediment samples reported on a dry weight basis?	X				
		Were % moisture (or solids) reported for all soil and sediment samples?	X				
		Were bulk soils/solids samples for volatile analysis extracted with methanol per SW-846 Method 5035?			X		
		If required for the project, TICs reported?			X		
R4	O	**Surrogate recovery data**					
		Were surrogates added prior to extraction?	X				
		Were surrogate percent recoveries in all samples within the laboratory QC limits?	X				
R5	OI	**Test reports/summary forms for blank samples**					
		Were appropriate type(s) of blanks analyzed?	X				
		Were blanks analyzed at the appropriate frequency?	X				
		Were method blanks taken through the entire analytical process, including preparation and, if applicable, cleanup procedures?	X				
		Were blank concentrations < MQL?	X				
R6	OI	**Laboratory control samples (LCS):**					
		Were all COCs included in the LCS?	X				
		Was each LCS taken through the entire analytical procedure, including prep and cleanup steps?	X				
		Were LCSs analyzed at the required frequency?	X				
		Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?	X				
		Does the detectability data document the laboratory's capability to detect the COCs at the MDL used to calculate the SDLs?	X				
		Was the LCSD RPD within QC limits?	X				
R7	OI	**Matrix spike (MS) and matrix spike duplicate (MSD) data**					
		Were the project/method specified analytes included in the MS and MSD?	X				
		Were MS/MSD analyzed at the appropriate frequency?	X				
		Were MS (and MSD, if applicable) %Rs within the laboratory QC limits?		X			1
		Were MS/MSD RPDs within laboratory QC limits?		X			2
R8	OI	**Analytical duplicate data**					
		Were appropriate analytical duplicates analyzed for each matrix?	X				
		Were analytical duplicates analyzed at the appropriate frequency?	X				
		Were RPDs or relative standard deviations within the laboratory QC limits?	X				
R9	OI	**Method quantitation limits (MQLs):**					
		Are the MQLs for each method analyte included in the laboratory data package?	X				
		Do the MQLs correspond to the concentration of the lowest non-zero calibration standard?	X				
		Are unadjusted MQLs and DCSs included in the laboratory data package?	X				
R10	OI	**Other problems/anomalies**					
		Are all known problems/anomalies/special conditions noted in this LRC and ER?	X				
		Were all necessary corrective actions performed for the reported data?	X				
		Was applicable and available technology used to lower the SDL and minimize the matrix interference affects on the sample results?	X				3
		Is the laboratory NELAC-accredited under the Texas Laboratory Program for the analytes, matrices and methods associated with this laboratory data package?	X				

Laboratory Review Checklist: Reportable Data							
Laboratory Name: ALS Laboratory Group			LRC Date: 01/29/2016				
Project Name: 1620-10-Rev1 HoustonTX-Wood			Laboratory Job Number: HS16011020				
Reviewer Name: Dane Wacasey			Prep Batch Number(s): 100953, 100963, R268372				
#[1]	A[2]	Description	Yes	No	NA[3]	NR[4]	ER#[5]
S1	OI	**Initial calibration (ICAL)**					
		Were response factors and/or relative response factors for each analyte within QC limits?	X				
		Were percent RSDs or correlation coefficient criteria met?	X				
		Was the number of standards recommended in the method used for all analytes?	X				
		Were all points generated between the lowest and highest standard used to calculate the curve?	X				
		Are ICAL data available for all instruments used?	X				
		Has the initial calibration curve been verified using an appropriate second source standard?	X				
S2	OI	**Initial and continuing calibration verification (ICCV and CCV) and continuing calibration blank (CCB)**					
		Was the CCV analyzed at the method-required frequency?	X				
		Were percent differences for each analyte within the method-required QC limits?	X				
		Was the ICAL curve verified for each analyte?	X				
		Was the absolute value of the analyte concentration in the inorganic CCB < MDL?			X		
S3	O	**Mass spectral tuning:**					
		Was the appropriate compound for the method used for tuning?	X				
		Were ion abundance data within the method-required QC limits?	X				
S4	O	**Internal standards (IS):**					
		Were IS area counts and retention times within the method-required QC limits?	X				
S5	OI	**Raw data** (NELAC section 1 appendix A glossary, and section 5.12 or ISO/IEC 17025 section					
		Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst?	X				
		Were data associated with manual integrations flagged on the raw data?	X				
S6	O	**Dual column confirmation**					
		Did dual column confirmation results meet the method-required QC?			X		
S7	O	**Tentatively identified compounds (TICs):**					
		If TICs were requested, were the mass spectra and TIC data subject to appropriate checks?			X		
S8	I	**Interference Check Sample (ICS) results:**					
		Were percent recoveries within method QC limits?	X				
S9	I	**Serial dilutions, post digestion spikes, and method of standard additions**					
		Were percent differences, recoveries, and the linearity within the QC limits specified in the method?	X				
S10	OI	**Method detection limit (MDL) studies**					
		Was a MDL study performed for each reported analyte?	X				
		Is the MDL either adjusted or supported by the analysis of DCSs?	X				
S11	OI	**Proficiency test reports:**					
		Was the laboratory's performance acceptable on the applicable proficiency tests or evaluation studies?	X				
S12	OI	**Standards documentation**					
		Are all standards used in the analyses NIST-traceable or obtained from other appropriate sources?	X				
S13	OI	**Compound/analyte identification procedures**					
		Are the procedures for compound/analyte identification documented?	X				
S14	OI	**Demonstration of analyst competency (DOC)**					
		Was DOC conducted consistent with NELAC Chapter 5C or ISO/IEC 4?	X				
		Is documentation of the analyst's competency up-to-date and on file?	X				
S15	OI	**Verification/validation documentation for methods** (NELAC Chap 5 or ISO/IEC 17025 Section 5)					
		Are all the methods used to generate the data documented, verified, and validated, where applicable?	X				
S16	OI	**Laboratory standard operating procedures (SOPs):**					
		Are laboratory SOPs current and on file for each method performed?	X				

Items identified by the letter "R" must be included in the laboratory data package submitted in the TRRP-required report(s). Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period.
O = Organic Analyses; I = Inorganic Analyses (and general chemistry, when applicable);
NA = Not Applicable;
NR = Not Reviewed;
R# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

Laboratory Review Checklist: Reportable Data	
Laboratory Name: ALS Laboratory Group	LRC Date: 01/29/2016
Project Name: 1620-10-Rev1 HoustonTX-Wood	Laboratory Job Number: HS16011020
Reviewer Name: Dane Wacasey	Prep Batch Number(s): 100953, 100963, R268372

ER#[5]	Description
1	Batch 100963, Metals Method SW6020, sample SO-1620-DSB1(0-5)-20160127, MS and or MSD recovered below the lower control limits for Lead and Arsenic due to possible matrix interference. Batch 100953, Semivolatile Organics Method SW8270, sample SO-1620-DSB1(0-5)-20160127, MS and or MSD recovered outside the control limits for multiple target compounds due to sample matrix interference.
2	Batch 100953, Semivolatile Organics Method SW8270, sample SO-1620-DSB1(0-5)-20160127, MS/MSD RPD recovered above the control limits for some target compounds due to non-homogeneity of the soil matrix.
3	Semivolatile Organics Method SW8270, sample SO-1620-DSB8(0-5)-20160127: The GCMS semi-volatile extract of this sample was run at a dilution due to a high level of matrix interference.

Items identified by the letter "R" must be included in the laboratory data package submitted in the TRRP-required report(s). Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period.
O = Organic Analyses; I = Inorganic Analyses (and general chemistry, when applicable);
NA = Not Applicable;
NR = Not Reviewed;
R# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
Work Order: HS16011020

SAMPLE SUMMARY

Lab Samp ID	Client Sample ID	Matrix	TagNo	Collection Date	Date Received	Hold
HS16011020-01	SO-1620-DSB1(0-5)-20160127	Soil		27-Jan-2016 10:00	27-Jan-2016 14:30	☐
HS16011020-02	SO-1620-DSB2(0-5)-20160127	Soil		27-Jan-2016 10:36	27-Jan-2016 14:30	☐
HS16011020-03	SO-1620-DSB3(0-5)-20160127	Soil		27-Jan-2016 11:15	27-Jan-2016 14:30	☐
HS16011020-04	SO-1620-DSB4(0-5)-20160127	Soil		27-Jan-2016 12:05	27-Jan-2016 14:30	☐
HS16011020-05	SO-1620-DSB5(0-5)-20160127	Soil		27-Jan-2016 12:35	27-Jan-2016 14:30	☐
HS16011020-06	SO-1620-DSB6(0-5)-20160127	Soil		27-Jan-2016 13:00	27-Jan-2016 14:30	☐
HS16011020-07	SO-1620-DSB7(0-5)-20160127	Soil		27-Jan-2016 13:30	27-Jan-2016 14:30	☐
HS16011020-08	SO-1620-DSB8(0-5)-20160127	Soil		27-Jan-2016 13:58	27-Jan-2016 14:30	☐

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
Sample ID: SO-1620-DSB1(0-5)-20160127
Collection Date: 27-Jan-2016 10:00

ANALYTICAL REPORT
WorkOrder:HS16011020
Lab ID:HS16011020-01
Matrix:Soil

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES	**Method:SW8270**				Prep:SW3541 / 27-Jan-2016		Analyst: ACN
1,2-Diphenylhydrazine	U		0.0013	0.0080	mg/Kg-dry	1	28-Jan-2016 13:55
2,4-Dimethylphenol	U		0.0040	0.0080	mg/Kg-dry	1	28-Jan-2016 13:55
2,4-Dinitrotoluene	U		0.0011	0.0080	mg/Kg-dry	1	28-Jan-2016 13:55
2,6-Dinitrotoluene	U		0.0040	0.0080	mg/Kg-dry	1	28-Jan-2016 13:55
2-Chloronaphthalene	U		0.0016	0.0080	mg/Kg-dry	1	28-Jan-2016 13:55
2-Methylnaphthalene	**0.0096**		**0.00061**	**0.0040**	**mg/Kg-dry**	1	28-Jan-2016 13:55
4,6-Dinitro-2-methylphenol	U		0.0026	0.0080	mg/Kg-dry	1	28-Jan-2016 13:55
4-Nitrophenol	U		0.0023	0.016	mg/Kg-dry	1	28-Jan-2016 13:55
Acenaphthene	**0.012**		**0.00061**	**0.0040**	**mg/Kg-dry**	1	28-Jan-2016 13:55
Acenaphthylene	**0.16**		**0.0012**	**0.0040**	**mg/Kg-dry**	1	28-Jan-2016 13:55
Anthracene	**0.22**		**0.00061**	**0.0040**	**mg/Kg-dry**	1	28-Jan-2016 13:55
Benz(a)anthracene	**0.34**		**0.0019**	**0.0040**	**mg/Kg-dry**	1	28-Jan-2016 13:55
Benzo(a)pyrene	**0.55**		**0.0049**	**0.016**	**mg/Kg-dry**	4	28-Jan-2016 17:20
Bis(2-chloroethoxy)methane	U		0.0011	0.0080	mg/Kg-dry	1	28-Jan-2016 13:55
Bis(2-ethylhexyl)phthalate	U		0.0021	0.0080	mg/Kg-dry	1	28-Jan-2016 13:55
Chrysene	**0.40**		**0.00097**	**0.0040**	**mg/Kg-dry**	1	28-Jan-2016 13:55
Dibenzofuran	**0.013**		**0.00085**	**0.0040**	**mg/Kg-dry**	1	28-Jan-2016 13:55
Di-n-butyl phthalate	U		0.0015	0.0080	mg/Kg-dry	1	28-Jan-2016 13:55
Fluoranthene	**0.32**		**0.0013**	**0.0040**	**mg/Kg-dry**	1	28-Jan-2016 13:55
Fluorene	**0.018**		**0.0013**	**0.0040**	**mg/Kg-dry**	1	28-Jan-2016 13:55
Naphthalene	**0.031**		**0.00073**	**0.0040**	**mg/Kg-dry**	1	28-Jan-2016 13:55
Nitrobenzene	U		0.0011	0.0080	mg/Kg-dry	1	28-Jan-2016 13:55
N-Nitrosodiphenylamine	U		0.00085	0.0080	mg/Kg-dry	1	28-Jan-2016 13:55
Pentachlorophenol	U		0.0040	0.0080	mg/Kg-dry	1	28-Jan-2016 13:55
Phenanthrene	**0.11**		**0.0018**	**0.0040**	**mg/Kg-dry**	1	28-Jan-2016 13:55
Phenol	**0.012**		**0.0013**	**0.0080**	**mg/Kg-dry**	1	28-Jan-2016 13:55
Pyrene	**0.43**		**0.0029**	**0.016**	**mg/Kg-dry**	4	28-Jan-2016 17:20
Surr: 2,4,6-Tribromophenol	*81.0*			*36-126*	*%REC*	*1*	*28-Jan-2016 13:55*
Surr: 2,4,6-Tribromophenol	*74.3*			*36-126*	*%REC*	*4*	*28-Jan-2016 17:20*
Surr: 2-Fluorobiphenyl	*105*			*43-125*	*%REC*	*1*	*28-Jan-2016 13:55*
Surr: 2-Fluorobiphenyl	*71.2*			*43-125*	*%REC*	*4*	*28-Jan-2016 17:20*
Surr: 2-Fluorophenol	*80.3*			*37-125*	*%REC*	*1*	*28-Jan-2016 13:55*
Surr: 2-Fluorophenol	*68.8*			*37-125*	*%REC*	*4*	*28-Jan-2016 17:20*
Surr: 4-Terphenyl-d14	*107*			*32-125*	*%REC*	*1*	*28-Jan-2016 13:55*
Surr: 4-Terphenyl-d14	*93.4*			*32-125*	*%REC*	*4*	*28-Jan-2016 17:20*
Surr: Nitrobenzene-d5	*112*			*37-125*	*%REC*	*1*	*28-Jan-2016 13:55*
Surr: Nitrobenzene-d5	*107*			*37-125*	*%REC*	*4*	*28-Jan-2016 17:20*
Surr: Phenol-d6	*101*			*40-125*	*%REC*	*1*	*28-Jan-2016 13:55*
Surr: Phenol-d6	*72.8*			*40-125*	*%REC*	*4*	*28-Jan-2016 17:20*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
Sample ID: SO-1620-DSB1(0-5)-20160127
Collection Date: 27-Jan-2016 10:00

ANALYTICAL REPORT
WorkOrder:HS16011020
Lab ID:HS16011020-01
Matrix:Soil

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
METALS BY SW6020A	**Method:SW6020**				Prep:SW3050A / 27-Jan-2016		Analyst: JDE
Arsenic	**2.79**		**0.113**	**0.564**	**mg/Kg-dry**	1	28-Jan-2016 12:19
Lead	**15.4**		**0.0564**	**0.564**	**mg/Kg-dry**	1	28-Jan-2016 12:19
MOISTURE - ASTM D2216	**Method:ASTM D2216**						Analyst: DFF
Percent Moisture	**17.9**		**0.0100**	**0.0100**	**wt%**	1	27-Jan-2016 15:01

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
Sample ID: SO-1620-DSB2(0-5)-20160127
Collection Date: 27-Jan-2016 10:36

ANALYTICAL REPORT
WorkOrder:HS16011020
Lab ID:HS16011020-02
Matrix:Soil

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES		**Method:SW8270**			Prep:SW3541 / 27-Jan-2016		Analyst: ACN
1,2-Diphenylhydrazine	U		0.0013	0.0078	mg/Kg-dry	1	28-Jan-2016 14:55
2,4-Dimethylphenol	U		0.0039	0.0078	mg/Kg-dry	1	28-Jan-2016 14:55
2,4-Dinitrotoluene	U		0.0011	0.0078	mg/Kg-dry	1	28-Jan-2016 14:55
2,6-Dinitrotoluene	U		0.0039	0.0078	mg/Kg-dry	1	28-Jan-2016 14:55
2-Chloronaphthalene	U		0.0015	0.0078	mg/Kg-dry	1	28-Jan-2016 14:55
2-Methylnaphthalene	U		0.00059	0.0039	mg/Kg-dry	1	28-Jan-2016 14:55
4,6-Dinitro-2-methylphenol	U		0.0025	0.0078	mg/Kg-dry	1	28-Jan-2016 14:55
4-Nitrophenol	U		0.0023	0.016	mg/Kg-dry	1	28-Jan-2016 14:55
Acenaphthene	**0.0031**	J	**0.00059**	**0.0039**	**mg/Kg-dry**	1	28-Jan-2016 14:55
Acenaphthylene	**0.077**		**0.0012**	**0.0039**	**mg/Kg-dry**	1	28-Jan-2016 14:55
Anthracene	**0.011**		**0.00059**	**0.0039**	**mg/Kg-dry**	1	28-Jan-2016 14:55
Benz(a)anthracene	**0.036**		**0.0019**	**0.0039**	**mg/Kg-dry**	1	28-Jan-2016 14:55
Benzo(a)pyrene	**0.19**		**0.0012**	**0.0039**	**mg/Kg-dry**	1	28-Jan-2016 14:55
Bis(2-chloroethoxy)methane	U		0.0011	0.0078	mg/Kg-dry	1	28-Jan-2016 14:55
Bis(2-ethylhexyl)phthalate	**0.011**		**0.0020**	**0.0078**	**mg/Kg-dry**	1	28-Jan-2016 14:55
Chrysene	**0.071**		**0.00095**	**0.0039**	**mg/Kg-dry**	1	28-Jan-2016 14:55
Dibenzofuran	U		0.00083	0.0039	mg/Kg-dry	1	28-Jan-2016 14:55
Di-n-butyl phthalate	**0.0026**	J	**0.0014**	**0.0078**	**mg/Kg-dry**	1	28-Jan-2016 14:55
Fluoranthene	**0.018**		**0.0013**	**0.0039**	**mg/Kg-dry**	1	28-Jan-2016 14:55
Fluorene	**0.010**		**0.0013**	**0.0039**	**mg/Kg-dry**	1	28-Jan-2016 14:55
Naphthalene	**0.0033**	J	**0.00071**	**0.0039**	**mg/Kg-dry**	1	28-Jan-2016 14:55
Nitrobenzene	U		0.0011	0.0078	mg/Kg-dry	1	28-Jan-2016 14:55
N-Nitrosodiphenylamine	U		0.00083	0.0078	mg/Kg-dry	1	28-Jan-2016 14:55
Pentachlorophenol	U		0.0039	0.0078	mg/Kg-dry	1	28-Jan-2016 14:55
Phenanthrene	**0.065**		**0.0018**	**0.0039**	**mg/Kg-dry**	1	28-Jan-2016 14:55
Phenol	U		0.0013	0.0078	mg/Kg-dry	1	28-Jan-2016 14:55
Pyrene	**0.039**		**0.00071**	**0.0039**	**mg/Kg-dry**	1	28-Jan-2016 14:55
Surr: 2,4,6-Tribromophenol	*91.9*			*36-126*	*%REC*	*1*	*28-Jan-2016 14:55*
Surr: 2-Fluorobiphenyl	*98.2*			*43-125*	*%REC*	*1*	*28-Jan-2016 14:55*
Surr: 2-Fluorophenol	*78.0*			*37-125*	*%REC*	*1*	*28-Jan-2016 14:55*
Surr: 4-Terphenyl-d14	*109*			*32-125*	*%REC*	*1*	*28-Jan-2016 14:55*
Surr: Nitrobenzene-d5	*114*			*37-125*	*%REC*	*1*	*28-Jan-2016 14:55*
Surr: Phenol-d6	*95.3*			*40-125*	*%REC*	*1*	*28-Jan-2016 14:55*
METALS BY SW6020A		**Method:SW6020**			Prep:SW3050A / 27-Jan-2016		Analyst: JDE
Arsenic	**1.04**		**0.119**	**0.593**	**mg/Kg-dry**	1	28-Jan-2016 12:49
Lead	**5.18**		**0.0593**	**0.593**	**mg/Kg-dry**	1	28-Jan-2016 12:49
MOISTURE - ASTM D2216		**Method:ASTM D2216**					Analyst: DFF
Percent Moisture	**15.9**		**0.0100**	**0.0100**	**wt%**	1	27-Jan-2016 15:01

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
Sample ID: SO-1620-DSB3(0-5)-20160127
Collection Date: 27-Jan-2016 11:15

ANALYTICAL REPORT
WorkOrder:HS16011020
Lab ID:HS16011020-03
Matrix:Soil

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES	**Method:SW8270**				Prep:SW3541 / 27-Jan-2016		Analyst: ACN
1,2-Diphenylhydrazine	U		0.0013	0.0078	mg/Kg-dry	1	28-Jan-2016 15:16
2,4-Dimethylphenol	U		0.0039	0.0078	mg/Kg-dry	1	28-Jan-2016 15:16
2,4-Dinitrotoluene	U		0.0011	0.0078	mg/Kg-dry	1	28-Jan-2016 15:16
2,6-Dinitrotoluene	U		0.0039	0.0078	mg/Kg-dry	1	28-Jan-2016 15:16
2-Chloronaphthalene	U		0.0015	0.0078	mg/Kg-dry	1	28-Jan-2016 15:16
2-Methylnaphthalene	**0.035**		**0.00059**	**0.0039**	**mg/Kg-dry**	1	28-Jan-2016 15:16
4,6-Dinitro-2-methylphenol	U		0.0025	0.0078	mg/Kg-dry	1	28-Jan-2016 15:16
4-Nitrophenol	U		0.0022	0.016	mg/Kg-dry	1	28-Jan-2016 15:16
Acenaphthene	**0.29**		**0.00059**	**0.0039**	**mg/Kg-dry**	1	28-Jan-2016 15:16
Acenaphthylene	**0.079**		**0.0012**	**0.0039**	**mg/Kg-dry**	1	28-Jan-2016 15:16
Anthracene	**0.39**		**0.00059**	**0.0039**	**mg/Kg-dry**	1	28-Jan-2016 15:16
Benz(a)anthracene	**0.54**		**0.019**	**0.039**	**mg/Kg-dry**	10	28-Jan-2016 17:40
Benzo(a)pyrene	**0.27**		**0.0012**	**0.0039**	**mg/Kg-dry**	1	28-Jan-2016 15:16
Bis(2-chloroethoxy)methane	U		0.0011	0.0078	mg/Kg-dry	1	28-Jan-2016 15:16
Bis(2-ethylhexyl)phthalate	**0.038**		**0.0020**	**0.0078**	**mg/Kg-dry**	1	28-Jan-2016 15:16
Chrysene	**0.65**		**0.0095**	**0.039**	**mg/Kg-dry**	10	28-Jan-2016 17:40
Dibenzofuran	**0.25**		**0.00083**	**0.0039**	**mg/Kg-dry**	1	28-Jan-2016 15:16
Di-n-butyl phthalate	U		0.0014	0.0078	mg/Kg-dry	1	28-Jan-2016 15:16
Fluoranthene	**2.6**		**0.013**	**0.039**	**mg/Kg-dry**	10	28-Jan-2016 17:40
Fluorene	**0.26**		**0.0013**	**0.0039**	**mg/Kg-dry**	1	28-Jan-2016 15:16
Naphthalene	**0.028**		**0.00071**	**0.0039**	**mg/Kg-dry**	1	28-Jan-2016 15:16
Nitrobenzene	U		0.0011	0.0078	mg/Kg-dry	1	28-Jan-2016 15:16
N-Nitrosodiphenylamine	U		0.00083	0.0078	mg/Kg-dry	1	28-Jan-2016 15:16
Pentachlorophenol	U		0.0039	0.0078	mg/Kg-dry	1	28-Jan-2016 15:16
Phenanthrene	**1.9**		**0.018**	**0.039**	**mg/Kg-dry**	10	28-Jan-2016 17:40
Phenol	U		0.0013	0.0078	mg/Kg-dry	1	28-Jan-2016 15:16
Pyrene	**2.5**		**0.0071**	**0.039**	**mg/Kg-dry**	10	28-Jan-2016 17:40
Surr: 2,4,6-Tribromophenol	*81.5*			*36-126*	*%REC*	*1*	*28-Jan-2016 15:16*
Surr: 2,4,6-Tribromophenol	*86.2*			*36-126*	*%REC*	*10*	*28-Jan-2016 17:40*
Surr: 2-Fluorobiphenyl	*88.1*			*43-125*	*%REC*	*1*	*28-Jan-2016 15:16*
Surr: 2-Fluorobiphenyl	*75.0*			*43-125*	*%REC*	*10*	*28-Jan-2016 17:40*
Surr: 2-Fluorophenol	*61.8*			*37-125*	*%REC*	*1*	*28-Jan-2016 15:16*
Surr: 2-Fluorophenol	*62.3*			*37-125*	*%REC*	*10*	*28-Jan-2016 17:40*
Surr: 4-Terphenyl-d14	*114*			*32-125*	*%REC*	*1*	*28-Jan-2016 15:16*
Surr: 4-Terphenyl-d14	*117*			*32-125*	*%REC*	*10*	*28-Jan-2016 17:40*
Surr: Nitrobenzene-d5	*91.0*			*37-125*	*%REC*	*1*	*28-Jan-2016 15:16*
Surr: Nitrobenzene-d5	*98.5*			*37-125*	*%REC*	*10*	*28-Jan-2016 17:40*
Surr: Phenol-d6	*54.5*			*40-125*	*%REC*	*10*	*28-Jan-2016 17:40*
Surr: Phenol-d6	*77.5*			*40-125*	*%REC*	*1*	*28-Jan-2016 15:16*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
Sample ID: SO-1620-DSB3(0-5)-20160127
Collection Date: 27-Jan-2016 11:15

ANALYTICAL REPORT
WorkOrder:HS16011020
Lab ID:HS16011020-03
Matrix:Soil

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
METALS BY SW6020A	**Method:SW6020**				Prep:SW3050A / 27-Jan-2016		Analyst: JDE
Arsenic	**1.87**		**0.117**	**0.587**	**mg/Kg-dry**	1	28-Jan-2016 12:53
Lead	**5.90**		**0.0587**	**0.587**	**mg/Kg-dry**	1	28-Jan-2016 12:53
MOISTURE - ASTM D2216	**Method:ASTM D2216**						Analyst: DFF
Percent Moisture	**15.5**		**0.0100**	**0.0100**	**wt%**	1	27-Jan-2016 15:01

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
Sample ID: SO-1620-DSB4(0-5)-20160127
Collection Date: 27-Jan-2016 12:05

ANALYTICAL REPORT
WorkOrder:HS16011020
Lab ID:HS16011020-04
Matrix:Soil

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES		**Method:SW8270**			Prep:SW3541 / 27-Jan-2016		Analyst: ACN
1,2-Diphenylhydrazine	U		0.0014	0.0083	mg/Kg-dry	1	28-Jan-2016 15:36
2,4-Dimethylphenol	U		0.0041	0.0083	mg/Kg-dry	1	28-Jan-2016 15:36
2,4-Dinitrotoluene	U		0.0011	0.0083	mg/Kg-dry	1	28-Jan-2016 15:36
2,6-Dinitrotoluene	U		0.0041	0.0083	mg/Kg-dry	1	28-Jan-2016 15:36
2-Chloronaphthalene	U		0.0016	0.0083	mg/Kg-dry	1	28-Jan-2016 15:36
2-Methylnaphthalene	U		0.00063	0.0041	mg/Kg-dry	1	28-Jan-2016 15:36
4,6-Dinitro-2-methylphenol	U		0.0026	0.0083	mg/Kg-dry	1	28-Jan-2016 15:36
4-Nitrophenol	U		0.0024	0.017	mg/Kg-dry	1	28-Jan-2016 15:36
Acenaphthene	**0.0063**		**0.00063**	**0.0041**	**mg/Kg-dry**	1	28-Jan-2016 15:36
Acenaphthylene	**0.12**		**0.0013**	**0.0041**	**mg/Kg-dry**	1	28-Jan-2016 15:36
Anthracene	**0.059**		**0.00063**	**0.0041**	**mg/Kg-dry**	1	28-Jan-2016 15:36
Benz(a)anthracene	**0.085**		**0.0020**	**0.0041**	**mg/Kg-dry**	1	28-Jan-2016 15:36
Benzo(a)pyrene	**0.34**		**0.0013**	**0.0041**	**mg/Kg-dry**	1	28-Jan-2016 15:36
Bis(2-chloroethoxy)methane	U		0.0011	0.0083	mg/Kg-dry	1	28-Jan-2016 15:36
Bis(2-ethylhexyl)phthalate	**0.021**		**0.0021**	**0.0083**	**mg/Kg-dry**	1	28-Jan-2016 15:36
Chrysene	**0.15**		**0.0010**	**0.0041**	**mg/Kg-dry**	1	28-Jan-2016 15:36
Dibenzofuran	U		0.00088	0.0041	mg/Kg-dry	1	28-Jan-2016 15:36
Di-n-butyl phthalate	U		0.0015	0.0083	mg/Kg-dry	1	28-Jan-2016 15:36
Fluoranthene	**0.10**		**0.0014**	**0.0041**	**mg/Kg-dry**	1	28-Jan-2016 15:36
Fluorene	**0.012**		**0.0014**	**0.0041**	**mg/Kg-dry**	1	28-Jan-2016 15:36
Naphthalene	**0.0029**	J	**0.00075**	**0.0041**	**mg/Kg-dry**	1	28-Jan-2016 15:36
Nitrobenzene	U		0.0011	0.0083	mg/Kg-dry	1	28-Jan-2016 15:36
N-Nitrosodiphenylamine	U		0.00088	0.0083	mg/Kg-dry	1	28-Jan-2016 15:36
Pentachlorophenol	U		0.0041	0.0083	mg/Kg-dry	1	28-Jan-2016 15:36
Phenanthrene	**0.0088**		**0.0019**	**0.0041**	**mg/Kg-dry**	1	28-Jan-2016 15:36
Phenol	**0.0069**	J	**0.0014**	**0.0083**	**mg/Kg-dry**	1	28-Jan-2016 15:36
Pyrene	**0.098**		**0.00075**	**0.0041**	**mg/Kg-dry**	1	28-Jan-2016 15:36
Surr: 2,4,6-Tribromophenol	*76.3*			*36-126*	*%REC*	*1*	*28-Jan-2016 15:36*
Surr: 2-Fluorobiphenyl	*79.2*			*43-125*	*%REC*	*1*	*28-Jan-2016 15:36*
Surr: 2-Fluorophenol	*61.7*			*37-125*	*%REC*	*1*	*28-Jan-2016 15:36*
Surr: 4-Terphenyl-d14	*88.8*			*32-125*	*%REC*	*1*	*28-Jan-2016 15:36*
Surr: Nitrobenzene-d5	*82.2*			*37-125*	*%REC*	*1*	*28-Jan-2016 15:36*
Surr: Phenol-d6	*71.3*			*40-125*	*%REC*	*1*	*28-Jan-2016 15:36*
METALS BY SW6020A		**Method:SW6020**			Prep:SW3050A / 27-Jan-2016		Analyst: JDE
Arsenic	**3.49**		**0.117**	**0.587**	**mg/Kg-dry**	1	28-Jan-2016 12:57
Lead	**11.1**		**0.0587**	**0.587**	**mg/Kg-dry**	1	28-Jan-2016 12:57
MOISTURE - ASTM D2216		**Method:ASTM D2216**					Analyst: DFF
Percent Moisture	**20.5**		**0.0100**	**0.0100**	**wt%**	1	27-Jan-2016 15:01

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
Sample ID: SO-1620-DSB5(0-5)-20160127
Collection Date: 27-Jan-2016 12:35

ANALYTICAL REPORT
WorkOrder:HS16011020
Lab ID:HS16011020-05
Matrix:Soil

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES	**Method:SW8270**				Prep:SW3541 / 27-Jan-2016		Analyst: ACN
1,2-Diphenylhydrazine	U		0.0014	0.0082	mg/Kg-dry	1	28-Jan-2016 15:56
2,4-Dimethylphenol	U		0.0041	0.0082	mg/Kg-dry	1	28-Jan-2016 15:56
2,4-Dinitrotoluene	U		0.0011	0.0082	mg/Kg-dry	1	28-Jan-2016 15:56
2,6-Dinitrotoluene	U		0.0041	0.0082	mg/Kg-dry	1	28-Jan-2016 15:56
2-Chloronaphthalene	U		0.0016	0.0082	mg/Kg-dry	1	28-Jan-2016 15:56
2-Methylnaphthalene	**0.0078**		**0.00062**	**0.0041**	**mg/Kg-dry**	1	28-Jan-2016 15:56
4,6-Dinitro-2-methylphenol	U		0.0026	0.0082	mg/Kg-dry	1	28-Jan-2016 15:56
4-Nitrophenol	U		0.0024	0.016	mg/Kg-dry	1	28-Jan-2016 15:56
Acenaphthene	**0.013**		**0.00062**	**0.0041**	**mg/Kg-dry**	1	28-Jan-2016 15:56
Acenaphthylene	**0.21**		**0.0012**	**0.0041**	**mg/Kg-dry**	1	28-Jan-2016 15:56
Anthracene	**0.13**		**0.00062**	**0.0041**	**mg/Kg-dry**	1	28-Jan-2016 15:56
Benz(a)anthracene	**0.069**		**0.0020**	**0.0041**	**mg/Kg-dry**	1	28-Jan-2016 15:56
Benzo(a)pyrene	**0.39**		**0.0050**	**0.016**	**mg/Kg-dry**	4	28-Jan-2016 18:01
Bis(2-chloroethoxy)methane	U		0.0011	0.0082	mg/Kg-dry	1	28-Jan-2016 15:56
Bis(2-ethylhexyl)phthalate	**0.020**		**0.0021**	**0.0082**	**mg/Kg-dry**	1	28-Jan-2016 15:56
Chrysene	**0.15**		**0.00099**	**0.0041**	**mg/Kg-dry**	1	28-Jan-2016 15:56
Dibenzofuran	**0.0069**		**0.00087**	**0.0041**	**mg/Kg-dry**	1	28-Jan-2016 15:56
Di-n-butyl phthalate	U		0.0015	0.0082	mg/Kg-dry	1	28-Jan-2016 15:56
Fluoranthene	**0.056**		**0.0014**	**0.0041**	**mg/Kg-dry**	1	28-Jan-2016 15:56
Fluorene	**0.037**		**0.0014**	**0.0041**	**mg/Kg-dry**	1	28-Jan-2016 15:56
Naphthalene	**0.0082**		**0.00074**	**0.0041**	**mg/Kg-dry**	1	28-Jan-2016 15:56
Nitrobenzene	U		0.0011	0.0082	mg/Kg-dry	1	28-Jan-2016 15:56
N-Nitrosodiphenylamine	U		0.00087	0.0082	mg/Kg-dry	1	28-Jan-2016 15:56
Pentachlorophenol	U		0.0041	0.0082	mg/Kg-dry	1	28-Jan-2016 15:56
Phenanthrene	**0.051**		**0.0019**	**0.0041**	**mg/Kg-dry**	1	28-Jan-2016 15:56
Phenol	**0.0096**		**0.0014**	**0.0082**	**mg/Kg-dry**	1	28-Jan-2016 15:56
Pyrene	**0.068**		**0.00074**	**0.0041**	**mg/Kg-dry**	1	28-Jan-2016 15:56
Surr: 2,4,6-Tribromophenol	*87.6*			*36-126*	*%REC*	*1*	*28-Jan-2016 15:56*
Surr: 2,4,6-Tribromophenol	*77.0*			*36-126*	*%REC*	*4*	*28-Jan-2016 18:01*
Surr: 2-Fluorobiphenyl	*77.1*			*43-125*	*%REC*	*4*	*28-Jan-2016 18:01*
Surr: 2-Fluorobiphenyl	*99.8*			*43-125*	*%REC*	*1*	*28-Jan-2016 15:56*
Surr: 2-Fluorophenol	*65.8*			*37-125*	*%REC*	*1*	*28-Jan-2016 15:56*
Surr: 2-Fluorophenol	*66.8*			*37-125*	*%REC*	*4*	*28-Jan-2016 18:01*
Surr: 4-Terphenyl-d14	*92.9*			*32-125*	*%REC*	*4*	*28-Jan-2016 18:01*
Surr: 4-Terphenyl-d14	*94.0*			*32-125*	*%REC*	*1*	*28-Jan-2016 15:56*
Surr: Nitrobenzene-d5	*94.0*			*37-125*	*%REC*	*1*	*28-Jan-2016 15:56*
Surr: Nitrobenzene-d5	*91.4*			*37-125*	*%REC*	*4*	*28-Jan-2016 18:01*
Surr: Phenol-d6	*76.3*			*40-125*	*%REC*	*1*	*28-Jan-2016 15:56*
Surr: Phenol-d6	*67.7*			*40-125*	*%REC*	*4*	*28-Jan-2016 18:01*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Pastor, Behling & Wheeler, LLC
ANALYTICAL REPORT
Project: 1620-10-Rev1 HoustonTX-Wood
WorkOrder:HS16011020
Sample ID: SO-1620-DSB5(0-5)-20160127
Lab ID:HS16011020-05
Collection Date: 27-Jan-2016 12:35
Matrix:Soil

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
METALS BY SW6020A	**Method:SW6020**				Prep:SW3050A / 27-Jan-2016		Analyst: JDE
Arsenic	**3.37**		**0.123**	**0.616**	**mg/Kg-dry**	1	28-Jan-2016 13:02
Lead	**10.9**		**0.0616**	**0.616**	**mg/Kg-dry**	1	28-Jan-2016 13:02
MOISTURE - ASTM D2216	**Method:ASTM D2216**						Analyst: DFF
Percent Moisture	**19.4**		**0.0100**	**0.0100**	**wt%**	1	27-Jan-2016 15:01

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
Sample ID: SO-1620-DSB6(0-5)-20160127
Collection Date: 27-Jan-2016 13:00

ANALYTICAL REPORT
WorkOrder:HS16011020
Lab ID:HS16011020-06
Matrix:Soil

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES	**Method:SW8270**				Prep:SW3541 / 27-Jan-2016		Analyst: ACN
1,2-Diphenylhydrazine	U		0.0013	0.0081	mg/Kg-dry	1	28-Jan-2016 16:16
2,4-Dimethylphenol	U		0.0040	0.0081	mg/Kg-dry	1	28-Jan-2016 16:16
2,4-Dinitrotoluene	U		0.0011	0.0081	mg/Kg-dry	1	28-Jan-2016 16:16
2,6-Dinitrotoluene	U		0.0040	0.0081	mg/Kg-dry	1	28-Jan-2016 16:16
2-Chloronaphthalene	U		0.0016	0.0081	mg/Kg-dry	1	28-Jan-2016 16:16
2-Methylnaphthalene	U		0.00061	0.0040	mg/Kg-dry	1	28-Jan-2016 16:16
4,6-Dinitro-2-methylphenol	U		0.0026	0.0081	mg/Kg-dry	1	28-Jan-2016 16:16
4-Nitrophenol	U		0.0023	0.016	mg/Kg-dry	1	28-Jan-2016 16:16
Acenaphthene	**0.0070**		**0.00061**	**0.0040**	**mg/Kg-dry**	1	28-Jan-2016 16:16
Acenaphthylene	**0.16**		**0.0012**	**0.0040**	**mg/Kg-dry**	1	28-Jan-2016 16:16
Anthracene	**0.068**		**0.00061**	**0.0040**	**mg/Kg-dry**	1	28-Jan-2016 16:16
Benz(a)anthracene	**0.83**		**0.020**	**0.040**	**mg/Kg-dry**	10	28-Jan-2016 18:21
Benzo(a)pyrene	**0.49**		**0.012**	**0.040**	**mg/Kg-dry**	10	28-Jan-2016 18:21
Bis(2-chloroethoxy)methane	U		0.0011	0.0081	mg/Kg-dry	1	28-Jan-2016 16:16
Bis(2-ethylhexyl)phthalate	U		0.0021	0.0081	mg/Kg-dry	1	28-Jan-2016 16:16
Chrysene	**0.86**		**0.0098**	**0.040**	**mg/Kg-dry**	10	28-Jan-2016 18:21
Dibenzofuran	U		0.00085	0.0040	mg/Kg-dry	1	28-Jan-2016 16:16
Di-n-butyl phthalate	U		0.0015	0.0081	mg/Kg-dry	1	28-Jan-2016 16:16
Fluoranthene	**2.3**		**0.013**	**0.040**	**mg/Kg-dry**	10	28-Jan-2016 18:21
Fluorene	**0.020**		**0.0013**	**0.0040**	**mg/Kg-dry**	1	28-Jan-2016 16:16
Naphthalene	U		0.00073	0.0040	mg/Kg-dry	1	28-Jan-2016 16:16
Nitrobenzene	U		0.0011	0.0081	mg/Kg-dry	1	28-Jan-2016 16:16
N-Nitrosodiphenylamine	U		0.00085	0.0081	mg/Kg-dry	1	28-Jan-2016 16:16
Pentachlorophenol	U		0.0040	0.0081	mg/Kg-dry	1	28-Jan-2016 16:16
Phenanthrene	**0.096**		**0.0018**	**0.0040**	**mg/Kg-dry**	1	28-Jan-2016 16:16
Phenol	**0.0070**	J	**0.0013**	**0.0081**	**mg/Kg-dry**	1	28-Jan-2016 16:16
Pyrene	**1.9**		**0.0073**	**0.040**	**mg/Kg-dry**	10	28-Jan-2016 18:21
Surr: 2,4,6-Tribromophenol	*97.6*			*36-126*	*%REC*	*1*	*28-Jan-2016 16:16*
Surr: 2,4,6-Tribromophenol	*82.3*			*36-126*	*%REC*	*10*	*28-Jan-2016 18:21*
Surr: 2-Fluorobiphenyl	*71.3*			*43-125*	*%REC*	*10*	*28-Jan-2016 18:21*
Surr: 2-Fluorobiphenyl	*90.3*			*43-125*	*%REC*	*1*	*28-Jan-2016 16:16*
Surr: 2-Fluorophenol	*68.6*			*37-125*	*%REC*	*1*	*28-Jan-2016 16:16*
Surr: 2-Fluorophenol	*73.7*			*37-125*	*%REC*	*10*	*28-Jan-2016 18:21*
Surr: 4-Terphenyl-d14	*96.8*			*32-125*	*%REC*	*10*	*28-Jan-2016 18:21*
Surr: 4-Terphenyl-d14	*101*			*32-125*	*%REC*	*1*	*28-Jan-2016 16:16*
Surr: Nitrobenzene-d5	*94.6*			*37-125*	*%REC*	*10*	*28-Jan-2016 18:21*
Surr: Nitrobenzene-d5	*100*			*37-125*	*%REC*	*1*	*28-Jan-2016 16:16*
Surr: Phenol-d6	*71.9*			*40-125*	*%REC*	*10*	*28-Jan-2016 18:21*
Surr: Phenol-d6	*73.9*			*40-125*	*%REC*	*1*	*28-Jan-2016 16:16*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
Sample ID: SO-1620-DSB6(0-5)-20160127
Collection Date: 27-Jan-2016 13:00

ANALYTICAL REPORT
WorkOrder:HS16011020
Lab ID:HS16011020-06
Matrix:Soil

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
METALS BY SW6020A	**Method:SW6020**				Prep:SW3050A / 27-Jan-2016		Analyst: JDE
Arsenic	**1.91**		**0.116**	**0.582**	**mg/Kg-dry**	1	28-Jan-2016 13:06
Lead	**6.87**		**0.0582**	**0.582**	**mg/Kg-dry**	1	28-Jan-2016 13:06
MOISTURE - ASTM D2216	**Method:ASTM D2216**						Analyst: DFF
Percent Moisture	**18.2**		**0.0100**	**0.0100**	**wt%**	1	27-Jan-2016 15:01

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
Sample ID: SO-1620-DSB7(0-5)-20160127
Collection Date: 27-Jan-2016 13:30

ANALYTICAL REPORT
WorkOrder:HS16011020
Lab ID:HS16011020-07
Matrix:Soil

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES	**Method:SW8270**				Prep:SW3541 / 27-Jan-2016		Analyst: ACN
1,2-Diphenylhydrazine	U		0.0013	0.0081	mg/Kg-dry	1	28-Jan-2016 16:37
2,4-Dimethylphenol	U		0.0040	0.0081	mg/Kg-dry	1	28-Jan-2016 16:37
2,4-Dinitrotoluene	U		0.0011	0.0081	mg/Kg-dry	1	28-Jan-2016 16:37
2,6-Dinitrotoluene	U		0.0040	0.0081	mg/Kg-dry	1	28-Jan-2016 16:37
2-Chloronaphthalene	U		0.0016	0.0081	mg/Kg-dry	1	28-Jan-2016 16:37
2-Methylnaphthalene	**0.085**		**0.00061**	**0.0040**	**mg/Kg-dry**	1	28-Jan-2016 16:37
4,6-Dinitro-2-methylphenol	U		0.0026	0.0081	mg/Kg-dry	1	28-Jan-2016 16:37
4-Nitrophenol	U		0.0023	0.016	mg/Kg-dry	1	28-Jan-2016 16:37
Acenaphthene	**0.24**		**0.00061**	**0.0040**	**mg/Kg-dry**	1	28-Jan-2016 16:37
Acenaphthylene	**0.29**		**0.0012**	**0.0040**	**mg/Kg-dry**	1	28-Jan-2016 16:37
Anthracene	**0.39**		**0.00061**	**0.0040**	**mg/Kg-dry**	1	28-Jan-2016 16:37
Benz(a)anthracene	**0.26**		**0.0020**	**0.0040**	**mg/Kg-dry**	1	28-Jan-2016 16:37
Benzo(a)pyrene	**0.51**		**0.0049**	**0.016**	**mg/Kg-dry**	4	28-Jan-2016 18:41
Bis(2-chloroethoxy)methane	U		0.0011	0.0081	mg/Kg-dry	1	28-Jan-2016 16:37
Bis(2-ethylhexyl)phthalate	U		0.0021	0.0081	mg/Kg-dry	1	28-Jan-2016 16:37
Chrysene	**0.33**		**0.00098**	**0.0040**	**mg/Kg-dry**	1	28-Jan-2016 16:37
Dibenzofuran	**0.16**		**0.00086**	**0.0040**	**mg/Kg-dry**	1	28-Jan-2016 16:37
Di-n-butyl phthalate	**0.0038**	J	**0.0015**	**0.0081**	**mg/Kg-dry**	1	28-Jan-2016 16:37
Fluoranthene	**0.50**		**0.0054**	**0.016**	**mg/Kg-dry**	4	28-Jan-2016 18:41
Fluorene	**0.28**		**0.0013**	**0.0040**	**mg/Kg-dry**	1	28-Jan-2016 16:37
Naphthalene	**0.19**		**0.00074**	**0.0040**	**mg/Kg-dry**	1	28-Jan-2016 16:37
Nitrobenzene	U		0.0011	0.0081	mg/Kg-dry	1	28-Jan-2016 16:37
N-Nitrosodiphenylamine	U		0.00086	0.0081	mg/Kg-dry	1	28-Jan-2016 16:37
Pentachlorophenol	U		0.0040	0.0081	mg/Kg-dry	1	28-Jan-2016 16:37
Phenanthrene	**0.71**		**0.0074**	**0.016**	**mg/Kg-dry**	4	28-Jan-2016 18:41
Phenol	**0.017**		**0.0013**	**0.0081**	**mg/Kg-dry**	1	28-Jan-2016 16:37
Pyrene	**0.50**		**0.0029**	**0.016**	**mg/Kg-dry**	4	28-Jan-2016 18:41
Surr: 2,4,6-Tribromophenol	*78.4*			*36-126*	*%REC*	*4*	*28-Jan-2016 18:41*
Surr: 2,4,6-Tribromophenol	*82.2*			*36-126*	*%REC*	*1*	*28-Jan-2016 16:37*
Surr: 2-Fluorobiphenyl	*90.8*			*43-125*	*%REC*	*1*	*28-Jan-2016 16:37*
Surr: 2-Fluorobiphenyl	*69.7*			*43-125*	*%REC*	*4*	*28-Jan-2016 18:41*
Surr: 2-Fluorophenol	*76.0*			*37-125*	*%REC*	*4*	*28-Jan-2016 18:41*
Surr: 2-Fluorophenol	*77.9*			*37-125*	*%REC*	*1*	*28-Jan-2016 16:37*
Surr: 4-Terphenyl-d14	*98.8*			*32-125*	*%REC*	*4*	*28-Jan-2016 18:41*
Surr: 4-Terphenyl-d14	*101*			*32-125*	*%REC*	*1*	*28-Jan-2016 16:37*
Surr: Nitrobenzene-d5	*100*			*37-125*	*%REC*	*1*	*28-Jan-2016 16:37*
Surr: Nitrobenzene-d5	*87.4*			*37-125*	*%REC*	*4*	*28-Jan-2016 18:41*
Surr: Phenol-d6	*79.3*			*40-125*	*%REC*	*1*	*28-Jan-2016 16:37*
Surr: Phenol-d6	*79.1*			*40-125*	*%REC*	*4*	*28-Jan-2016 18:41*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
Sample ID: SO-1620-DSB7(0-5)-20160127
Collection Date: 27-Jan-2016 13:30

ANALYTICAL REPORT
WorkOrder:HS16011020
Lab ID:HS16011020-07
Matrix:Soil

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
METALS BY SW6020A	**Method:SW6020**				Prep:SW3050A / 27-Jan-2016		Analyst: JDE
Arsenic	**1.28**		**0.123**	**0.614**	**mg/Kg-dry**	1	28-Jan-2016 13:10
Lead	**7.16**		**0.0614**	**0.614**	**mg/Kg-dry**	1	28-Jan-2016 13:10
MOISTURE - ASTM D2216	**Method:ASTM D2216**						Analyst: DFF
Percent Moisture	**18.7**		**0.0100**	**0.0100**	**wt%**	1	27-Jan-2016 15:01

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
Sample ID: SO-1620-DSB8(0-5)-20160127
Collection Date: 27-Jan-2016 13:58

ANALYTICAL REPORT
WorkOrder:HS16011020
Lab ID:HS16011020-08
Matrix:Soil

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES		**Method:SW8270**			Prep:SW3541 / 27-Jan-2016		Analyst: ACN
1,2-Diphenylhydrazine	U		0.0069	0.041	mg/Kg-dry	5	28-Jan-2016 16:57
2,4-Dimethylphenol	U		0.021	0.041	mg/Kg-dry	5	28-Jan-2016 16:57
2,4-Dinitrotoluene	U		0.0056	0.041	mg/Kg-dry	5	28-Jan-2016 16:57
2,6-Dinitrotoluene	U		0.021	0.041	mg/Kg-dry	5	28-Jan-2016 16:57
2-Chloronaphthalene	U		0.0081	0.041	mg/Kg-dry	5	28-Jan-2016 16:57
2-Methylnaphthalene	**0.047**		**0.0031**	**0.021**	**mg/Kg-dry**	5	28-Jan-2016 16:57
4,6-Dinitro-2-methylphenol	U		0.013	0.041	mg/Kg-dry	5	28-Jan-2016 16:57
4-Nitrophenol	U		0.012	0.082	mg/Kg-dry	5	28-Jan-2016 16:57
Acenaphthene	**0.24**		**0.0031**	**0.021**	**mg/Kg-dry**	5	28-Jan-2016 16:57
Acenaphthylene	**0.51**		**0.0062**	**0.021**	**mg/Kg-dry**	5	28-Jan-2016 16:57
Anthracene	**0.62**		**0.0031**	**0.021**	**mg/Kg-dry**	5	28-Jan-2016 16:57
Benz(a)anthracene	**0.74**		**0.010**	**0.021**	**mg/Kg-dry**	5	28-Jan-2016 16:57
Benzo(a)pyrene	**1.3**		**0.0062**	**0.021**	**mg/Kg-dry**	5	28-Jan-2016 16:57
Bis(2-chloroethoxy)methane	U		0.0056	0.041	mg/Kg-dry	5	28-Jan-2016 16:57
Bis(2-ethylhexyl)phthalate	U		0.011	0.041	mg/Kg-dry	5	28-Jan-2016 16:57
Chrysene	**0.88**		**0.0050**	**0.021**	**mg/Kg-dry**	5	28-Jan-2016 16:57
Dibenzofuran	**0.10**		**0.0044**	**0.021**	**mg/Kg-dry**	5	28-Jan-2016 16:57
Di-n-butyl phthalate	U		0.0075	0.041	mg/Kg-dry	5	28-Jan-2016 16:57
Fluoranthene	**1.3**		**0.0069**	**0.021**	**mg/Kg-dry**	5	28-Jan-2016 16:57
Fluorene	**0.30**		**0.0069**	**0.021**	**mg/Kg-dry**	5	28-Jan-2016 16:57
Naphthalene	**0.13**		**0.0037**	**0.021**	**mg/Kg-dry**	5	28-Jan-2016 16:57
Nitrobenzene	U		0.0056	0.041	mg/Kg-dry	5	28-Jan-2016 16:57
N-Nitrosodiphenylamine	U		0.0044	0.041	mg/Kg-dry	5	28-Jan-2016 16:57
Pentachlorophenol	U		0.021	0.041	mg/Kg-dry	5	28-Jan-2016 16:57
Phenanthrene	**1.1**		**0.0094**	**0.021**	**mg/Kg-dry**	5	28-Jan-2016 16:57
Phenol	**0.041**	J	**0.0069**	**0.041**	**mg/Kg-dry**	5	28-Jan-2016 16:57
Pyrene	**1.4**		**0.0037**	**0.021**	**mg/Kg-dry**	5	28-Jan-2016 16:57
Surr: 2,4,6-Tribromophenol	*69.8*			*36-126*	*%REC*	*5*	*28-Jan-2016 16:57*
Surr: 2-Fluorobiphenyl	*71.5*			*43-125*	*%REC*	*5*	*28-Jan-2016 16:57*
Surr: 2-Fluorophenol	*89.4*			*37-125*	*%REC*	*5*	*28-Jan-2016 16:57*
Surr: 4-Terphenyl-d14	*111*			*32-125*	*%REC*	*5*	*28-Jan-2016 16:57*
Surr: Nitrobenzene-d5	*90.3*			*37-125*	*%REC*	*5*	*28-Jan-2016 16:57*
Surr: Phenol-d6	*76.4*			*40-125*	*%REC*	*5*	*28-Jan-2016 16:57*
METALS BY SW6020A		**Method:SW6020**			Prep:SW3050A / 27-Jan-2016		Analyst: JDE
Arsenic	**339**		**1.20**	**6.01**	**mg/Kg-dry**	10	28-Jan-2016 13:41
Lead	**8.06**		**0.0601**	**0.601**	**mg/Kg-dry**	1	28-Jan-2016 13:15
MOISTURE - ASTM D2216		**Method:ASTM D2216**					Analyst: DFF
Percent Moisture	**19.9**		**0.0100**	**0.0100**	**wt%**	1	27-Jan-2016 15:01

Note: See Qualifiers Page for a list of qualifiers and their explanation.

WEIGHT LOG

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
WorkOrder: HS16011020

Batch ID: 100953 **Method:** LOW-LEVEL SEMIVOLATILES **Prep:** 3541_B_LOW

SampID	Container	Sample Wt/Vol	Final Volume	Prep Factor
HS16011020-01	1	30.08	1 (mL)	0.03324
HS16011020-02	1	30.09	1 (mL)	0.03323
HS16011020-03	1	30.02	1 (mL)	0.03331
HS16011020-04	1	30.04	1 (mL)	0.03329
HS16011020-05	1	30.01	1 (mL)	0.03332
HS16011020-06	1	30.03	1 (mL)	0.0333
HS16011020-07	1	30.07	1 (mL)	0.03326
HS16011020-08	1	30.02	1 (mL)	0.03331

Batch ID: 100963 **Method:** METALS BY SW6020A **Prep:** 3050_I_LOW

SampID	Container	Sample Wt/Vol	Final Volume	Prep Factor
HS16011020-01	1	0.5395	50 (mL)	92.68
HS16011020-02	1	0.5017	50 (mL)	99.66
HS16011020-03	1	0.5036	50 (mL)	99.29
HS16011020-04	1	0.5361	50 (mL)	93.27
HS16011020-05	1	0.5036	50 (mL)	99.29
HS16011020-06	1	0.525	50 (mL)	95.24
HS16011020-07	1	0.5011	50 (mL)	99.78
HS16011020-08	1	0.5195	50 (mL)	96.25

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
WorkOrder: HS16011020

DATES REPORT

Sample ID	Client Samp ID	Collection Date	TCLP Date	Prep Date	Analysis Date	DF
Batch ID 100953	**Test Name :** LOW-LEVEL SEMIVOLATILES			**Matrix:** Soil		
HS16011020-01	SO-1620-DSB1(0-5)-20160127	27 Jan 2016 10:00		27 Jan 2016 17:17	28 Jan 2016 17:20	4
HS16011020-01	SO-1620-DSB1(0-5)-20160127	27 Jan 2016 10:00		27 Jan 2016 17:17	28 Jan 2016 13:55	1
HS16011020-02	SO-1620-DSB2(0-5)-20160127	27 Jan 2016 10:36		27 Jan 2016 17:17	28 Jan 2016 14:55	1
HS16011020-03	SO-1620-DSB3(0-5)-20160127	27 Jan 2016 11:15		27 Jan 2016 17:17	28 Jan 2016 17:40	10
HS16011020-03	SO-1620-DSB3(0-5)-20160127	27 Jan 2016 11:15		27 Jan 2016 17:17	28 Jan 2016 15:16	1
HS16011020-04	SO-1620-DSB4(0-5)-20160127	27 Jan 2016 12:05		27 Jan 2016 17:17	28 Jan 2016 15:36	1
HS16011020-05	SO-1620-DSB5(0-5)-20160127	27 Jan 2016 12:35		27 Jan 2016 17:17	28 Jan 2016 18:01	4
HS16011020-05	SO-1620-DSB5(0-5)-20160127	27 Jan 2016 12:35		27 Jan 2016 17:17	28 Jan 2016 15:56	1
HS16011020-06	SO-1620-DSB6(0-5)-20160127	27 Jan 2016 13:00		27 Jan 2016 17:17	28 Jan 2016 18:21	10
HS16011020-06	SO-1620-DSB6(0-5)-20160127	27 Jan 2016 13:00		27 Jan 2016 17:17	28 Jan 2016 16:16	1
HS16011020-07	SO-1620-DSB7(0-5)-20160127	27 Jan 2016 13:30		27 Jan 2016 17:17	28 Jan 2016 18:41	4
HS16011020-07	SO-1620-DSB7(0-5)-20160127	27 Jan 2016 13:30		27 Jan 2016 17:17	28 Jan 2016 16:37	1
HS16011020-08	SO-1620-DSB8(0-5)-20160127	27 Jan 2016 13:58		27 Jan 2016 17:17	28 Jan 2016 16:57	5
Batch ID 100963	**Test Name :** METALS BY SW6020A			**Matrix:** Soil		
HS16011020-01	SO-1620-DSB1(0-5)-20160127	27 Jan 2016 10:00		27 Jan 2016 21:34	28 Jan 2016 12:19	1
HS16011020-02	SO-1620-DSB2(0-5)-20160127	27 Jan 2016 10:36		27 Jan 2016 21:34	28 Jan 2016 12:49	1
HS16011020-03	SO-1620-DSB3(0-5)-20160127	27 Jan 2016 11:15		27 Jan 2016 21:34	28 Jan 2016 12:53	1
HS16011020-04	SO-1620-DSB4(0-5)-20160127	27 Jan 2016 12:05		27 Jan 2016 21:34	28 Jan 2016 12:57	1
HS16011020-05	SO-1620-DSB5(0-5)-20160127	27 Jan 2016 12:35		27 Jan 2016 21:34	28 Jan 2016 13:02	1
HS16011020-06	SO-1620-DSB6(0-5)-20160127	27 Jan 2016 13:00		27 Jan 2016 21:34	28 Jan 2016 13:06	1
HS16011020-07	SO-1620-DSB7(0-5)-20160127	27 Jan 2016 13:30		27 Jan 2016 21:34	28 Jan 2016 13:10	1
HS16011020-08	SO-1620-DSB8(0-5)-20160127	27 Jan 2016 13:58		27 Jan 2016 21:34	28 Jan 2016 13:41	10
HS16011020-08	SO-1620-DSB8(0-5)-20160127	27 Jan 2016 13:58		27 Jan 2016 21:34	28 Jan 2016 13:15	1

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
WorkOrder: HS16011020

DATES REPORT

Sample ID	Client Samp ID	Collection Date	TCLP Date	Prep Date	Analysis Date	DF
Batch ID R268372	**Test Name :** MOISTURE - ASTM D2216			**Matrix:** Soil		
HS16011020-01	SO-1620-DSB1(0-5)-20160127	27 Jan 2016 10:00			27 Jan 2016 15:01	1
HS16011020-02	SO-1620-DSB2(0-5)-20160127	27 Jan 2016 10:36			27 Jan 2016 15:01	1
HS16011020-03	SO-1620-DSB3(0-5)-20160127	27 Jan 2016 11:15			27 Jan 2016 15:01	1
HS16011020-04	SO-1620-DSB4(0-5)-20160127	27 Jan 2016 12:05			27 Jan 2016 15:01	1
HS16011020-05	SO-1620-DSB5(0-5)-20160127	27 Jan 2016 12:35			27 Jan 2016 15:01	1
HS16011020-06	SO-1620-DSB6(0-5)-20160127	27 Jan 2016 13:00			27 Jan 2016 15:01	1
HS16011020-07	SO-1620-DSB7(0-5)-20160127	27 Jan 2016 13:30			27 Jan 2016 15:01	1
HS16011020-08	SO-1620-DSB8(0-5)-20160127	27 Jan 2016 13:58			27 Jan 2016 15:01	1

WorkOrder: HS16011020
InstrumentID: ICPMS04
Test Code: ICP_S_Low
Test Number: SW6020
Test Name: Metals by SW6020A

METHOD DETECTION / REPORTING LIMITS

Matrix: Solid **Units:** mg/Kg

Type	Analyte	CAS	DCS Spike	DCS	MDL	PQL
A	Arsenic	7440-38-2	0.100	0.119	0.100	0.500
A	Lead	7439-92-1	0.100	0.0949	0.0500	0.500

WorkOrder: HS16011020
InstrumentID: SV-4
Test Code: 8270_LOW_S
Test Number: SW8270
Test Name: Low-Level Semivolatiles

METHOD DETECTION / REPORTING LIMITS

Matrix: Solid **Units:** mg/Kg

Type	Analyte	CAS	DCS Spike	DCS	MDL	PQL
A	1,2-Diphenylhydrazine	122-66-7	0.0033	0.0029	0.0011	0.0066
A	2,4-Dimethylphenol	105-67-9	0.0033	0.00084	0.0033	0.0066
A	2,4-Dinitrotoluene	121-14-2	0.0033	0.0025	0.00090	0.0066
A	2,6-Dinitrotoluene	606-20-2	0.0033	0.0030	0.0033	0.0066
A	2-Chloronaphthalene	91-58-7	0.0033	0.0025	0.0013	0.0066
A	2-Methylnaphthalene	91-57-6	0.0033	0.0034	0.00050	0.0033
A	4,6-Dinitro-2-methylphenol	534-52-1	0.0033	0.0036	0.0021	0.0066
A	4-Nitrophenol	100-02-7	0.0033	0.0043	0.0019	0.013
A	Acenaphthene	83-32-9	0.0033	0.0029	0.00050	0.0033
A	Acenaphthylene	208-96-8	0.0017	0.0017	0.0010	0.0033
A	Anthracene	120-12-7	0.0033	0.0031	0.00050	0.0033
A	Benz(a)anthracene	56-55-3	0.0017	0.0020	0.0016	0.0033
A	Benz(a)anthracene	56-55-3	0.0033	0.0032	0.0016	0.0033
A	Benzo(a)pyrene	50-32-8	0.0033	0.0032	0.0010	0.0033
A	Benzo(a)pyrene	50-32-8	0.0017	0.0018	0.0010	0.0033
A	Bis(2-chloroethoxy)methane	111-91-1	0.0033	0.0033	0.00090	0.0066
A	Bis(2-ethylhexyl)phthalate	117-81-7	0.0033	0.0060	0.0017	0.0066
A	Chrysene	218-01-9	0.0033	0.0044	0.00080	0.0033
A	Chrysene	218-01-9	0.0017	0.0017	0.00080	0.0033
A	Dibenzofuran	132-64-9	0.0033	0.0028	0.00070	0.0033
A	Di-n-butyl phthalate	84-74-2	0.0033	0.0038	0.0012	0.0066
A	Fluoranthene	206-44-0	0.0033	0.0038	0.0011	0.0033
A	Fluoranthene	206-44-0	0.0017	0.0019	0.0011	0.0033
A	Fluorene	86-73-7	0.0017	0.0015	0.0011	0.0033
A	Fluorene	86-73-7	0.0033	0.0027	0.0011	0.0033
A	Naphthalene	91-20-3	0.0033	0.0034	0.00060	0.0033
A	Nitrobenzene	98-95-3	0.0033	0.0038	0.00090	0.0066
A	N-Nitrosodiphenylamine	86-30-6	0.0033	0.0037	0.00070	0.0066
A	Pentachlorophenol	87-86-5	0.0033	0.0023	0.0033	0.0066
A	Phenanthrene	85-01-8	0.0033	0.0031	0.0015	0.0033
A	Phenanthrene	85-01-8	0.0017	0.0017	0.0015	0.0033
A	Phenol	108-95-2	0.0033	0.0038	0.0011	0.0066
A	Pyrene	129-00-0	0.0033	0.0045	0.00060	0.0033
A	Pyrene	129-00-0	0.0017	0.0019	0.00060	0.0033
S	2,4,6-Tribromophenol	118-79-6	0	0	0	0
S	2-Fluorobiphenyl	321-60-8	0	0	0	0
S	2-Fluorophenol	367-12-4	0	0	0	0
S	4-Terphenyl-d14	1718-51-0	0	0	0	0
S	Nitrobenzene-d5	4165-60-0	0	0	0	0
S	Phenol-d6	13127-88-3	0	0	0	0

WorkOrder: HS16011020
InstrumentID: Balance1
Test Code: MOIST_ASTM
Test Number: ASTM D2216
Test Name: Moisture - ASTM D2216

METHOD DETECTION / REPORTING LIMITS

Matrix: Solid **Units:** wt%

Type	Analyte	CAS	DCS Spike	DCS	MDL	PQL
A	Percent Moisture	MOIST	0.0100	0.0100	0.0100	0.0100

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
WorkOrder: HS16011020

QC BATCH REPORT

Batch ID: 100963 **Instrument: ICPMS04** **Method: SW6020**

MBLK Sample ID: **MBLK-100963** Units: **mg/Kg** Analysis Date: **28-Jan-2016 12:10**
Client ID: Run ID: **ICPMS04_268388** SeqNo: **3567514** PrepDate: **27-Jan-2016** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	U	0.500								
Lead	U	0.500								

LCS Sample ID: **MLCS-100963** Units: **mg/Kg** Analysis Date: **28-Jan-2016 12:15**
Client ID: Run ID: **ICPMS04_268388** SeqNo: **3567515** PrepDate: **27-Jan-2016** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	8.617	0.500	10	0	86.2	80 - 120				
Lead	9.255	0.500	10	0	92.6	80 - 120				

MS Sample ID: **HS16011020-01MS** Units: **mg/Kg** Analysis Date: **28-Jan-2016 12:28**
Client ID: **SO-1620-DSB1(0-5)-20160127** Run ID: **ICPMS04_268388** SeqNo: **3567518** PrepDate: **27-Jan-2016** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	9.351	0.467	9.346	2.289	75.6	75 - 125				
Lead	17.28	0.467	9.346	12.62	49.9	75 - 125				S

MSD Sample ID: **HS16011020-01MSD** Units: **mg/Kg** Analysis Date: **28-Jan-2016 12:32**
Client ID: **SO-1620-DSB1(0-5)-20160127** Run ID: **ICPMS04_268388** SeqNo: **3567519** PrepDate: **27-Jan-2016** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	9.109	0.475	9.509	2.289	71.7	75 - 125	9.351	2.62	20	S
Lead	16.21	0.475	9.509	12.62	37.7	75 - 125	17.28	6.39	20	S

PDS Sample ID: **HS16011020-01BS** Units: **mg/Kg** Analysis Date: **28-Jan-2016 12:36**
Client ID: **SO-1620-DSB1(0-5)-20160127** Run ID: **ICPMS04_268388** SeqNo: **3567520** PrepDate: **27-Jan-2016** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	10.17	0.463	9.268	2.289	85.1	75 - 125				
Lead	20.86	0.463	9.268	12.62	88.9	75 - 125				

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
WorkOrder: HS16011020

QC BATCH REPORT

Batch ID: 100963 **Instrument: ICPMS04** **Method: SW6020**

SD Sample ID: **HS16011020-01 DIL SX** Units: **mg/Kg** Analysis Date: **28-Jan-2016 12:23**
Client ID: **SO-1620-DSB1(0-5)-20160127** Run ID: **ICPMS04_268388** SeqNo: **3567517** PrepDate: **27-Jan-2016** DF: **5**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%D	%D Limit	Qual
Arsenic	2.457	2.32					2.289	0	10	
Lead	12.41	2.32					12.62	1.63	10	

The following samples were anayzed in this batch:

HS16011020-01	HS16011020-02	HS16011020-03	HS16011020-04
HS16011020-05	HS16011020-06	HS16011020-07	HS16011020-08

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
WorkOrder: HS16011020

QC BATCH REPORT

Batch ID: 100953 **Instrument: SV-4** **Method: SW8270**

MBLK Sample ID: **MBLK-100953** Units: **ug/Kg** Analysis Date: **28-Jan-2016 13:09**
Client ID: Run ID: **SV-4_268426** SeqNo: **3568369** PrepDate: **27-Jan-2016** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Diphenylhydrazine	U	6.6								
2,4-Dimethylphenol	U	6.6								
2,4-Dinitrotoluene	U	6.6								
2,6-Dinitrotoluene	U	6.6								
2-Chloronaphthalene	U	6.6								
2-Methylnaphthalene	U	3.3								
4,6-Dinitro-2-methylphenol	U	6.6								
4-Nitrophenol	U	13								
Acenaphthene	U	3.3								
Acenaphthylene	U	3.3								
Anthracene	U	3.3								
Benz(a)anthracene	U	3.3								
Benzo(a)pyrene	U	3.3								
Bis(2-chloroethoxy)methane	U	6.6								
Bis(2-ethylhexyl)phthalate	U	6.6								
Chrysene	U	3.3								
Dibenzofuran	U	3.3								
Di-n-butyl phthalate	U	6.6								
Fluoranthene	U	3.3								
Fluorene	U	3.3								
Naphthalene	U	3.3								
Nitrobenzene	U	6.6								
N-Nitrosodiphenylamine	U	6.6								
Pentachlorophenol	U	6.6								
Phenanthrene	U	3.3								
Phenol	U	6.6								
Pyrene	U	3.3								
Surr: 2,4,6-Tribromophenol	*95*	*0*	*167*	*0*	*56.9*	*36 - 126*				
Surr: 2-Fluorobiphenyl	*132.5*	*0*	*167*	*0*	*79.3*	*43 - 125*				
Surr: 2-Fluorophenol	*113.9*	*0*	*167*	*0*	*68.2*	*37 - 125*				
Surr: 4-Terphenyl-d14	*139.9*	*0*	*167*	*0*	*83.8*	*32 - 125*				
Surr: Nitrobenzene-d5	*138.5*	*0*	*167*	*0*	*82.9*	*37 - 125*				
Surr: Phenol-d6	*118.5*	*0*	*167*	*0*	*70.9*	*40 - 125*				

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
WorkOrder: HS16011020

QC BATCH REPORT

Batch ID: 100953 **Instrument: SV-4** **Method: SW8270**

LCS Sample ID: **LCS-100953** Units: **ug/Kg** Analysis Date: **28-Jan-2016 13:29**
Client ID: Run ID: **SV-4_268426** SeqNo: **3568370** PrepDate: **27-Jan-2016** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Diphenylhydrazine	119.1	6.6	167	0	71.3	50 - 135				
2,4-Dimethylphenol	133.3	6.6	167	0	79.8	45 - 120				
2,4-Dinitrotoluene	150.1	6.6	167	0	89.9	50 - 130				
2,6-Dinitrotoluene	155.3	6.6	167	0	93.0	50 - 125				
2-Chloronaphthalene	133.9	6.6	167	0	80.2	50 - 145				
2-Methylnaphthalene	142.1	3.3	167	0	85.1	50 - 120				
4,6-Dinitro-2-methylphenol	162.4	6.6	167	0	97.2	15 - 135				
4-Nitrophenol	130.2	13	167	0	78.0	40 - 147				
Acenaphthene	131.3	3.3	167	0	78.6	50 - 120				
Acenaphthylene	122.5	3.3	167	0	73.3	50 - 120				
Anthracene	140.2	3.3	167	0	83.9	50 - 123				
Benz(a)anthracene	142.4	3.3	167	0	85.3	50 - 131				
Benzo(a)pyrene	151.9	3.3	167	0	91.0	50 - 130				
Bis(2-chloroethoxy)methane	136.1	6.6	167	0	81.5	50 - 120				
Bis(2-ethylhexyl)phthalate	214.4	6.6	167	0	128	21 - 148				
Chrysene	134.4	3.3	167	0	80.5	50 - 130				
Dibenzofuran	137.6	3.3	167	0	82.4	50 - 125				
Di-n-butyl phthalate	160.2	6.6	167	0	95.9	50 - 140				
Fluoranthene	160.5	3.3	167	0	96.1	50 - 131				
Fluorene	139.9	3.3	167	0	83.8	50 - 125				
Naphthalene	140	3.3	167	0	83.8	50 - 125				
Nitrobenzene	137.2	6.6	167	0	82.2	50 - 125				
N-Nitrosodiphenylamine	145.9	6.6	167	0	87.4	50 - 130				
Pentachlorophenol	140.3	6.6	167	0	84.0	23 - 136				
Phenanthrene	134.5	3.3	167	0	80.5	50 - 125				
Phenol	119.8	6.6	167	0	71.8	45 - 130				
Pyrene	164.7	3.3	167	0	98.6	45 - 130				
Surr: 2,4,6-Tribromophenol	*95.9*	*0*	*167*	*0*	*57.4*	*36 - 126*				
Surr: 2-Fluorobiphenyl	*127.7*	*0*	*167*	*0*	*76.4*	*43 - 125*				
Surr: 2-Fluorophenol	*118.6*	*0*	*167*	*0*	*71.0*	*37 - 125*				
Surr: 4-Terphenyl-d14	*122.8*	*0*	*167*	*0*	*73.5*	*32 - 125*				
Surr: Nitrobenzene-d5	*128.4*	*0*	*167*	*0*	*76.9*	*37 - 125*				
Surr: Phenol-d6	*117.3*	*0*	*167*	*0*	*70.2*	*40 - 125*				

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
WorkOrder: HS16011020

QC BATCH REPORT

Batch ID: 100953 **Instrument: SV-4** **Method: SW8270**

MS Sample ID: **HS16011020-01MS** Units: **ug/Kg** Analysis Date: **28-Jan-2016 14:15**
Client ID: **SO-1620-DSB1(0-5)-20160127** Run ID: **SV-4_268426** SeqNo: **3568372** PrepDate: **27-Jan-2016** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Diphenylhydrazine	172.8	6.6	166.8	0	104	50 - 135				
2,4-Dimethylphenol	165.4	6.6	166.8	0	99.1	45 - 120				
2,4-Dinitrotoluene	206.6	6.6	166.8	0	124	50 - 130				
2,6-Dinitrotoluene	192.9	6.6	166.8	0	116	50 - 125				
2-Chloronaphthalene	152.1	6.6	166.8	0	91.2	50 - 145				
2-Methylnaphthalene	189	3.3	166.8	7.85	109	50 - 120				
4,6-Dinitro-2-methylphenol	165.2	6.6	166.8	0	99.0	15 - 135				
4-Nitrophenol	194.2	13	166.8	0	116	40 - 147				
Acenaphthene	167.9	3.3	166.8	9.766	94.8	50 - 120				
Acenaphthylene	359.3	3.3	166.8	128.1	139	50 - 120				SE
Anthracene	456.9	3.3	166.8	177.6	167	50 - 123				SE
Benz(a)anthracene	478	3.3	166.8	275.7	121	50 - 131				E
Benzo(a)pyrene	794.7	3.3	166.8	422.4	223	50 - 130				SE
Bis(2-chloroethoxy)methane	164.1	6.6	166.8	0	98.3	50 - 120				
Bis(2-ethylhexyl)phthalate	361.6	6.6	166.8	0	217	21 - 148				SE
Chrysene	643.7	3.3	166.8	331	187	50 - 130				SE
Dibenzofuran	188.8	3.3	166.8	10.78	107	50 - 125				
Di-n-butyl phthalate	215.5	6.6	166.8	0	129	50 - 140				
Fluoranthene	592.6	3.3	166.8	266.1	196	50 - 131				SE
Fluorene	189.8	3.3	166.8	14.46	105	50 - 125				
Naphthalene	201.4	3.3	166.8	25.67	105	50 - 125				
Nitrobenzene	184.1	6.6	166.8	0	110	50 - 125				
N-Nitrosodiphenylamine	211.3	6.6	166.8	0	127	50 - 130				
Pentachlorophenol	186.5	6.6	166.8	0	112	23 - 136				
Phenanthrene	354.1	3.3	166.8	91.27	158	50 - 125				SE
Phenol	177.5	6.6	166.8	9.891	100	45 - 130				
Pyrene	675.4	3.3	166.8	376.5	179	45 - 130				SE
Surr: 2,4,6-Tribromophenol	*159*	*0*	*166.8*	*0*	*95.3*	*36 - 126*				
Surr: 2-Fluorobiphenyl	*181*	*0*	*166.8*	*0*	*108*	*43 - 125*				
Surr: 2-Fluorophenol	*154*	*0*	*166.8*	*0*	*92.3*	*37 - 125*				
Surr: 4-Terphenyl-d14	*207.7*	*0*	*166.8*	*0*	*124*	*32 - 125*				
Surr: Nitrobenzene-d5	*188.7*	*0*	*166.8*	*0*	*113*	*37 - 125*				
Surr: Phenol-d6	*180*	*0*	*166.8*	*0*	*108*	*40 - 125*				

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
WorkOrder: HS16011020

QC BATCH REPORT

Batch ID: 100953 **Instrument: SV-4** **Method: SW8270**

MSD Sample ID: **HS16011020-01MSD** Units: **ug/Kg** Analysis Date: **28-Jan-2016 14:35**
Client ID: **SO-1620-DSB1(0-5)-20160127** Run ID: **SV-4_268426** SeqNo: **3568373** PrepDate: **27-Jan-2016** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual
1,2-Diphenylhydrazine	149.6	6.6	166.7	0	89.7	50 - 135	172.8	14.4	30	
2,4-Dimethylphenol	160.6	6.6	166.7	0	96.3	45 - 120	165.4	2.92	30	
2,4-Dinitrotoluene	210.9	6.6	166.7	0	126	50 - 130	206.6	2.02	30	
2,6-Dinitrotoluene	205.2	6.6	166.7	0	123	50 - 125	192.9	6.2	30	
2-Chloronaphthalene	158.2	6.6	166.7	0	94.9	50 - 145	152.1	3.94	30	
2-Methylnaphthalene	176.5	3.3	166.7	7.85	101	50 - 120	189	6.86	30	
4,6-Dinitro-2-methylphenol	123.8	6.6	166.7	0	74.2	15 - 135	165.2	28.7	30	
4-Nitrophenol	202.3	13	166.7	0	121	40 - 147	194.2	4.08	30	
Acenaphthene	165.7	3.3	166.7	9.766	93.5	50 - 120	167.9	1.31	30	
Acenaphthylene	332.8	3.3	166.7	128.1	123	50 - 120	359.3	7.68	30	S
Anthracene	417.9	3.3	166.7	177.6	144	50 - 123	456.9	8.92	30	SE
Benz(a)anthracene	376.4	3.3	166.7	275.7	60.4	50 - 131	478	23.8	30	E
Benzo(a)pyrene	407.8	3.3	166.7	422.4	-8.76	50 - 130	794.7	64.3	30	SRE
Bis(2-chloroethoxy)methane	162.1	6.6	166.7	0	97.2	50 - 120	164.1	1.19	30	
Bis(2-ethylhexyl)phthalate	337.9	6.6	166.7	0	203	21 - 148	361.6	6.77	30	SE
Chrysene	508.5	3.3	166.7	331	106	50 - 130	643.7	23.5	30	E
Dibenzofuran	182.2	3.3	166.7	10.78	103	50 - 125	188.8	3.55	30	
Di-n-butyl phthalate	210.4	6.6	166.7	0	126	50 - 140	215.5	2.39	30	
Fluoranthene	410.8	3.3	166.7	266.1	86.8	50 - 131	592.6	36.2	30	RE
Fluorene	200.1	3.3	166.7	14.46	111	50 - 125	189.8	5.28	30	
Naphthalene	181.7	3.3	166.7	25.67	93.6	50 - 125	201.4	10.3	30	
Nitrobenzene	163	6.6	166.7	0	97.8	50 - 125	184.1	12.1	30	
N-Nitrosodiphenylamine	204.4	6.6	166.7	0	123	50 - 130	211.3	3.29	30	
Pentachlorophenol	179.4	6.6	166.7	0	108	23 - 136	186.5	3.87	30	
Phenanthrene	267.6	3.3	166.7	91.27	106	50 - 125	354.1	27.8	30	
Phenol	169.3	6.6	166.7	9.891	95.6	45 - 130	177.5	4.74	30	
Pyrene	515.8	3.3	166.7	376.5	83.6	45 - 130	675.4	26.8	30	E
Surr: 2,4,6-Tribromophenol	*159.4*	*0*	*166.7*	*0*	*95.6*	*36 - 126*	*159*	*0.251*	*30*	
Surr: 2-Fluorobiphenyl	*177.4*	*0*	*166.7*	*0*	*106*	*43 - 125*	*181*	*2.01*	*30*	
Surr: 2-Fluorophenol	*132.5*	*0*	*166.7*	*0*	*79.5*	*37 - 125*	*154*	*15.1*	*30*	
Surr: 4-Terphenyl-d14	*183.5*	*0*	*166.7*	*0*	*110*	*32 - 125*	*207.7*	*12.4*	*30*	
Surr: Nitrobenzene-d5	*168.3*	*0*	*166.7*	*0*	*101*	*37 - 125*	*188.7*	*11.4*	*30*	
Surr: Phenol-d6	*153.1*	*0*	*166.7*	*0*	*91.8*	*40 - 125*	*180*	*16.2*	*30*	

The following samples were anayzed in this batch: HS16011020-01 HS16011020-02 HS16011020-03 HS16011020-04 HS16011020-05 HS16011020-06 HS16011020-07 HS16011020-08

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
WorkOrder: HS16011020

QC BATCH REPORT

Batch ID: **R268372** **Instrument:** **Balance1** **Method:** **ASTM D2216**

DUP Sample ID: **HS16011020-08DUP** Units: **wt%** Analysis Date: **27-Jan-2016 15:01**
Client ID: **SO-1620-DSB8(0-5)-20160127** Run ID: **Balance1_268372** SeqNo: **3567083** PrepDate: DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Percent Moisture	19.6	0.0100					19.9	1.52	20	

The following samples were anayzed in this batch:

HS16011020-01	HS16011020-02	HS16011020-03	HS16011020-04
HS16011020-05	HS16011020-06	HS16011020-07	HS16011020-08

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
WorkOrder: **HS16011020**

QUALIFIERS, ACRONYMS, UNITS

Qualifier	Description
*	Value exceeds Regulatory Limit
a	Not accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte detected below quantitation limit
M	Manually integrated, see raw data for justification
n	Not offered for accreditation
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL/SDL

Acronym	Description
DCS	Detectability Check Study
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
MBLK	Method Blank
MDL	Method Detection Limit
MQL	Method Quantitation Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PDS	Post Digestion Spike
PQL	Practical Quantitaion Limit
SD	Serial Dilution
SDL	Sample Detection Limit
TRRP	Texas Risk Reduction Program

Unit Reported	Description
mg/Kg-dry	Milligrams per Kilogram- Dry weight corrected

CERTIFICATIONS,ACCREDITATIONS & LICENSES

Agency	Number	Expire Date
Arkansas	15-024-0	27-Mar-2016
California	2919	31-Jul-2016
Illinois	003622	09-May-2016
Kansas	E-10352 2014-2015	31-Jan-2016
Kentucky	KY 2015-2016	30-Apr-2016
Louisiana	03087 2015/2016	30-Jun-2016
North Carolina	624 - 2016	31-Dec-2016
North Dakota	R-193 2015-2016	30-Apr-2016
Oklahoma	2015-047	31-Aug-2016
Texas	T104704231-15-15	30-Apr-2016

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
Work Order: HS16011020

SAMPLE TRACKING

Lab Samp ID	Client Sample ID	Action	Date	Person	New Location
HS16011020-01	SO-1620-DSB1(0-5)-20160127	Login	1/27/2016 2:38:09 PM	BHH	10D
HS16011020-02	SO-1620-DSB2(0-5)-20160127	Login	1/27/2016 2:38:09 PM	BHH	10D
HS16011020-03	SO-1620-DSB3(0-5)-20160127	Login	1/27/2016 2:38:09 PM	BHH	10D
HS16011020-04	SO-1620-DSB4(0-5)-20160127	Login	1/27/2016 2:38:09 PM	BHH	10D
HS16011020-05	SO-1620-DSB5(0-5)-20160127	Login	1/27/2016 2:38:09 PM	BHH	10D
HS16011020-06	SO-1620-DSB6(0-5)-20160127	Login	1/27/2016 2:38:09 PM	BHH	10D
HS16011020-07	SO-1620-DSB7(0-5)-20160127	Login	1/27/2016 2:38:09 PM	BHH	10D
HS16011020-08	SO-1620-DSB8(0-5)-20160127	Login	1/27/2016 2:38:09 PM	BHH	10D

ALS Group USA, Corp Date: 29-Jan-16

Sample Receipt Checklist

Client Name: PBW Date/Time Received: **27-Jan-2016 14:30**

Work Order: HS16011020 Received by: **PS**

Checklist completed by: *Baudelio Hernandez* 27-Jan-2016
eSignature Date

Reviewed by: *Dane J. Wacasey* 28-Jan-2016
eSignature Date

Matrices: **Soil** Carrier name: **ALS Courier**

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on shipping container/cooler?	Yes ☐	No ☐	Not Present ☑
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☑	No ☐	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
TX1005 solids received in hermetically sealed vials?	Yes ☐	No ☐	N/A ☑
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time?	Yes ☑	No ☐	
Container/Temp Blank temperature in compliance?	Yes ☑	No ☐	
Temperature(s)/Thermometer(s):	1.2c / 1.4c u/c	IR#4	
Cooler(s)/Kit(s):	Green		
Date/Time sample(s) sent to storage:	01/27/2016 14:40		
Water - VOA vials have zero headspace?	Yes ☐	No ☐	No VOA vials submitted ☑
Water - pH acceptable upon receipt?	Yes ☐	No ☐	N/A ☑
pH adjusted?	Yes ☐	No ☐	N/A ☑
pH adjusted by:			

Login Notes:

Client Contacted: Date Contacted: Person Contacted:

Contacted By: 0 Regarding:

Comments:

Corrective Action:

ALS Environmental

Cincinnati, OH +1 513 733 5336 | Fort Collins, CO +1 970 490 1511
Everett, WA +1 425 356 2600 | Holland, MI +1 616 399 6070

Chain of Custody Form

Page ____ of ____

COC ID: 135244

HS16011020

Pastor, Behling & Wheeler, LLC
1620-11-Rev0 HoustonTX-Wood

ALS Project Manager:

Customer Information		Project Information			
Purchase Order	UPRR	Project Name	1620-10-Rev1 HoustonTX-Wood	A	8270_LOW_S (5632532 SemiVolatiles)
Work Order		Project Number	1620-10-Rev1	B	ICP_S_Low (5636002 5652646 Metals - As, Pb)
Company Name	Pastor, Behling & Wheeler, LLC	Bill To Company	Union Pacific Railroad- A/P	C	MOIST_ASTM (5631931 Gen.Chem. MOIST%)
Send Report To	Eric Matzner	Invoice Attn	Accounts Payable	D	
Address	2201 Double Creek Drive Suite 4004	Address	1400 Douglas Street Stop 0750	E	
City/State/Zip	Round Rock, TX 78664	City/State/Zip	Omaha, NE 681790750	F	
Phone	(512) 671-3434	Phone		G	
Fax	(512) 671-3446	Fax		H	
e-Mail Address		e-Mail Address		I	
				J	

No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
1	SO-1620-DSB1(0-5)-20160127	01/27/16	10:00	Soil	8	1	X	X	X								
2	SO-1620-DSB2(0-5)-20160127	01/27/16	10:30	Soil	8	1	X	X	X								
3	SO-1620-DSB3(0-5)-20160127	01/27/16	11:15	Soil	8	1	X	X	X								
4	SO-1620-DSB4(0-5)-20160127	01/27/16	12:05	Soil	8	1	X	X	X								
5	SO-1620-DSB5(0-5)-20160127	01/27/16	12:35	Soil	8	1	X	X	X								
6	SO-1620-DSB6(0-5)-20160127	01/27/16	13:00	Soil	8	1	X	X	X								
7	SO-1620-DSB7(0-5)-20160127	01/27/16	13:30	Soil	8	1	X	X	X								
8	SO-1620-DSB8(0-5)-20160127	01/27/16	13:58	Soil	8	1	X	X	X								
9																	
10																	

Sampler(s) Please Print & Sign: Chris Kakolewski

Shipment Method:

Required Turnaround Time: (Check Box) TAT 1 days Other:

Results Due Date:

	Date:	Time:	
Relinquished by:	1/27/16	14:01	Received by:
Relinquished by:	1-27-16	1430	Received by (Laboratory):
Logged by (Laboratory):	Date:	Time:	Checked by (Laboratory):

Notes: [UPRR Houston NWPW]

Cooler ID	Cooler Temp.

QC Package: (Check One Box Below)

QC Level: TRRP LRC

Other:

Preservative Key: 1-HCl 2-HNO_3 3-H_2SO_4 4-NaOH 5-$Na_2S_2O_3$ 6-$NaHSO_4$ 7-Other 8-4°C 9-5035

ote: 1. Any changes must be made in writing once samples and COC Form have been submitted to ALS Environmental.
2. Unless otherwise agreed in a formal contract, services provided by ALS Environmental are expressly limited to the terms and conditions stated on the reverse.
3. The Chain of Custody is a legal document. All information must be completed accurately.

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January 29, 2016

Eric Matzner
Pastor, Behling & Wheeler, LLC
2201 Double Creek Drive
Suite 4004
Round Rock, TX 78664

Work Order: **HS16011090**

Laboratory Results for: **1620-10-Rev1 HoustonTX-Wood**

Dear Eric,

ALS Environmental received 12 sample(s) on Jan 28, 2016 for the analysis presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested. Results are expressed as "as received" unless otherwise noted.

QC sample results for this data met EPA or laboratory specifications except as noted in the Case Narrative or as noted with qualifiers in the QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained by ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

If you have any questions regarding this report, please feel free to call me.

Sincerely,

Generated By: Jumoke.Lawal
Dane J. Wacasey

Client:	Pastor, Behling & Wheeler, LLC	**TRRP Laboratory Data Package Cover Page**
Project:	1620-10-Rev1 HoustonTX-Wood	
WorkOrder:	**HS16011090**	

This data package consists of all or some of the following as applicable:

This signature page, the laboratory review checklist, and the following reportable data:

R1 Field chain-of-custody documentation;

R2 Sample identification cross-reference;

R3 Test reports (analytical data sheets) for each environmental sample that includes:

a) Items consistent with NELAC Chapter 5,
b) dilution factors,
c) preparation methods,
d) cleanup methods, and
e) if required for the project, tentatively identified compounds (TICs).

R4 Surrogate recovery data including:

a) Calculated recovery (%R), and
b) The laboratory's surrogate QC limits.

R5 Test reports/summary forms for blank samples;

R6 Test reports/summary forms for laboratory control samples (LCSs) including:

a) LCS spiking amounts,
b) Calculated %R for each analyte, and
c)The laboratory's LCS QC limits.

R7 Test reports for project matrix spike/matrix spike duplicates (MS/MSDs) including:

a) Samples associated with the MS/MSD clearly identified,
b) MS/MSD spiking amounts,
c) Concentration of each MS/MSD analyte measured in the parent and spiked samples,
d) Calculated %Rs and relative percent differences (RPDs), and
e) The laboratory's MS/MSD QC limits.

R8 Laboratory analytical duplicate (if applicable) recovery and precision:

a) the amount of analyte measured in the duplicate,
b) the calculated RPD, and
c) the laboratory's QC limits for analytical duplicates.

R9 List of method quantitation limits (MQLs) and detectability check sample results for each analyte for each method and matrix.

R10 Other problems or anomalies.
The Exception Report for each "No" or "Not Reviewed (NR)" item in Laboratory Review Checklist and for each analyte, matrix, and method for which the laboratory does not hold NELAC accreditation under the Texas Laboratory Accreditation Program.

Client:	Pastor, Behling & Wheeler, LLC
Project:	1620-10-Rev1 HoustonTX-Wood
WorkOrder:	**HS16011090**

TRRP Laboratory Data Package Cover Page

Release Statement: I am responsible for the release of this laboratory data package. This laboratory is NELAC accredited under the Texas Laboratory Accreditation Program for all the methods, analytes and matrices reported in this data package except as noted in the Exception Reports. The data have been reviewed and are technically compliant with the requirements of the methods used, except where noted by the laboratory in the attached exception reports. By my signature below, I affirm to the best of my knowledge, all problems/anomalies, observed by the laboratory have been identified by the laboratory in the Laboratory Review Checklist, and no information affecting the quality of the data has been knowingly withheld.

Check, if applicable: [NA] This laboratory meets an exception under 30 TAC §25.6 and was last inspected by [ ] TCEQ or [ ] _____ on (enter date of last inspection). Any findings affecting the data in this laboratory data package are noted in the Exception Reports herein. The official signing the cover page of the report in which these data are used is responsible for releasing this data package and is by signature affirming the above release statement is true.

Dane J. Wacasey

Laboratory Review Checklist: Reportable Data								
Laboratory Name: ALS Laboratory Group			LRC Date: 01/29/2016					
Project Name: 1620-10-Rev1 HoustonTX-Wood			Laboratory Job Number: HS16011090					
Reviewer Name: Dane Wacasey			Prep Batch Number(s): 100991, 101005, R268467					
#[1]	**A[2]**	**Description**	**Yes**	**No**	**NA[3]**	**NR[4]**	**ER#[5]**
R1	OI	**Chain-of-custody (C-O-C)**					
		Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?	X				
		Were all departures from standard conditions described in an exception report?	X				
R2	OI	**Sample and quality control (QC) identification**					
		Are all field sample ID numbers cross-referenced to the laboratory ID numbers?	X				
		Are all laboratory ID numbers cross-referenced to the corresponding QC data?	X				
R3	OI	**Test reports**					
		Were all samples prepared and analyzed within holding times?	X				
		Other than those results < MQL, were all other raw values bracketed by calibration standards?	X				
		Were calculations checked by a peer or supervisor?	X				
		Were all analyte identifications checked by a peer or supervisor?	X				
		Were sample detection limits reported for all analytes not detected?	X				
		Were all results for soil and sediment samples reported on a dry weight basis?	X				
		Were % moisture (or solids) reported for all soil and sediment samples?	X				
		Were bulk soils/solids samples for volatile analysis extracted with methanol per SW-846 Method 5035?			X		
		If required for the project, TICs reported?			X		
R4	O	**Surrogate recovery data**					
		Were surrogates added prior to extraction?	X				
		Were surrogate percent recoveries in all samples within the laboratory QC limits?	X				
R5	OI	**Test reports/summary forms for blank samples**					
		Were appropriate type(s) of blanks analyzed?	X				
		Were blanks analyzed at the appropriate frequency?	X				
		Were method blanks taken through the entire analytical process, including preparation and, if applicable, cleanup procedures?	X				
		Were blank concentrations < MQL?	X				
R6	OI	**Laboratory control samples (LCS):**					
		Were all COCs included in the LCS?	X				
		Was each LCS taken through the entire analytical procedure, including prep and cleanup steps?	X				
		Were LCSs analyzed at the required frequency?	X				
		Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?	X				
		Does the detectability data document the laboratory's capability to detect the COCs at the MDL used to calculate the SDLs?	X				
		Was the LCSD RPD within QC limits?	X				
R7	OI	**Matrix spike (MS) and matrix spike duplicate (MSD) data**					
		Were the project/method specified analytes included in the MS and MSD?	X				
		Were MS/MSD analyzed at the appropriate frequency?	X				
		Were MS (and MSD, if applicable) %Rs within the laboratory QC limits?		X			1
		Were MS/MSD RPDs within laboratory QC limits?	X				
R8	OI	**Analytical duplicate data**					
		Were appropriate analytical duplicates analyzed for each matrix?	X				
		Were analytical duplicates analyzed at the appropriate frequency?	X				
		Were RPDs or relative standard deviations within the laboratory QC limits?	X				
R9	OI	**Method quantitation limits (MQLs):**					
		Are the MQLs for each method analyte included in the laboratory data package?	X				
		Do the MQLs correspond to the concentration of the lowest non-zero calibration standard?	X				
		Are unadjusted MQLs and DCSs included in the laboratory data package?	X				
R10	OI	**Other problems/anomalies**					
		Are all known problems/anomalies/special conditions noted in this LRC and ER?	X				
		Were all necessary corrective actions performed for the reported data?	X				
		Was applicable and available technology used to lower the SDL and minimize the matrix interference affects on the sample results?	X				
		Is the laboratory NELAC-accredited under the Texas Laboratory Program for the analytes, matrices and methods associated with this laboratory data package?	X				

Laboratory Review Checklist: Reportable Data							
Laboratory Name: ALS Laboratory Group			LRC Date: 01/29/2016				
Project Name: 1620-10-Rev1 HoustonTX-Wood			Laboratory Job Number: HS16011090				
Reviewer Name: Dane Wacasey			Prep Batch Number(s): 100991, 101005, R268467				
#[1]	**A[2]**	**Description**	**Yes**	**No**	**NA[3]**	**NR[4]**	**ER#[5]**
S1	OI	**Initial calibration (ICAL)**					
		Were response factors and/or relative response factors for each analyte within QC limits?	X				
		Were percent RSDs or correlation coefficient criteria met?	X				
		Was the number of standards recommended in the method used for all analytes?	X				
		Were all points generated between the lowest and highest standard used to calculate the curve?	X				
		Are ICAL data available for all instruments used?	X				
		Has the initial calibration curve been verified using an appropriate second source standard?	X				
S2	OI	**Initial and continuing calibration verification (ICCV and CCV) and continuing calibration blank (CCB)**					
		Was the CCV analyzed at the method-required frequency?	X				
		Were percent differences for each analyte within the method-required QC limits?	X				
		Was the ICAL curve verified for each analyte?	X				
		Was the absolute value of the analyte concentration in the inorganic CCB < MDL?	X				
S3	O	**Mass spectral tuning:**					
		Was the appropriate compound for the method used for tuning?	X				
		Were ion abundance data within the method-required QC limits?	X				
S4	O	**Internal standards (IS):**					
		Were IS area counts and retention times within the method-required QC limits?	X				
S5	OI	**Raw data** (NELAC section 1 appendix A glossary, and section 5.12 or ISO/IEC 17025 section					
		Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst?	X				
		Were data associated with manual integrations flagged on the raw data?	X				
S6	O	**Dual column confirmation**					
		Did dual column confirmation results meet the method-required QC?			X		
S7	O	**Tentatively identified compounds (TICs):**					
		If TICs were requested, were the mass spectra and TIC data subject to appropriate checks?			X		
S8	I	**Interference Check Sample (ICS) results:**					
		Were percent recoveries within method QC limits?	X				
S9	I	**Serial dilutions, post digestion spikes, and method of standard additions**					
		Were percent differences, recoveries, and the linearity within the QC limits specified in the method?	X				
S10	OI	**Method detection limit (MDL) studies**					
		Was a MDL study performed for each reported analyte?	X				
		Is the MDL either adjusted or supported by the analysis of DCSs?	X				
S11	OI	**Proficiency test reports:**					
		Was the laboratory's performance acceptable on the applicable proficiency tests or evaluation studies?	X				
S12	OI	**Standards documentation**					
		Are all standards used in the analyses NIST-traceable or obtained from other appropriate sources?	X				
S13	OI	**Compound/analyte identification procedures**					
		Are the procedures for compound/analyte identification documented?	X				
S14	OI	**Demonstration of analyst competency (DOC)**					
		Was DOC conducted consistent with NELAC Chapter 5C or ISO/IEC 4?	X				
		Is documentation of the analyst's competency up-to-date and on file?	X				
S15	OI	**Verification/validation documentation for methods** (NELAC Chap 5 or ISO/IEC 17025 Section 5)					
		Are all the methods used to generate the data documented, verified, and validated, where applicable?	X				
S16	OI	**Laboratory standard operating procedures (SOPs):**					
		Are laboratory SOPs current and on file for each method performed?	X				

Items identified by the letter "R" must be included in the laboratory data package submitted in the TRRP-required report(s). Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period.
O = Organic Analyses; I = Inorganic Analyses (and general chemistry, when applicable);
NA = Not Applicable;
NR = Not Reviewed;
R# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

Laboratory Review Checklist: Reportable Data	
Laboratory Name: ALS Laboratory Group	LRC Date: 01/29/2016
Project Name: 1620-10-Rev1 HoustonTX-Wood	Laboratory Job Number: HS16011090
Reviewer Name: Dane Wacasey	Prep Batch Number(s): 100991, 101005, R268467

ER#[5]	Description
1	Batch 100991, Semivolatile Organics Method SW8270, sample HS16010784-02, MS and MSD were performed on unrelated sample.

Items identified by the letter "R" must be included in the laboratory data package submitted in the TRRP-required report(s). Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period.
O = Organic Analyses; I = Inorganic Analyses (and general chemistry, when applicable);
NA = Not Applicable;
NR = Not Reviewed;
R# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
Work Order: HS16011090

SAMPLE SUMMARY

Lab Samp ID	Client Sample ID	Matrix	TagNo	Collection Date	Date Received	Hold
HS16011090-01	SO-1620-CSFS3(0-5)-20160128	Soil		28-Jan-2016 10:15	28-Jan-2016 17:20	☐
HS16011090-02	SO-1620-CSFN3(0-5)-20160128	Soil		28-Jan-2016 10:00	28-Jan-2016 17:20	☐
HS16011090-03	SO-1620-ESB4(0-5)-20160127	Soil		27-Jan-2016 15:00	28-Jan-2016 17:20	☐
HS16011090-04	SO-1620-ESB3(0-5)-20160127	Soil		27-Jan-2016 15:40	28-Jan-2016 17:20	☐
HS16011090-05	SO-1620-ESB2(0-5)-20160127	Soil		27-Jan-2016 16:15	28-Jan-2016 17:20	☐
HS16011090-06	SO-1620-ESB1(0-5)-20160127	Soil		27-Jan-2016 16:45	28-Jan-2016 17:20	☐
HS16011090-07	SO-1620-GSB1(0-1.5)-20160128	Soil		28-Jan-2016 13:00	28-Jan-2016 17:20	☐
HS16011090-08	SO-1620-GSB2(0-3)-20160128	Soil		28-Jan-2016 14:16	28-Jan-2016 17:20	☐
HS16011090-09	SO-1620-GSB3(0-3)-20160128	Soil		28-Jan-2016 12:10	28-Jan-2016 17:20	☐
HS16011090-10	SO-1620-GSB4(0-3)-20160128	Soil		28-Jan-2016 11:15	28-Jan-2016 17:20	☐
HS16011090-11	SO-1620-GSB5(0-3)-20160128	Soil		28-Jan-2016 13:30	28-Jan-2016 17:20	☐
HS16011090-12	SO-1620-GSB6(0-3)-20160128	Soil		28-Jan-2016 14:00	28-Jan-2016 17:20	☐

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
Sample ID: SO-1620-CSFS3(0-5)-20160128
Collection Date: 28-Jan-2016 10:15

ANALYTICAL REPORT
WorkOrder:HS16011090
Lab ID:HS16011090-01
Matrix:Soil

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES		**Method:SW8270**			Prep:SW3541 / 28-Jan-2016		Analyst: ACN
1,2-Diphenylhydrazine	U		0.0013	0.0077	mg/Kg-dry	1	28-Jan-2016 19:59
2,4-Dimethylphenol	U		0.0038	0.0077	mg/Kg-dry	1	28-Jan-2016 19:59
2,4-Dinitrotoluene	U		0.0010	0.0077	mg/Kg-dry	1	28-Jan-2016 19:59
2,6-Dinitrotoluene	U		0.0038	0.0077	mg/Kg-dry	1	28-Jan-2016 19:59
2-Chloronaphthalene	U		0.0015	0.0077	mg/Kg-dry	1	28-Jan-2016 19:59
2-Methylnaphthalene	U		0.00058	0.0038	mg/Kg-dry	1	28-Jan-2016 19:59
4,6-Dinitro-2-methylphenol	U		0.0024	0.0077	mg/Kg-dry	1	28-Jan-2016 19:59
4-Nitrophenol	U		0.0022	0.015	mg/Kg-dry	1	28-Jan-2016 19:59
Acenaphthene	U		0.00058	0.0038	mg/Kg-dry	1	28-Jan-2016 19:59
Acenaphthylene	**0.11**		**0.0012**	**0.0038**	**mg/Kg-dry**	1	28-Jan-2016 19:59
Anthracene	**0.13**		**0.00058**	**0.0038**	**mg/Kg-dry**	1	28-Jan-2016 19:59
Benz(a)anthracene	**0.028**		**0.0019**	**0.0038**	**mg/Kg-dry**	1	28-Jan-2016 19:59
Benzo(a)pyrene	**0.33**		**0.0012**	**0.0038**	**mg/Kg-dry**	1	28-Jan-2016 19:59
Bis(2-chloroethoxy)methane	U		0.0010	0.0077	mg/Kg-dry	1	28-Jan-2016 19:59
Bis(2-ethylhexyl)phthalate	U		0.0020	0.0077	mg/Kg-dry	1	28-Jan-2016 19:59
Chrysene	**0.066**		**0.00093**	**0.0038**	**mg/Kg-dry**	1	28-Jan-2016 19:59
Dibenzofuran	U		0.00081	0.0038	mg/Kg-dry	1	28-Jan-2016 19:59
Di-n-butyl phthalate	U		0.0014	0.0077	mg/Kg-dry	1	28-Jan-2016 19:59
Fluoranthene	**0.045**		**0.0013**	**0.0038**	**mg/Kg-dry**	1	28-Jan-2016 19:59
Fluorene	**0.019**		**0.0013**	**0.0038**	**mg/Kg-dry**	1	28-Jan-2016 19:59
Naphthalene	**0.0030**	J	**0.00070**	**0.0038**	**mg/Kg-dry**	1	28-Jan-2016 19:59
Nitrobenzene	U		0.0010	0.0077	mg/Kg-dry	1	28-Jan-2016 19:59
N-Nitrosodiphenylamine	U		0.00081	0.0077	mg/Kg-dry	1	28-Jan-2016 19:59
Pentachlorophenol	U		0.0038	0.0077	mg/Kg-dry	1	28-Jan-2016 19:59
Phenanthrene	**0.0086**		**0.0017**	**0.0038**	**mg/Kg-dry**	1	28-Jan-2016 19:59
Phenol	**0.0091**		**0.0013**	**0.0077**	**mg/Kg-dry**	1	28-Jan-2016 19:59
Pyrene	**0.058**		**0.00070**	**0.0038**	**mg/Kg-dry**	1	28-Jan-2016 19:59
Surr: 2,4,6-Tribromophenol	*68.7*			*36-126*	*%REC*	*1*	*28-Jan-2016 19:59*
Surr: 2-Fluorobiphenyl	*60.6*			*43-125*	*%REC*	*1*	*28-Jan-2016 19:59*
Surr: 2-Fluorophenol	*67.5*			*37-125*	*%REC*	*1*	*28-Jan-2016 19:59*
Surr: 4-Terphenyl-d14	*82.4*			*32-125*	*%REC*	*1*	*28-Jan-2016 19:59*
Surr: Nitrobenzene-d5	*68.9*			*37-125*	*%REC*	*1*	*28-Jan-2016 19:59*
Surr: Phenol-d6	*69.9*			*40-125*	*%REC*	*1*	*28-Jan-2016 19:59*
METALS BY SW6020A		**Method:SW6020**			Prep:SW3050A / 28-Jan-2016		Analyst: JDE
Arsenic	**1.87**		**0.113**	**0.566**	**mg/Kg-dry**	1	29-Jan-2016 12:16
Lead	**10.6**		**0.0566**	**0.566**	**mg/Kg-dry**	1	29-Jan-2016 12:16
MOISTURE - ASTM D2216		**Method:ASTM D2216**					Analyst: JHD
Percent Moisture	**14.2**		**0.0100**	**0.0100**	**wt%**	1	28-Jan-2016 18:04

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
Sample ID: SO-1620-CSFN3(0-5)-20160128
Collection Date: 28-Jan-2016 10:00

ANALYTICAL REPORT
WorkOrder:HS16011090
Lab ID:HS16011090-02
Matrix:Soil

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES	**Method:SW8270**				Prep:SW3541 / 28-Jan-2016		Analyst: ACN
1,2-Diphenylhydrazine	U		0.0013	0.0080	mg/Kg-dry	1	28-Jan-2016 20:19
2,4-Dimethylphenol	U		0.0040	0.0080	mg/Kg-dry	1	28-Jan-2016 20:19
2,4-Dinitrotoluene	U		0.0011	0.0080	mg/Kg-dry	1	28-Jan-2016 20:19
2,6-Dinitrotoluene	U		0.0040	0.0080	mg/Kg-dry	1	28-Jan-2016 20:19
2-Chloronaphthalene	U		0.0016	0.0080	mg/Kg-dry	1	28-Jan-2016 20:19
2-Methylnaphthalene	**0.012**		**0.00061**	**0.0040**	**mg/Kg-dry**	1	28-Jan-2016 20:19
4,6-Dinitro-2-methylphenol	U		0.0025	0.0080	mg/Kg-dry	1	28-Jan-2016 20:19
4-Nitrophenol	U		0.0023	0.016	mg/Kg-dry	1	28-Jan-2016 20:19
Acenaphthene	**0.044**		**0.00061**	**0.0040**	**mg/Kg-dry**	1	28-Jan-2016 20:19
Acenaphthylene	**0.15**		**0.0012**	**0.0040**	**mg/Kg-dry**	1	28-Jan-2016 20:19
Anthracene	**0.16**		**0.00061**	**0.0040**	**mg/Kg-dry**	1	28-Jan-2016 20:19
Benz(a)anthracene	**0.40**		**0.0077**	**0.016**	**mg/Kg-dry**	4	29-Jan-2016 15:33
Benzo(a)pyrene	**0.32**		**0.0048**	**0.016**	**mg/Kg-dry**	4	29-Jan-2016 15:33
Bis(2-chloroethoxy)methane	U		0.0011	0.0080	mg/Kg-dry	1	28-Jan-2016 20:19
Bis(2-ethylhexyl)phthalate	U		0.0021	0.0080	mg/Kg-dry	1	28-Jan-2016 20:19
Chrysene	**0.47**		**0.0039**	**0.016**	**mg/Kg-dry**	4	29-Jan-2016 15:33
Dibenzofuran	**0.022**		**0.00085**	**0.0040**	**mg/Kg-dry**	1	28-Jan-2016 20:19
Di-n-butyl phthalate	U		0.0015	0.0080	mg/Kg-dry	1	28-Jan-2016 20:19
Fluoranthene	**0.51**		**0.0053**	**0.016**	**mg/Kg-dry**	4	29-Jan-2016 15:33
Fluorene	**0.055**		**0.0013**	**0.0040**	**mg/Kg-dry**	1	28-Jan-2016 20:19
Naphthalene	**0.012**		**0.00073**	**0.0040**	**mg/Kg-dry**	1	28-Jan-2016 20:19
Nitrobenzene	U		0.0011	0.0080	mg/Kg-dry	1	28-Jan-2016 20:19
N-Nitrosodiphenylamine	U		0.00085	0.0080	mg/Kg-dry	1	28-Jan-2016 20:19
Pentachlorophenol	**0.016**		**0.0040**	**0.0080**	**mg/Kg-dry**	1	28-Jan-2016 20:19
Phenanthrene	**0.11**		**0.0018**	**0.0040**	**mg/Kg-dry**	1	28-Jan-2016 20:19
Phenol	U		0.0013	0.0080	mg/Kg-dry	1	28-Jan-2016 20:19
Pyrene	**0.83**		**0.0029**	**0.016**	**mg/Kg-dry**	4	29-Jan-2016 15:33
Surr: 2,4,6-Tribromophenol	*82.2*			*36-126*	*%REC*	*1*	*28-Jan-2016 20:19*
Surr: 2,4,6-Tribromophenol	*102*			*36-126*	*%REC*	*4*	*29-Jan-2016 15:33*
Surr: 2-Fluorobiphenyl	*85.0*			*43-125*	*%REC*	*4*	*29-Jan-2016 15:33*
Surr: 2-Fluorobiphenyl	*68.0*			*43-125*	*%REC*	*1*	*28-Jan-2016 20:19*
Surr: 2-Fluorophenol	*77.4*			*37-125*	*%REC*	*1*	*28-Jan-2016 20:19*
Surr: 2-Fluorophenol	*99.7*			*37-125*	*%REC*	*4*	*29-Jan-2016 15:33*
Surr: 4-Terphenyl-d14	*108*			*32-125*	*%REC*	*4*	*29-Jan-2016 15:33*
Surr: 4-Terphenyl-d14	*89.8*			*32-125*	*%REC*	*1*	*28-Jan-2016 20:19*
Surr: Nitrobenzene-d5	*78.3*			*37-125*	*%REC*	*1*	*28-Jan-2016 20:19*
Surr: Nitrobenzene-d5	*113*			*37-125*	*%REC*	*4*	*29-Jan-2016 15:33*
Surr: Phenol-d6	*87.1*			*40-125*	*%REC*	*1*	*28-Jan-2016 20:19*
Surr: Phenol-d6	*112*			*40-125*	*%REC*	*4*	*29-Jan-2016 15:33*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
Sample ID: SO-1620-CSFN3(0-5)-20160128
Collection Date: 28-Jan-2016 10:00

ANALYTICAL REPORT
WorkOrder:HS16011090
Lab ID:HS16011090-02
Matrix:Soil

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
METALS BY SW6020A	**Method:SW6020**				Prep:SW3050A / 28-Jan-2016		Analyst: JDE
Arsenic	**1.77**		**0.118**	**0.589**	**mg/Kg-dry**	1	29-Jan-2016 12:21
Lead	**8.37**		**0.0589**	**0.589**	**mg/Kg-dry**	1	29-Jan-2016 12:21
MOISTURE - ASTM D2216	**Method:ASTM D2216**						Analyst: JHD
Percent Moisture	**17.9**		**0.0100**	**0.0100**	**wt%**	1	28-Jan-2016 18:04

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
Sample ID: SO-1620-ESB4(0-5)-20160127
Collection Date: 27-Jan-2016 15:00

ANALYTICAL REPORT
WorkOrder:HS16011090
Lab ID:HS16011090-03
Matrix:Soil

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES		**Method:SW8270**			Prep:SW3541 / 28-Jan-2016		Analyst: ACN
1,2-Diphenylhydrazine	U		0.0013	0.0078	mg/Kg-dry	1	28-Jan-2016 20:40
2,4-Dimethylphenol	U		0.0039	0.0078	mg/Kg-dry	1	28-Jan-2016 20:40
2,4-Dinitrotoluene	U		0.0011	0.0078	mg/Kg-dry	1	28-Jan-2016 20:40
2,6-Dinitrotoluene	U		0.0039	0.0078	mg/Kg-dry	1	28-Jan-2016 20:40
2-Chloronaphthalene	U		0.0015	0.0078	mg/Kg-dry	1	28-Jan-2016 20:40
2-Methylnaphthalene	U		0.00059	0.0039	mg/Kg-dry	1	28-Jan-2016 20:40
4,6-Dinitro-2-methylphenol	U		0.0025	0.0078	mg/Kg-dry	1	28-Jan-2016 20:40
4-Nitrophenol	U		0.0022	0.016	mg/Kg-dry	1	28-Jan-2016 20:40
Acenaphthene	U		0.00059	0.0039	mg/Kg-dry	1	28-Jan-2016 20:40
Acenaphthylene	**0.036**		**0.0012**	**0.0039**	**mg/Kg-dry**	1	28-Jan-2016 20:40
Anthracene	**0.031**		**0.00059**	**0.0039**	**mg/Kg-dry**	1	28-Jan-2016 20:40
Benz(a)anthracene	**0.043**		**0.0019**	**0.0039**	**mg/Kg-dry**	1	28-Jan-2016 20:40
Benzo(a)pyrene	**0.067**		**0.0012**	**0.0039**	**mg/Kg-dry**	1	28-Jan-2016 20:40
Bis(2-chloroethoxy)methane	U		0.0011	0.0078	mg/Kg-dry	1	28-Jan-2016 20:40
Bis(2-ethylhexyl)phthalate	U		0.0020	0.0078	mg/Kg-dry	1	28-Jan-2016 20:40
Chrysene	**0.057**		**0.00094**	**0.0039**	**mg/Kg-dry**	1	28-Jan-2016 20:40
Dibenzofuran	U		0.00082	0.0039	mg/Kg-dry	1	28-Jan-2016 20:40
Di-n-butyl phthalate	**0.0023**	J	**0.0014**	**0.0078**	**mg/Kg-dry**	1	28-Jan-2016 20:40
Fluoranthene	**0.021**		**0.0013**	**0.0039**	**mg/Kg-dry**	1	28-Jan-2016 20:40
Fluorene	**0.0078**		**0.0013**	**0.0039**	**mg/Kg-dry**	1	28-Jan-2016 20:40
Naphthalene	U		0.00071	0.0039	mg/Kg-dry	1	28-Jan-2016 20:40
Nitrobenzene	U		0.0011	0.0078	mg/Kg-dry	1	28-Jan-2016 20:40
N-Nitrosodiphenylamine	U		0.00082	0.0078	mg/Kg-dry	1	28-Jan-2016 20:40
Pentachlorophenol	U		0.0039	0.0078	mg/Kg-dry	1	28-Jan-2016 20:40
Phenanthrene	**0.0091**		**0.0018**	**0.0039**	**mg/Kg-dry**	1	28-Jan-2016 20:40
Phenol	U		0.0013	0.0078	mg/Kg-dry	1	28-Jan-2016 20:40
Pyrene	**0.037**		**0.00071**	**0.0039**	**mg/Kg-dry**	1	28-Jan-2016 20:40
Surr: 2,4,6-Tribromophenol	*91.7*			*36-126*	*%REC*	*1*	*28-Jan-2016 20:40*
Surr: 2-Fluorobiphenyl	*86.2*			*43-125*	*%REC*	*1*	*28-Jan-2016 20:40*
Surr: 2-Fluorophenol	*85.1*			*37-125*	*%REC*	*1*	*28-Jan-2016 20:40*
Surr: 4-Terphenyl-d14	*91.2*			*32-125*	*%REC*	*1*	*28-Jan-2016 20:40*
Surr: Nitrobenzene-d5	*83.4*			*37-125*	*%REC*	*1*	*28-Jan-2016 20:40*
Surr: Phenol-d6	*79.7*			*40-125*	*%REC*	*1*	*28-Jan-2016 20:40*
METALS BY SW6020A		**Method:SW6020**			Prep:SW3050A / 28-Jan-2016		Analyst: JDE
Arsenic	**2.53**		**0.108**	**0.541**	**mg/Kg-dry**	1	29-Jan-2016 12:49
Lead	**8.25**		**0.0541**	**0.541**	**mg/Kg-dry**	1	29-Jan-2016 12:49
MOISTURE - ASTM D2216		**Method:ASTM D2216**					Analyst: JHD
Percent Moisture	**15.4**		**0.0100**	**0.0100**	**wt%**	1	28-Jan-2016 18:04

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
Sample ID: SO-1620-ESB3(0-5)-20160127
Collection Date: 27-Jan-2016 15:40

ANALYTICAL REPORT
WorkOrder:HS16011090
Lab ID:HS16011090-04
Matrix:Soil

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES		**Method:SW8270**			Prep:SW3541 / 28-Jan-2016		Analyst: ACN
1,2-Diphenylhydrazine	U		0.0013	0.0080	mg/Kg-dry	1	28-Jan-2016 21:00
2,4-Dimethylphenol	U		0.0040	0.0080	mg/Kg-dry	1	28-Jan-2016 21:00
2,4-Dinitrotoluene	U		0.0011	0.0080	mg/Kg-dry	1	28-Jan-2016 21:00
2,6-Dinitrotoluene	U		0.0040	0.0080	mg/Kg-dry	1	28-Jan-2016 21:00
2-Chloronaphthalene	U		0.0016	0.0080	mg/Kg-dry	1	28-Jan-2016 21:00
2-Methylnaphthalene	U		0.00060	0.0040	mg/Kg-dry	1	28-Jan-2016 21:00
4,6-Dinitro-2-methylphenol	U		0.0025	0.0080	mg/Kg-dry	1	28-Jan-2016 21:00
4-Nitrophenol	U		0.0023	0.016	mg/Kg-dry	1	28-Jan-2016 21:00
Acenaphthene	U		0.00060	0.0040	mg/Kg-dry	1	28-Jan-2016 21:00
Acenaphthylene	**0.0043**		**0.0012**	**0.0040**	**mg/Kg-dry**	1	28-Jan-2016 21:00
Anthracene	**0.0054**		**0.00060**	**0.0040**	**mg/Kg-dry**	1	28-Jan-2016 21:00
Benz(a)anthracene	**0.011**		**0.0019**	**0.0040**	**mg/Kg-dry**	1	28-Jan-2016 21:00
Benzo(a)pyrene	**0.011**		**0.0012**	**0.0040**	**mg/Kg-dry**	1	28-Jan-2016 21:00
Bis(2-chloroethoxy)methane	U		0.0011	0.0080	mg/Kg-dry	1	28-Jan-2016 21:00
Bis(2-ethylhexyl)phthalate	U		0.0021	0.0080	mg/Kg-dry	1	28-Jan-2016 21:00
Chrysene	**0.024**		**0.00097**	**0.0040**	**mg/Kg-dry**	1	28-Jan-2016 21:00
Dibenzofuran	U		0.00085	0.0040	mg/Kg-dry	1	28-Jan-2016 21:00
Di-n-butyl phthalate	U		0.0015	0.0080	mg/Kg-dry	1	28-Jan-2016 21:00
Fluoranthene	**0.018**		**0.0013**	**0.0040**	**mg/Kg-dry**	1	28-Jan-2016 21:00
Fluorene	U		0.0013	0.0040	mg/Kg-dry	1	28-Jan-2016 21:00
Naphthalene	U		0.00073	0.0040	mg/Kg-dry	1	28-Jan-2016 21:00
Nitrobenzene	U		0.0011	0.0080	mg/Kg-dry	1	28-Jan-2016 21:00
N-Nitrosodiphenylamine	U		0.00085	0.0080	mg/Kg-dry	1	28-Jan-2016 21:00
Pentachlorophenol	U		0.0040	0.0080	mg/Kg-dry	1	28-Jan-2016 21:00
Phenanthrene	**0.0047**		**0.0018**	**0.0040**	**mg/Kg-dry**	1	28-Jan-2016 21:00
Phenol	U		0.0013	0.0080	mg/Kg-dry	1	28-Jan-2016 21:00
Pyrene	**0.019**		**0.00073**	**0.0040**	**mg/Kg-dry**	1	28-Jan-2016 21:00
Surr: 2,4,6-Tribromophenol	*68.0*			*36-126*	*%REC*	*1*	*28-Jan-2016 21:00*
Surr: 2-Fluorobiphenyl	*65.0*			*43-125*	*%REC*	*1*	*28-Jan-2016 21:00*
Surr: 2-Fluorophenol	*71.5*			*37-125*	*%REC*	*1*	*28-Jan-2016 21:00*
Surr: 4-Terphenyl-d14	*82.6*			*32-125*	*%REC*	*1*	*28-Jan-2016 21:00*
Surr: Nitrobenzene-d5	*63.9*			*37-125*	*%REC*	*1*	*28-Jan-2016 21:00*
Surr: Phenol-d6	*80.7*			*40-125*	*%REC*	*1*	*28-Jan-2016 21:00*
METALS BY SW6020A		**Method:SW6020**			Prep:SW3050A / 28-Jan-2016		Analyst: JDE
Arsenic	**1.39**		**0.119**	**0.594**	**mg/Kg-dry**	1	29-Jan-2016 12:54
Lead	**6.71**		**0.0594**	**0.594**	**mg/Kg-dry**	1	29-Jan-2016 12:54
MOISTURE - ASTM D2216		**Method:ASTM D2216**					Analyst: JHD
Percent Moisture	**17.5**		**0.0100**	**0.0100**	**wt%**	1	28-Jan-2016 18:04

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
Sample ID: SO-1620-ESB2(0-5)-20160127
Collection Date: 27-Jan-2016 16:15

ANALYTICAL REPORT
WorkOrder:HS16011090
Lab ID:HS16011090-05
Matrix:Soil

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES	**Method:SW8270**				Prep:SW3541 / 28-Jan-2016		Analyst: ACN
1,2-Diphenylhydrazine	U		0.0014	0.0081	mg/Kg-dry	1	28-Jan-2016 21:20
2,4-Dimethylphenol	U		0.0041	0.0081	mg/Kg-dry	1	28-Jan-2016 21:20
2,4-Dinitrotoluene	U		0.0011	0.0081	mg/Kg-dry	1	28-Jan-2016 21:20
2,6-Dinitrotoluene	U		0.0041	0.0081	mg/Kg-dry	1	28-Jan-2016 21:20
2-Chloronaphthalene	U		0.0016	0.0081	mg/Kg-dry	1	28-Jan-2016 21:20
2-Methylnaphthalene	U		0.00062	0.0041	mg/Kg-dry	1	28-Jan-2016 21:20
4,6-Dinitro-2-methylphenol	U		0.0026	0.0081	mg/Kg-dry	1	28-Jan-2016 21:20
4-Nitrophenol	U		0.0023	0.016	mg/Kg-dry	1	28-Jan-2016 21:20
Acenaphthene	**0.013**		**0.00062**	**0.0041**	**mg/Kg-dry**	1	28-Jan-2016 21:20
Acenaphthylene	**0.10**		**0.0012**	**0.0041**	**mg/Kg-dry**	1	28-Jan-2016 21:20
Anthracene	**0.13**		**0.00062**	**0.0041**	**mg/Kg-dry**	1	28-Jan-2016 21:20
Benz(a)anthracene	**0.62**		**0.020**	**0.041**	**mg/Kg-dry**	10	29-Jan-2016 15:52
Benzo(a)pyrene	**0.27**		**0.0012**	**0.0041**	**mg/Kg-dry**	1	28-Jan-2016 21:20
Bis(2-chloroethoxy)methane	U		0.0011	0.0081	mg/Kg-dry	1	28-Jan-2016 21:20
Bis(2-ethylhexyl)phthalate	U		0.0021	0.0081	mg/Kg-dry	1	28-Jan-2016 21:20
Chrysene	**0.56**		**0.0098**	**0.041**	**mg/Kg-dry**	10	29-Jan-2016 15:52
Dibenzofuran	U		0.00086	0.0041	mg/Kg-dry	1	28-Jan-2016 21:20
Di-n-butyl phthalate	U		0.0015	0.0081	mg/Kg-dry	1	28-Jan-2016 21:20
Fluoranthene	**2.4**		**0.014**	**0.041**	**mg/Kg-dry**	10	29-Jan-2016 15:52
Fluorene	**0.021**		**0.0014**	**0.0041**	**mg/Kg-dry**	1	28-Jan-2016 21:20
Naphthalene	U		0.00074	0.0041	mg/Kg-dry	1	28-Jan-2016 21:20
Nitrobenzene	U		0.0011	0.0081	mg/Kg-dry	1	28-Jan-2016 21:20
N-Nitrosodiphenylamine	U		0.00086	0.0081	mg/Kg-dry	1	28-Jan-2016 21:20
Pentachlorophenol	U		0.0041	0.0081	mg/Kg-dry	1	28-Jan-2016 21:20
Phenanthrene	**0.15**		**0.0018**	**0.0041**	**mg/Kg-dry**	1	28-Jan-2016 21:20
Phenol	U		0.0014	0.0081	mg/Kg-dry	1	28-Jan-2016 21:20
Pyrene	**2.7**		**0.0074**	**0.041**	**mg/Kg-dry**	10	29-Jan-2016 15:52
Surr: 2,4,6-Tribromophenol	*74.4*			*36-126*	*%REC*	*1*	*28-Jan-2016 21:20*
Surr: 2,4,6-Tribromophenol	*92.5*			*36-126*	*%REC*	*10*	*29-Jan-2016 15:52*
Surr: 2-Fluorobiphenyl	*86.9*			*43-125*	*%REC*	*10*	*29-Jan-2016 15:52*
Surr: 2-Fluorobiphenyl	*57.8*			*43-125*	*%REC*	*1*	*28-Jan-2016 21:20*
Surr: 2-Fluorophenol	*65.2*			*37-125*	*%REC*	*1*	*28-Jan-2016 21:20*
Surr: 2-Fluorophenol	*79.2*			*37-125*	*%REC*	*10*	*29-Jan-2016 15:52*
Surr: 4-Terphenyl-d14	*108*			*32-125*	*%REC*	*10*	*29-Jan-2016 15:52*
Surr: 4-Terphenyl-d14	*90.9*			*32-125*	*%REC*	*1*	*28-Jan-2016 21:20*
Surr: Nitrobenzene-d5	*71.6*			*37-125*	*%REC*	*1*	*28-Jan-2016 21:20*
Surr: Nitrobenzene-d5	*106*			*37-125*	*%REC*	*10*	*29-Jan-2016 15:52*
Surr: Phenol-d6	*106*			*40-125*	*%REC*	*10*	*29-Jan-2016 15:52*
Surr: Phenol-d6	*63.4*			*40-125*	*%REC*	*1*	*28-Jan-2016 21:20*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
Sample ID: SO-1620-ESB2(0-5)-20160127
Collection Date: 27-Jan-2016 16:15

ANALYTICAL REPORT
WorkOrder:HS16011090
Lab ID:HS16011090-05
Matrix:Soil

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
METALS BY SW6020A	**Method:SW6020**				Prep:SW3050A / 28-Jan-2016		Analyst: JDE
Arsenic	**1.44**		**0.117**	**0.585**	**mg/Kg-dry**	1	29-Jan-2016 12:58
Lead	**6.86**		**0.0585**	**0.585**	**mg/Kg-dry**	1	29-Jan-2016 12:58
MOISTURE - ASTM D2216	**Method:ASTM D2216**						Analyst: JHD
Percent Moisture	**19.0**		**0.0100**	**0.0100**	**wt%**	1	28-Jan-2016 18:04

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
Sample ID: SO-1620-ESB1(0-5)-20160127
Collection Date: 27-Jan-2016 16:45

ANALYTICAL REPORT
WorkOrder:HS16011090
Lab ID:HS16011090-06
Matrix:Soil

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES	**Method:SW8270**				Prep:SW3541 / 28-Jan-2016		Analyst: ACN
1,2-Diphenylhydrazine	U		0.0014	0.0086	mg/Kg-dry	1	28-Jan-2016 21:40
2,4-Dimethylphenol	U		0.0043	0.0086	mg/Kg-dry	1	28-Jan-2016 21:40
2,4-Dinitrotoluene	U		0.0012	0.0086	mg/Kg-dry	1	28-Jan-2016 21:40
2,6-Dinitrotoluene	U		0.0043	0.0086	mg/Kg-dry	1	28-Jan-2016 21:40
2-Chloronaphthalene	U		0.0017	0.0086	mg/Kg-dry	1	28-Jan-2016 21:40
2-Methylnaphthalene	U		0.00065	0.0043	mg/Kg-dry	1	28-Jan-2016 21:40
4,6-Dinitro-2-methylphenol	U		0.0027	0.0086	mg/Kg-dry	1	28-Jan-2016 21:40
4-Nitrophenol	U		0.0025	0.017	mg/Kg-dry	1	28-Jan-2016 21:40
Acenaphthene	**0.013**		**0.00065**	**0.0043**	**mg/Kg-dry**	1	28-Jan-2016 21:40
Acenaphthylene	**0.49**		**0.0065**	**0.021**	**mg/Kg-dry**	5	29-Jan-2016 16:12
Anthracene	**0.31**		**0.00065**	**0.0043**	**mg/Kg-dry**	1	28-Jan-2016 21:40
Benz(a)anthracene	**0.67**		**0.010**	**0.021**	**mg/Kg-dry**	5	29-Jan-2016 16:12
Benzo(a)pyrene	**1.2**		**0.0065**	**0.021**	**mg/Kg-dry**	5	29-Jan-2016 16:12
Bis(2-chloroethoxy)methane	U		0.0012	0.0086	mg/Kg-dry	1	28-Jan-2016 21:40
Bis(2-ethylhexyl)phthalate	U		0.0022	0.0086	mg/Kg-dry	1	28-Jan-2016 21:40
Chrysene	**0.77**		**0.0052**	**0.021**	**mg/Kg-dry**	5	29-Jan-2016 16:12
Dibenzofuran	**0.0073**		**0.00091**	**0.0043**	**mg/Kg-dry**	1	28-Jan-2016 21:40
Di-n-butyl phthalate	U		0.0016	0.0086	mg/Kg-dry	1	28-Jan-2016 21:40
Fluoranthene	**0.80**		**0.0071**	**0.021**	**mg/Kg-dry**	5	29-Jan-2016 16:12
Fluorene	**0.058**		**0.0014**	**0.0043**	**mg/Kg-dry**	1	28-Jan-2016 21:40
Naphthalene	**0.0042**	J	**0.00078**	**0.0043**	**mg/Kg-dry**	1	28-Jan-2016 21:40
Nitrobenzene	U		0.0012	0.0086	mg/Kg-dry	1	28-Jan-2016 21:40
N-Nitrosodiphenylamine	U		0.00091	0.0086	mg/Kg-dry	1	28-Jan-2016 21:40
Pentachlorophenol	**0.023**		**0.0043**	**0.0086**	**mg/Kg-dry**	1	28-Jan-2016 21:40
Phenanthrene	**0.052**		**0.0019**	**0.0043**	**mg/Kg-dry**	1	28-Jan-2016 21:40
Phenol	**0.0065**	J	**0.0014**	**0.0086**	**mg/Kg-dry**	1	28-Jan-2016 21:40
Pyrene	**1.0**		**0.0039**	**0.021**	**mg/Kg-dry**	5	29-Jan-2016 16:12
Surr: 2,4,6-Tribromophenol	*75.1*			*36-126*	*%REC*	*5*	*29-Jan-2016 16:12*
Surr: 2,4,6-Tribromophenol	*75.6*			*36-126*	*%REC*	*1*	*28-Jan-2016 21:40*
Surr: 2-Fluorobiphenyl	*71.8*			*43-125*	*%REC*	*1*	*28-Jan-2016 21:40*
Surr: 2-Fluorobiphenyl	*73.8*			*43-125*	*%REC*	*5*	*29-Jan-2016 16:12*
Surr: 2-Fluorophenol	*79.2*			*37-125*	*%REC*	*5*	*29-Jan-2016 16:12*
Surr: 2-Fluorophenol	*55.2*			*37-125*	*%REC*	*1*	*28-Jan-2016 21:40*
Surr: 4-Terphenyl-d14	*71.4*			*32-125*	*%REC*	*1*	*28-Jan-2016 21:40*
Surr: 4-Terphenyl-d14	*101*			*32-125*	*%REC*	*5*	*29-Jan-2016 16:12*
Surr: Nitrobenzene-d5	*56.8*			*37-125*	*%REC*	*1*	*28-Jan-2016 21:40*
Surr: Nitrobenzene-d5	*82.9*			*37-125*	*%REC*	*5*	*29-Jan-2016 16:12*
Surr: Phenol-d6	*79.8*			*40-125*	*%REC*	*5*	*29-Jan-2016 16:12*
Surr: Phenol-d6	*67.3*			*40-125*	*%REC*	*1*	*28-Jan-2016 21:40*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
Sample ID: SO-1620-ESB1(0-5)-20160127
Collection Date: 27-Jan-2016 16:45

ANALYTICAL REPORT
WorkOrder:HS16011090
Lab ID:HS16011090-06
Matrix:Soil

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
METALS BY SW6020A	**Method:SW6020**				Prep:SW3050A / 28-Jan-2016		Analyst: JDE
Arsenic	**1.37**		**0.126**	**0.631**	**mg/Kg-dry**	1	29-Jan-2016 13:02
Lead	**7.80**		**0.0631**	**0.631**	**mg/Kg-dry**	1	29-Jan-2016 13:02
MOISTURE - ASTM D2216	**Method:ASTM D2216**						Analyst: JHD
Percent Moisture	**23.5**		**0.0100**	**0.0100**	**wt%**	1	28-Jan-2016 18:04

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
Sample ID: SO-1620-GSB1(0-1.5)-20160128
Collection Date: 28-Jan-2016 13:00

ANALYTICAL REPORT
WorkOrder:HS16011090
Lab ID:HS16011090-07
Matrix:Soil

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES		**Method:SW8270**			Prep:SW3541 / 28-Jan-2016		Analyst: ACN
1,2-Diphenylhydrazine	U		0.0014	0.0085	mg/Kg-dry	1	28-Jan-2016 22:01
2,4-Dimethylphenol	U		0.0043	0.0085	mg/Kg-dry	1	28-Jan-2016 22:01
2,4-Dinitrotoluene	U		0.0012	0.0085	mg/Kg-dry	1	28-Jan-2016 22:01
2,6-Dinitrotoluene	U		0.0043	0.0085	mg/Kg-dry	1	28-Jan-2016 22:01
2-Chloronaphthalene	U		0.0017	0.0085	mg/Kg-dry	1	28-Jan-2016 22:01
2-Methylnaphthalene	U		0.00065	0.0043	mg/Kg-dry	1	28-Jan-2016 22:01
4,6-Dinitro-2-methylphenol	U		0.0027	0.0085	mg/Kg-dry	1	28-Jan-2016 22:01
4-Nitrophenol	U		0.0025	0.017	mg/Kg-dry	1	28-Jan-2016 22:01
Acenaphthene	**0.0023**	J	**0.00065**	**0.0043**	**mg/Kg-dry**	1	28-Jan-2016 22:01
Acenaphthylene	**0.037**		**0.0013**	**0.0043**	**mg/Kg-dry**	1	28-Jan-2016 22:01
Anthracene	**0.076**		**0.00065**	**0.0043**	**mg/Kg-dry**	1	28-Jan-2016 22:01
Benz(a)anthracene	**0.075**		**0.0021**	**0.0043**	**mg/Kg-dry**	1	28-Jan-2016 22:01
Benzo(a)pyrene	**0.11**		**0.0013**	**0.0043**	**mg/Kg-dry**	1	28-Jan-2016 22:01
Bis(2-chloroethoxy)methane	U		0.0012	0.0085	mg/Kg-dry	1	28-Jan-2016 22:01
Bis(2-ethylhexyl)phthalate	**0.024**		**0.0022**	**0.0085**	**mg/Kg-dry**	1	28-Jan-2016 22:01
Chrysene	**0.13**		**0.0010**	**0.0043**	**mg/Kg-dry**	1	28-Jan-2016 22:01
Dibenzofuran	**0.0024**	J	**0.00091**	**0.0043**	**mg/Kg-dry**	1	28-Jan-2016 22:01
Di-n-butyl phthalate	**0.0042**	J	**0.0016**	**0.0085**	**mg/Kg-dry**	1	28-Jan-2016 22:01
Fluoranthene	**0.12**		**0.0014**	**0.0043**	**mg/Kg-dry**	1	28-Jan-2016 22:01
Fluorene	**0.0059**		**0.0014**	**0.0043**	**mg/Kg-dry**	1	28-Jan-2016 22:01
Naphthalene	**0.0016**	J	**0.00078**	**0.0043**	**mg/Kg-dry**	1	28-Jan-2016 22:01
Nitrobenzene	U		0.0012	0.0085	mg/Kg-dry	1	28-Jan-2016 22:01
N-Nitrosodiphenylamine	U		0.00091	0.0085	mg/Kg-dry	1	28-Jan-2016 22:01
Pentachlorophenol	U		0.0043	0.0085	mg/Kg-dry	1	28-Jan-2016 22:01
Phenanthrene	**0.017**		**0.0019**	**0.0043**	**mg/Kg-dry**	1	28-Jan-2016 22:01
Phenol	**0.0089**		**0.0014**	**0.0085**	**mg/Kg-dry**	1	28-Jan-2016 22:01
Pyrene	**0.17**		**0.00078**	**0.0043**	**mg/Kg-dry**	1	28-Jan-2016 22:01
Surr: 2,4,6-Tribromophenol	*78.8*			*36-126*	*%REC*	*1*	*28-Jan-2016 22:01*
Surr: 2-Fluorobiphenyl	*56.6*			*43-125*	*%REC*	*1*	*28-Jan-2016 22:01*
Surr: 2-Fluorophenol	*90.3*			*37-125*	*%REC*	*1*	*28-Jan-2016 22:01*
Surr: 4-Terphenyl-d14	*95.8*			*32-125*	*%REC*	*1*	*28-Jan-2016 22:01*
Surr: Nitrobenzene-d5	*52.4*			*37-125*	*%REC*	*1*	*28-Jan-2016 22:01*
Surr: Phenol-d6	*76.1*			*40-125*	*%REC*	*1*	*28-Jan-2016 22:01*
METALS BY SW6020A		**Method:SW6020**			Prep:SW3050A / 28-Jan-2016		Analyst: JDE
Arsenic	**8.31**		**0.124**	**0.620**	**mg/Kg-dry**	1	29-Jan-2016 13:06
Lead	**39.4**		**0.0620**	**0.620**	**mg/Kg-dry**	1	29-Jan-2016 13:06
MOISTURE - ASTM D2216		**Method:ASTM D2216**					Analyst: JHD
Percent Moisture	**23.2**		**0.0100**	**0.0100**	**wt%**	1	28-Jan-2016 18:04

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
Sample ID: SO-1620-GSB2(0-3)-20160128
Collection Date: 28-Jan-2016 14:16

ANALYTICAL REPORT
WorkOrder:HS16011090
Lab ID:HS16011090-08
Matrix:Soil

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES		**Method:SW8270**			Prep:SW3541 / 28-Jan-2016		Analyst: ACN
1,2-Diphenylhydrazine	U		0.0014	0.0082	mg/Kg-dry	1	28-Jan-2016 22:21
2,4-Dimethylphenol	U		0.0041	0.0082	mg/Kg-dry	1	28-Jan-2016 22:21
2,4-Dinitrotoluene	U		0.0011	0.0082	mg/Kg-dry	1	28-Jan-2016 22:21
2,6-Dinitrotoluene	U		0.0041	0.0082	mg/Kg-dry	1	28-Jan-2016 22:21
2-Chloronaphthalene	U		0.0016	0.0082	mg/Kg-dry	1	28-Jan-2016 22:21
2-Methylnaphthalene	U		0.00062	0.0041	mg/Kg-dry	1	28-Jan-2016 22:21
4,6-Dinitro-2-methylphenol	U		0.0026	0.0082	mg/Kg-dry	1	28-Jan-2016 22:21
4-Nitrophenol	U		0.0024	0.016	mg/Kg-dry	1	28-Jan-2016 22:21
Acenaphthene	U		0.00062	0.0041	mg/Kg-dry	1	28-Jan-2016 22:21
Acenaphthylene	**0.0057**		**0.0012**	**0.0041**	**mg/Kg-dry**	1	28-Jan-2016 22:21
Anthracene	**0.022**		**0.00062**	**0.0041**	**mg/Kg-dry**	1	28-Jan-2016 22:21
Benz(a)anthracene	**0.0063**		**0.0020**	**0.0041**	**mg/Kg-dry**	1	28-Jan-2016 22:21
Benzo(a)pyrene	**0.019**		**0.0012**	**0.0041**	**mg/Kg-dry**	1	28-Jan-2016 22:21
Bis(2-chloroethoxy)methane	U		0.0011	0.0082	mg/Kg-dry	1	28-Jan-2016 22:21
Bis(2-ethylhexyl)phthalate	U		0.0021	0.0082	mg/Kg-dry	1	28-Jan-2016 22:21
Chrysene	**0.011**		**0.0010**	**0.0041**	**mg/Kg-dry**	1	28-Jan-2016 22:21
Dibenzofuran	U		0.00087	0.0041	mg/Kg-dry	1	28-Jan-2016 22:21
Di-n-butyl phthalate	U		0.0015	0.0082	mg/Kg-dry	1	28-Jan-2016 22:21
Fluoranthene	**0.012**		**0.0014**	**0.0041**	**mg/Kg-dry**	1	28-Jan-2016 22:21
Fluorene	U		0.0014	0.0041	mg/Kg-dry	1	28-Jan-2016 22:21
Naphthalene	U		0.00075	0.0041	mg/Kg-dry	1	28-Jan-2016 22:21
Nitrobenzene	U		0.0011	0.0082	mg/Kg-dry	1	28-Jan-2016 22:21
N-Nitrosodiphenylamine	U		0.00087	0.0082	mg/Kg-dry	1	28-Jan-2016 22:21
Pentachlorophenol	U		0.0041	0.0082	mg/Kg-dry	1	28-Jan-2016 22:21
Phenanthrene	**0.0032**	J	**0.0019**	**0.0041**	**mg/Kg-dry**	1	28-Jan-2016 22:21
Phenol	U		0.0014	0.0082	mg/Kg-dry	1	28-Jan-2016 22:21
Pyrene	**0.0099**		**0.00075**	**0.0041**	**mg/Kg-dry**	1	28-Jan-2016 22:21
Surr: 2,4,6-Tribromophenol	*60.4*			*36-126*	*%REC*	*1*	*28-Jan-2016 22:21*
Surr: 2-Fluorobiphenyl	*52.3*			*43-125*	*%REC*	*1*	*28-Jan-2016 22:21*
Surr: 2-Fluorophenol	*62.9*			*37-125*	*%REC*	*1*	*28-Jan-2016 22:21*
Surr: 4-Terphenyl-d14	*93.2*			*32-125*	*%REC*	*1*	*28-Jan-2016 22:21*
Surr: Nitrobenzene-d5	*61.1*			*37-125*	*%REC*	*1*	*28-Jan-2016 22:21*
Surr: Phenol-d6	*60.3*			*40-125*	*%REC*	*1*	*28-Jan-2016 22:21*
METALS BY SW6020A		**Method:SW6020**			Prep:SW3050A / 28-Jan-2016		Analyst: JDE
Arsenic	**3.27**		**0.119**	**0.596**	**mg/Kg-dry**	1	29-Jan-2016 13:10
Lead	**11.9**		**0.0596**	**0.596**	**mg/Kg-dry**	1	29-Jan-2016 13:10
MOISTURE - ASTM D2216		**Method:ASTM D2216**					Analyst: JHD
Percent Moisture	**20.2**		**0.0100**	**0.0100**	**wt%**	1	28-Jan-2016 18:04

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
Sample ID: SO-1620-GSB3(0-3)-20160128
Collection Date: 28-Jan-2016 12:10

ANALYTICAL REPORT
WorkOrder:HS16011090
Lab ID:HS16011090-09
Matrix:Soil

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES		**Method:SW8270**			Prep:SW3541 / 28-Jan-2016		Analyst: ACN
1,2-Diphenylhydrazine	U		0.0014	0.0081	mg/Kg-dry	1	28-Jan-2016 22:41
2,4-Dimethylphenol	U		0.0041	0.0081	mg/Kg-dry	1	28-Jan-2016 22:41
2,4-Dinitrotoluene	U		0.0011	0.0081	mg/Kg-dry	1	28-Jan-2016 22:41
2,6-Dinitrotoluene	U		0.0041	0.0081	mg/Kg-dry	1	28-Jan-2016 22:41
2-Chloronaphthalene	U		0.0016	0.0081	mg/Kg-dry	1	28-Jan-2016 22:41
2-Methylnaphthalene	U		0.00062	0.0041	mg/Kg-dry	1	28-Jan-2016 22:41
4,6-Dinitro-2-methylphenol	U		0.0026	0.0081	mg/Kg-dry	1	28-Jan-2016 22:41
4-Nitrophenol	U		0.0023	0.016	mg/Kg-dry	1	28-Jan-2016 22:41
Acenaphthene	U		0.00062	0.0041	mg/Kg-dry	1	28-Jan-2016 22:41
Acenaphthylene	**0.032**		**0.0012**	**0.0041**	**mg/Kg-dry**	1	28-Jan-2016 22:41
Anthracene	**0.080**		**0.00062**	**0.0041**	**mg/Kg-dry**	1	28-Jan-2016 22:41
Benz(a)anthracene	**0.11**		**0.0020**	**0.0041**	**mg/Kg-dry**	1	28-Jan-2016 22:41
Benzo(a)pyrene	**0.12**		**0.0012**	**0.0041**	**mg/Kg-dry**	1	28-Jan-2016 22:41
Bis(2-chloroethoxy)methane	U		0.0011	0.0081	mg/Kg-dry	1	28-Jan-2016 22:41
Bis(2-ethylhexyl)phthalate	**0.017**		**0.0021**	**0.0081**	**mg/Kg-dry**	1	28-Jan-2016 22:41
Chrysene	**0.14**		**0.00099**	**0.0041**	**mg/Kg-dry**	1	28-Jan-2016 22:41
Dibenzofuran	U		0.00086	0.0041	mg/Kg-dry	1	28-Jan-2016 22:41
Di-n-butyl phthalate	U		0.0015	0.0081	mg/Kg-dry	1	28-Jan-2016 22:41
Fluoranthene	**0.091**		**0.0014**	**0.0041**	**mg/Kg-dry**	1	28-Jan-2016 22:41
Fluorene	U		0.0014	0.0041	mg/Kg-dry	1	28-Jan-2016 22:41
Naphthalene	U		0.00074	0.0041	mg/Kg-dry	1	28-Jan-2016 22:41
Nitrobenzene	U		0.0011	0.0081	mg/Kg-dry	1	28-Jan-2016 22:41
N-Nitrosodiphenylamine	U		0.00086	0.0081	mg/Kg-dry	1	28-Jan-2016 22:41
Pentachlorophenol	U		0.0041	0.0081	mg/Kg-dry	1	28-Jan-2016 22:41
Phenanthrene	**0.0058**		**0.0018**	**0.0041**	**mg/Kg-dry**	1	28-Jan-2016 22:41
Phenol	**0.0058**	J	**0.0014**	**0.0081**	**mg/Kg-dry**	1	28-Jan-2016 22:41
Pyrene	**0.20**		**0.00074**	**0.0041**	**mg/Kg-dry**	1	28-Jan-2016 22:41
Surr: 2,4,6-Tribromophenol	*77.9*			*36-126*	*%REC*	*1*	*28-Jan-2016 22:41*
Surr: 2-Fluorobiphenyl	*69.9*			*43-125*	*%REC*	*1*	*28-Jan-2016 22:41*
Surr: 2-Fluorophenol	*60.2*			*37-125*	*%REC*	*1*	*28-Jan-2016 22:41*
Surr: 4-Terphenyl-d14	*85.3*			*32-125*	*%REC*	*1*	*28-Jan-2016 22:41*
Surr: Nitrobenzene-d5	*68.2*			*37-125*	*%REC*	*1*	*28-Jan-2016 22:41*
Surr: Phenol-d6	*67.9*			*40-125*	*%REC*	*1*	*28-Jan-2016 22:41*
METALS BY SW6020A		**Method:SW6020**			Prep:SW3050A / 28-Jan-2016		Analyst: JDE
Arsenic	**4.45**		**0.120**	**0.598**	**mg/Kg-dry**	1	29-Jan-2016 13:14
Lead	**12.6**		**0.0598**	**0.598**	**mg/Kg-dry**	1	29-Jan-2016 13:14
MOISTURE - ASTM D2216		**Method:ASTM D2216**					Analyst: JHD
Percent Moisture	**19.3**		**0.0100**	**0.0100**	**wt%**	1	28-Jan-2016 18:04

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
Sample ID: SO-1620-GSB4(0-3)-20160128
Collection Date: 28-Jan-2016 11:15

ANALYTICAL REPORT
WorkOrder:HS16011090
Lab ID:HS16011090-10
Matrix:Soil

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES		**Method:SW8270**			Prep:SW3541 / 28-Jan-2016		Analyst: ACN
1,2-Diphenylhydrazine	U		0.0014	0.0082	mg/Kg-dry	1	28-Jan-2016 23:01
2,4-Dimethylphenol	U		0.0041	0.0082	mg/Kg-dry	1	28-Jan-2016 23:01
2,4-Dinitrotoluene	U		0.0011	0.0082	mg/Kg-dry	1	28-Jan-2016 23:01
2,6-Dinitrotoluene	U		0.0041	0.0082	mg/Kg-dry	1	28-Jan-2016 23:01
2-Chloronaphthalene	U		0.0016	0.0082	mg/Kg-dry	1	28-Jan-2016 23:01
2-Methylnaphthalene	U		0.00062	0.0041	mg/Kg-dry	1	28-Jan-2016 23:01
4,6-Dinitro-2-methylphenol	U		0.0026	0.0082	mg/Kg-dry	1	28-Jan-2016 23:01
4-Nitrophenol	U		0.0024	0.016	mg/Kg-dry	1	28-Jan-2016 23:01
Acenaphthene	**0.0046**		**0.00062**	**0.0041**	**mg/Kg-dry**	1	28-Jan-2016 23:01
Acenaphthylene	**0.031**		**0.0012**	**0.0041**	**mg/Kg-dry**	1	28-Jan-2016 23:01
Anthracene	**0.11**		**0.00062**	**0.0041**	**mg/Kg-dry**	1	28-Jan-2016 23:01
Benz(a)anthracene	**0.056**		**0.0020**	**0.0041**	**mg/Kg-dry**	1	28-Jan-2016 23:01
Benzo(a)pyrene	**0.078**		**0.0012**	**0.0041**	**mg/Kg-dry**	1	28-Jan-2016 23:01
Bis(2-chloroethoxy)methane	U		0.0011	0.0082	mg/Kg-dry	1	28-Jan-2016 23:01
Bis(2-ethylhexyl)phthalate	**0.013**		**0.0021**	**0.0082**	**mg/Kg-dry**	1	28-Jan-2016 23:01
Chrysene	**0.084**		**0.0010**	**0.0041**	**mg/Kg-dry**	1	28-Jan-2016 23:01
Dibenzofuran	**0.0079**		**0.00087**	**0.0041**	**mg/Kg-dry**	1	28-Jan-2016 23:01
Di-n-butyl phthalate	**0.0033**	J	**0.0015**	**0.0082**	**mg/Kg-dry**	1	28-Jan-2016 23:01
Fluoranthene	**0.12**		**0.0014**	**0.0041**	**mg/Kg-dry**	1	28-Jan-2016 23:01
Fluorene	**0.0087**		**0.0014**	**0.0041**	**mg/Kg-dry**	1	28-Jan-2016 23:01
Naphthalene	**0.0099**		**0.00075**	**0.0041**	**mg/Kg-dry**	1	28-Jan-2016 23:01
Nitrobenzene	U		0.0011	0.0082	mg/Kg-dry	1	28-Jan-2016 23:01
N-Nitrosodiphenylamine	U		0.00087	0.0082	mg/Kg-dry	1	28-Jan-2016 23:01
Pentachlorophenol	U		0.0041	0.0082	mg/Kg-dry	1	28-Jan-2016 23:01
Phenanthrene	**0.047**		**0.0019**	**0.0041**	**mg/Kg-dry**	1	28-Jan-2016 23:01
Phenol	**0.0041**	J	**0.0014**	**0.0082**	**mg/Kg-dry**	1	28-Jan-2016 23:01
Pyrene	**0.15**		**0.00075**	**0.0041**	**mg/Kg-dry**	1	28-Jan-2016 23:01
Surr: 2,4,6-Tribromophenol	*65.7*			*36-126*	*%REC*	*1*	*28-Jan-2016 23:01*
Surr: 2-Fluorobiphenyl	*60.3*			*43-125*	*%REC*	*1*	*28-Jan-2016 23:01*
Surr: 2-Fluorophenol	*76.0*			*37-125*	*%REC*	*1*	*28-Jan-2016 23:01*
Surr: 4-Terphenyl-d14	*85.9*			*32-125*	*%REC*	*1*	*28-Jan-2016 23:01*
Surr: Nitrobenzene-d5	*91.7*			*37-125*	*%REC*	*1*	*28-Jan-2016 23:01*
Surr: Phenol-d6	*76.4*			*40-125*	*%REC*	*1*	*28-Jan-2016 23:01*
METALS BY SW6020A		**Method:SW6020**			Prep:SW3050A / 28-Jan-2016		Analyst: JDE
Arsenic	**5.21**		**0.122**	**0.610**	**mg/Kg-dry**	1	29-Jan-2016 13:19
Lead	**21.5**		**0.0610**	**0.610**	**mg/Kg-dry**	1	29-Jan-2016 13:19
MOISTURE - ASTM D2216		**Method:ASTM D2216**					Analyst: JHD
Percent Moisture	**20.0**		**0.0100**	**0.0100**	**wt%**	1	28-Jan-2016 18:04

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
Sample ID: SO-1620-GSB5(0-3)-20160128
Collection Date: 28-Jan-2016 13:30

ANALYTICAL REPORT
WorkOrder:HS16011090
Lab ID:HS16011090-11
Matrix:Soil

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES		**Method:SW8270**			Prep:SW3541 / 28-Jan-2016		Analyst: ACN
1,2-Diphenylhydrazine	U		0.0014	0.0082	mg/Kg-dry	1	28-Jan-2016 23:21
2,4-Dimethylphenol	U		0.0041	0.0082	mg/Kg-dry	1	28-Jan-2016 23:21
2,4-Dinitrotoluene	U		0.0011	0.0082	mg/Kg-dry	1	28-Jan-2016 23:21
2,6-Dinitrotoluene	U		0.0041	0.0082	mg/Kg-dry	1	28-Jan-2016 23:21
2-Chloronaphthalene	U		0.0016	0.0082	mg/Kg-dry	1	28-Jan-2016 23:21
2-Methylnaphthalene	U		0.00062	0.0041	mg/Kg-dry	1	28-Jan-2016 23:21
4,6-Dinitro-2-methylphenol	U		0.0026	0.0082	mg/Kg-dry	1	28-Jan-2016 23:21
4-Nitrophenol	U		0.0024	0.016	mg/Kg-dry	1	28-Jan-2016 23:21
Acenaphthene	U		0.00062	0.0041	mg/Kg-dry	1	28-Jan-2016 23:21
Acenaphthylene	U		0.0012	0.0041	mg/Kg-dry	1	28-Jan-2016 23:21
Anthracene	U		0.00062	0.0041	mg/Kg-dry	1	28-Jan-2016 23:21
Benz(a)anthracene	**0.0078**		**0.0020**	**0.0041**	**mg/Kg-dry**	1	28-Jan-2016 23:21
Benzo(a)pyrene	**0.0073**		**0.0012**	**0.0041**	**mg/Kg-dry**	1	28-Jan-2016 23:21
Bis(2-chloroethoxy)methane	U		0.0011	0.0082	mg/Kg-dry	1	28-Jan-2016 23:21
Bis(2-ethylhexyl)phthalate	**0.0031**	J	**0.0021**	**0.0082**	**mg/Kg-dry**	1	28-Jan-2016 23:21
Chrysene	**0.0075**		**0.00099**	**0.0041**	**mg/Kg-dry**	1	28-Jan-2016 23:21
Dibenzofuran	U		0.00087	0.0041	mg/Kg-dry	1	28-Jan-2016 23:21
Di-n-butyl phthalate	**0.0039**	J	**0.0015**	**0.0082**	**mg/Kg-dry**	1	28-Jan-2016 23:21
Fluoranthene	**0.011**		**0.0014**	**0.0041**	**mg/Kg-dry**	1	28-Jan-2016 23:21
Fluorene	U		0.0014	0.0041	mg/Kg-dry	1	28-Jan-2016 23:21
Naphthalene	U		0.00074	0.0041	mg/Kg-dry	1	28-Jan-2016 23:21
Nitrobenzene	U		0.0011	0.0082	mg/Kg-dry	1	28-Jan-2016 23:21
N-Nitrosodiphenylamine	U		0.00087	0.0082	mg/Kg-dry	1	28-Jan-2016 23:21
Pentachlorophenol	U		0.0041	0.0082	mg/Kg-dry	1	28-Jan-2016 23:21
Phenanthrene	U		0.0019	0.0041	mg/Kg-dry	1	28-Jan-2016 23:21
Phenol	U		0.0014	0.0082	mg/Kg-dry	1	28-Jan-2016 23:21
Pyrene	**0.012**		**0.00074**	**0.0041**	**mg/Kg-dry**	1	28-Jan-2016 23:21
Surr: 2,4,6-Tribromophenol	*69.0*			*36-126*	*%REC*	*1*	*28-Jan-2016 23:21*
Surr: 2-Fluorobiphenyl	*44.7*			*43-125*	*%REC*	*1*	*28-Jan-2016 23:21*
Surr: 2-Fluorophenol	*68.6*			*37-125*	*%REC*	*1*	*28-Jan-2016 23:21*
Surr: 4-Terphenyl-d14	*92.6*			*32-125*	*%REC*	*1*	*28-Jan-2016 23:21*
Surr: Nitrobenzene-d5	*50.9*			*37-125*	*%REC*	*1*	*28-Jan-2016 23:21*
Surr: Phenol-d6	*66.7*			*40-125*	*%REC*	*1*	*28-Jan-2016 23:21*
METALS BY SW6020A		**Method:SW6020**			Prep:SW3050A / 28-Jan-2016		Analyst: JDE
Arsenic	**1.60**		**0.123**	**0.617**	**mg/Kg-dry**	1	29-Jan-2016 13:31
Lead	**7.92**		**0.0617**	**0.617**	**mg/Kg-dry**	1	29-Jan-2016 13:31
MOISTURE - ASTM D2216		**Method:ASTM D2216**					Analyst: JHD
Percent Moisture	**19.7**		**0.0100**	**0.0100**	**wt%**	1	28-Jan-2016 18:04

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
Sample ID: SO-1620-GSB6(0-3)-20160128
Collection Date: 28-Jan-2016 14:00

ANALYTICAL REPORT
WorkOrder:HS16011090
Lab ID:HS16011090-12
Matrix:Soil

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES		**Method:SW8270**			Prep:SW3541 / 28-Jan-2016		Analyst: ACN
1,2-Diphenylhydrazine	U		0.0014	0.0083	mg/Kg-dry	1	28-Jan-2016 23:42
2,4-Dimethylphenol	U		0.0041	0.0083	mg/Kg-dry	1	28-Jan-2016 23:42
2,4-Dinitrotoluene	U		0.0011	0.0083	mg/Kg-dry	1	28-Jan-2016 23:42
2,6-Dinitrotoluene	U		0.0041	0.0083	mg/Kg-dry	1	28-Jan-2016 23:42
2-Chloronaphthalene	U		0.0016	0.0083	mg/Kg-dry	1	28-Jan-2016 23:42
2-Methylnaphthalene	U		0.00063	0.0041	mg/Kg-dry	1	28-Jan-2016 23:42
4,6-Dinitro-2-methylphenol	U		0.0026	0.0083	mg/Kg-dry	1	28-Jan-2016 23:42
4-Nitrophenol	U		0.0024	0.017	mg/Kg-dry	1	28-Jan-2016 23:42
Acenaphthene	U		0.00063	0.0041	mg/Kg-dry	1	28-Jan-2016 23:42
Acenaphthylene	**0.044**		**0.0013**	**0.0041**	**mg/Kg-dry**	1	28-Jan-2016 23:42
Anthracene	**0.083**		**0.00063**	**0.0041**	**mg/Kg-dry**	1	28-Jan-2016 23:42
Benz(a)anthracene	**0.16**		**0.0020**	**0.0041**	**mg/Kg-dry**	1	28-Jan-2016 23:42
Benzo(a)pyrene	**0.23**		**0.0013**	**0.0041**	**mg/Kg-dry**	1	28-Jan-2016 23:42
Bis(2-chloroethoxy)methane	U		0.0011	0.0083	mg/Kg-dry	1	28-Jan-2016 23:42
Bis(2-ethylhexyl)phthalate	**0.17**		**0.0021**	**0.0083**	**mg/Kg-dry**	1	28-Jan-2016 23:42
Chrysene	**0.24**		**0.0010**	**0.0041**	**mg/Kg-dry**	1	28-Jan-2016 23:42
Dibenzofuran	U		0.00088	0.0041	mg/Kg-dry	1	28-Jan-2016 23:42
Di-n-butyl phthalate	U		0.0015	0.0083	mg/Kg-dry	1	28-Jan-2016 23:42
Fluoranthene	**0.19**		**0.0014**	**0.0041**	**mg/Kg-dry**	1	28-Jan-2016 23:42
Fluorene	**0.0091**		**0.0014**	**0.0041**	**mg/Kg-dry**	1	28-Jan-2016 23:42
Naphthalene	U		0.00075	0.0041	mg/Kg-dry	1	28-Jan-2016 23:42
Nitrobenzene	U		0.0011	0.0083	mg/Kg-dry	1	28-Jan-2016 23:42
N-Nitrosodiphenylamine	U		0.00088	0.0083	mg/Kg-dry	1	28-Jan-2016 23:42
Pentachlorophenol	U		0.0041	0.0083	mg/Kg-dry	1	28-Jan-2016 23:42
Phenanthrene	**0.0065**		**0.0019**	**0.0041**	**mg/Kg-dry**	1	28-Jan-2016 23:42
Phenol	**0.0044**	J	**0.0014**	**0.0083**	**mg/Kg-dry**	1	28-Jan-2016 23:42
Pyrene	**0.32**		**0.00075**	**0.0041**	**mg/Kg-dry**	1	28-Jan-2016 23:42
Surr: 2,4,6-Tribromophenol	*81.1*			*36-126*	*%REC*	*1*	*28-Jan-2016 23:42*
Surr: 2-Fluorobiphenyl	*68.9*			*43-125*	*%REC*	*1*	*28-Jan-2016 23:42*
Surr: 2-Fluorophenol	*60.4*			*37-125*	*%REC*	*1*	*28-Jan-2016 23:42*
Surr: 4-Terphenyl-d14	*90.5*			*32-125*	*%REC*	*1*	*28-Jan-2016 23:42*
Surr: Nitrobenzene-d5	*53.1*			*37-125*	*%REC*	*1*	*28-Jan-2016 23:42*
Surr: Phenol-d6	*59.4*			*40-125*	*%REC*	*1*	*28-Jan-2016 23:42*
METALS BY SW6020A		**Method:SW6020**			Prep:SW3050A / 28-Jan-2016		Analyst: JDE
Arsenic	**2.38**		**0.118**	**0.592**	**mg/Kg-dry**	1	29-Jan-2016 13:36
Lead	**10.9**		**0.0592**	**0.592**	**mg/Kg-dry**	1	29-Jan-2016 13:36
MOISTURE - ASTM D2216		**Method:ASTM D2216**					Analyst: JHD
Percent Moisture	**20.7**		**0.0100**	**0.0100**	**wt%**	1	28-Jan-2016 18:04

Note: See Qualifiers Page for a list of qualifiers and their explanation.

WEIGHT LOG

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
WorkOrder: HS16011090

Batch ID: 100991 **Method:** LOW-LEVEL SEMIVOLATILES **Prep:** 3541_B_LOW

SampID	Container	Sample Wt/Vol	Final Volume	Prep Factor
HS16011090-01	1	30.15	1 (mL)	0.03317
HS16011090-02	1	30.19	1 (mL)	0.03312
HS16011090-03	1	30.1	1 (mL)	0.03322
HS16011090-04	1	30.09	1 (mL)	0.03323
HS16011090-05	1	30.11	1 (mL)	0.03321
HS16011090-06	1	30.17	1 (mL)	0.03315
HS16011090-07	1	30.16	1 (mL)	0.03316
HS16011090-08	1	30.13	1 (mL)	0.03319
HS16011090-09	1	30.18	1 (mL)	0.03313
HS16011090-10	1	30.08	1 (mL)	0.03324
HS16011090-11	1	30.16	1 (mL)	0.03316
HS16011090-12	1	30.19	1 (mL)	0.03312

Batch ID: 101005 **Method:** METALS BY SW6020A **Prep:** 3050_I_LOW

SampID	Container	Sample Wt/Vol	Final Volume	Prep Factor
HS16011090-01	1	0.5144	50 (mL)	97.2
HS16011090-02	1	0.5174	50 (mL)	96.64
HS16011090-03	1	0.5463	50 (mL)	91.52
HS16011090-04	1	0.5101	50 (mL)	98.02
HS16011090-05	1	0.528	50 (mL)	94.7
HS16011090-06	1	0.5182	50 (mL)	96.49
HS16011090-07	1	0.5249	50 (mL)	95.26
HS16011090-08	1	0.5253	50 (mL)	95.18
HS16011090-09	1	0.5184	50 (mL)	96.45
HS16011090-10	1	0.5127	50 (mL)	97.52
HS16011090-11	1	0.5042	50 (mL)	99.17
HS16011090-12	1	0.5329	50 (mL)	93.83

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
WorkOrder: HS16011090

DATES REPORT

Sample ID	Client Samp ID	Collection Date	TCLP Date	Prep Date	Analysis Date	DF
Batch ID 100991	**Test Name :** LOW-LEVEL SEMIVOLATILES			**Matrix:** Soil		
HS16011090-01	SO-1620-CSFS3(0-5)-20160128	28 Jan 2016 10:15		28 Jan 2016 13:35	28 Jan 2016 19:59	1
HS16011090-02	SO-1620-CSFN3(0-5)-20160128	28 Jan 2016 10:00		28 Jan 2016 13:35	29 Jan 2016 15:33	4
HS16011090-02	SO-1620-CSFN3(0-5)-20160128	28 Jan 2016 10:00		28 Jan 2016 13:35	28 Jan 2016 20:19	1
HS16011090-03	SO-1620-ESB4(0-5)-20160127	27 Jan 2016 15:00		28 Jan 2016 13:35	28 Jan 2016 20:40	1
HS16011090-04	SO-1620-ESB3(0-5)-20160127	27 Jan 2016 15:40		28 Jan 2016 13:35	28 Jan 2016 21:00	1
HS16011090-05	SO-1620-ESB2(0-5)-20160127	27 Jan 2016 16:15		28 Jan 2016 13:35	29 Jan 2016 15:52	10
HS16011090-05	SO-1620-ESB2(0-5)-20160127	27 Jan 2016 16:15		28 Jan 2016 13:35	28 Jan 2016 21:20	1
HS16011090-06	SO-1620-ESB1(0-5)-20160127	27 Jan 2016 16:45		28 Jan 2016 13:35	29 Jan 2016 16:12	5
HS16011090-06	SO-1620-ESB1(0-5)-20160127	27 Jan 2016 16:45		28 Jan 2016 13:35	28 Jan 2016 21:40	1
HS16011090-07	SO-1620-GSB1(0-1.5)-20160128	28 Jan 2016 13:00		28 Jan 2016 13:35	28 Jan 2016 22:01	1
HS16011090-08	SO-1620-GSB2(0-3)-20160128	28 Jan 2016 14:16		28 Jan 2016 13:35	28 Jan 2016 22:21	1
HS16011090-09	SO-1620-GSB3(0-3)-20160128	28 Jan 2016 12:10		28 Jan 2016 13:35	28 Jan 2016 22:41	1
HS16011090-10	SO-1620-GSB4(0-3)-20160128	28 Jan 2016 11:15		28 Jan 2016 13:35	28 Jan 2016 23:01	1
HS16011090-11	SO-1620-GSB5(0-3)-20160128	28 Jan 2016 13:30		28 Jan 2016 13:35	28 Jan 2016 23:21	1
HS16011090-12	SO-1620-GSB6(0-3)-20160128	28 Jan 2016 14:00		28 Jan 2016 13:35	28 Jan 2016 23:42	1
Batch ID 101005	**Test Name :** METALS BY SW6020A			**Matrix:** Soil		
HS16011090-01	SO-1620-CSFS3(0-5)-20160128	28 Jan 2016 10:15		28 Jan 2016 21:00	29 Jan 2016 12:16	1
HS16011090-02	SO-1620-CSFN3(0-5)-20160128	28 Jan 2016 10:00		28 Jan 2016 21:00	29 Jan 2016 12:21	1
HS16011090-03	SO-1620-ESB4(0-5)-20160127	27 Jan 2016 15:00		28 Jan 2016 21:00	29 Jan 2016 12:49	1
HS16011090-04	SO-1620-ESB3(0-5)-20160127	27 Jan 2016 15:40		28 Jan 2016 21:00	29 Jan 2016 12:54	1
HS16011090-05	SO-1620-ESB2(0-5)-20160127	27 Jan 2016 16:15		28 Jan 2016 21:00	29 Jan 2016 12:58	1
HS16011090-06	SO-1620-ESB1(0-5)-20160127	27 Jan 2016 16:45		28 Jan 2016 21:00	29 Jan 2016 13:02	1
HS16011090-07	SO-1620-GSB1(0-1.5)-20160128	28 Jan 2016 13:00		28 Jan 2016 21:00	29 Jan 2016 13:06	1
HS16011090-08	SO-1620-GSB2(0-3)-20160128	28 Jan 2016 14:16		28 Jan 2016 21:00	29 Jan 2016 13:10	1
HS16011090-09	SO-1620-GSB3(0-3)-20160128	28 Jan 2016 12:10		28 Jan 2016 21:00	29 Jan 2016 13:14	1
HS16011090-10	SO-1620-GSB4(0-3)-20160128	28 Jan 2016 11:15		28 Jan 2016 21:00	29 Jan 2016 13:19	1
HS16011090-11	SO-1620-GSB5(0-3)-20160128	28 Jan 2016 13:30		28 Jan 2016 21:00	29 Jan 2016 13:31	1
HS16011090-12	SO-1620-GSB6(0-3)-20160128	28 Jan 2016 14:00		28 Jan 2016 21:00	29 Jan 2016 13:36	1

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
WorkOrder: HS16011090

DATES REPORT

Sample ID	Client Samp ID	Collection Date	TCLP Date	Prep Date	Analysis Date	DF
Batch ID R268467	**Test Name :** MOISTURE - ASTM D2216			**Matrix:** Soil		
HS16011090-01	SO-1620-CSFS3(0-5)-20160128	28 Jan 2016 10:15			28 Jan 2016 18:04	1
HS16011090-02	SO-1620-CSFN3(0-5)-20160128	28 Jan 2016 10:00			28 Jan 2016 18:04	1
HS16011090-03	SO-1620-ESB4(0-5)-20160127	27 Jan 2016 15:00			28 Jan 2016 18:04	1
HS16011090-04	SO-1620-ESB3(0-5)-20160127	27 Jan 2016 15:40			28 Jan 2016 18:04	1
HS16011090-05	SO-1620-ESB2(0-5)-20160127	27 Jan 2016 16:15			28 Jan 2016 18:04	1
HS16011090-06	SO-1620-ESB1(0-5)-20160127	27 Jan 2016 16:45			28 Jan 2016 18:04	1
HS16011090-07	SO-1620-GSB1(0-1.5)-20160128	28 Jan 2016 13:00			28 Jan 2016 18:04	1
HS16011090-08	SO-1620-GSB2(0-3)-20160128	28 Jan 2016 14:16			28 Jan 2016 18:04	1
HS16011090-09	SO-1620-GSB3(0-3)-20160128	28 Jan 2016 12:10			28 Jan 2016 18:04	1
HS16011090-10	SO-1620-GSB4(0-3)-20160128	28 Jan 2016 11:15			28 Jan 2016 18:04	1
HS16011090-11	SO-1620-GSB5(0-3)-20160128	28 Jan 2016 13:30			28 Jan 2016 18:04	1
HS16011090-12	SO-1620-GSB6(0-3)-20160128	28 Jan 2016 14:00			28 Jan 2016 18:04	1

WorkOrder: HS16011090
InstrumentID: ICPMS04
Test Code: ICP_S_Low
Test Number: SW6020
Test Name: Metals by SW6020A

METHOD DETECTION / REPORTING LIMITS

Matrix: Solid **Units:** mg/Kg

Type	Analyte	CAS	DCS Spike	DCS	MDL	PQL
A	Arsenic	7440-38-2	0.100	0.119	0.100	0.500
A	Lead	7439-92-1	0.100	0.0949	0.0500	0.500

WorkOrder: HS16011090
InstrumentID: SV-7
Test Code: 8270_LOW_S
Test Number: SW8270
Test Name: Low-Level Semivolatiles

METHOD DETECTION / REPORTING LIMITS

Matrix: Solid **Units:** mg/Kg

Type	Analyte	CAS	DCS Spike	DCS	MDL	PQL
A	1,2-Diphenylhydrazine	122-66-7	0.0033	0.0030	0.0011	0.0066
A	2,4-Dimethylphenol	105-67-9	0.0033	0.0025	0.0033	0.0066
A	2,4-Dinitrotoluene	121-14-2	0.0033	0.0049	0.00090	0.0066
A	2,6-Dinitrotoluene	606-20-2	0.0033	0.0042	0.0033	0.0066
A	2-Chloronaphthalene	91-58-7	0.0033	0.0029	0.0013	0.0066
A	2-Methylnaphthalene	91-57-6	0.0017	0.0018	0.00050	0.0033
A	4,6-Dinitro-2-methylphenol	534-52-1	0.0033	0.0074	0.0021	0.0066
A	4-Nitrophenol	100-02-7	0.0033	0.0020	0.0019	0.013
A	Acenaphthene	83-32-9	0.0017	0.0015	0.00050	0.0033
A	Acenaphthylene	208-96-8	0.0017	0.0015	0.0010	0.0033
A	Anthracene	120-12-7	0.0017	0.0016	0.00050	0.0033
A	Benz(a)anthracene	56-55-3	0.0017	0.0018	0.0016	0.0033
A	Benzo(a)pyrene	50-32-8	0.0017	0.0014	0.0010	0.0033
A	Bis(2-chloroethoxy)methane	111-91-1	0.0033	0.0036	0.00090	0.0066
A	Bis(2-ethylhexyl)phthalate	117-81-7	0.0033	0.0025	0.0017	0.0066
A	Chrysene	218-01-9	0.0017	0.0017	0.00080	0.0033
A	Dibenzofuran	132-64-9	0.0033	0.0030	0.00070	0.0033
A	Di-n-butyl phthalate	84-74-2	0.0033	0.0031	0.0012	0.0066
A	Fluoranthene	206-44-0	0.0017	0.0018	0.0011	0.0033
A	Fluorene	86-73-7	0.0017	0.0017	0.0011	0.0033
A	Naphthalene	91-20-3	0.0017	0.0018	0.00060	0.0033
A	Nitrobenzene	98-95-3	0.0033	0.0046	0.00090	0.0066
A	N-Nitrosodiphenylamine	86-30-6	0.0033	0.0031	0.00070	0.0066
A	Pentachlorophenol	87-86-5	0.0033	0.0015	0.0033	0.0066
A	Phenanthrene	85-01-8	0.0017	0.0018	0.0015	0.0033
A	Phenol	108-95-2	0.0033	0.0038	0.0011	0.0066
A	Pyrene	129-00-0	0.0017	0.0017	0.00060	0.0033
S	2,4,6-Tribromophenol	118-79-6	0	0	0	0
S	2-Fluorobiphenyl	321-60-8	0	0	0	0
S	2-Fluorophenol	367-12-4	0	0	0	0
S	4-Terphenyl-d14	1718-51-0	0	0	0	0
S	Nitrobenzene-d5	4165-60-0	0	0	0	0
S	Phenol-d6	13127-88-3	0	0	0	0

WorkOrder: HS16011090
InstrumentID: Balance1
Test Code: MOIST_ASTM
Test Number: ASTM D2216
Test Name: Moisture - ASTM D2216

METHOD DETECTION / REPORTING LIMITS

Matrix: Solid **Units:** wt%

Type	Analyte	CAS	DCS Spike	DCS	MDL	PQL
A	Percent Moisture	MOIST	0.0100	0.0100	0.0100	0.0100

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
WorkOrder: HS16011090

QC BATCH REPORT

Batch ID: 101005 **Instrument: ICPMS04** **Method: SW6020**

MBLK Sample ID: **MBLK-101005** Units: **mg/Kg** Analysis Date: **29-Jan-2016 11:48**
Client ID: Run ID: **ICPMS04_268464** SeqNo: **3569152** PrepDate: **28-Jan-2016** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	U	0.500								
Lead	U	0.500								

LCS Sample ID: **MLCS-101005** Units: **mg/Kg** Analysis Date: **29-Jan-2016 11:52**
Client ID: Run ID: **ICPMS04_268464** SeqNo: **3569153** PrepDate: **28-Jan-2016** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	8.72	0.500	10	0	87.2	80 - 120				
Lead	9.095	0.500	10	0	90.9	80 - 120				

MS Sample ID: **HS16011090-02MS** Units: **mg/Kg** Analysis Date: **29-Jan-2016 12:29**
Client ID: **SO-1620-CSFN3(0-5)-20160128** Run ID: **ICPMS04_268464** SeqNo: **3569219** PrepDate: **28-Jan-2016** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	9.071	0.484	9.682	1.452	78.7	75 - 125				
Lead	16.7	0.484	9.682	6.874	102	75 - 125				

MSD Sample ID: **HS16011090-02MSD** Units: **mg/Kg** Analysis Date: **29-Jan-2016 12:33**
Client ID: **SO-1620-CSFN3(0-5)-20160128** Run ID: **ICPMS04_268464** SeqNo: **3569220** PrepDate: **28-Jan-2016** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	9.289	0.480	9.61	1.452	81.6	75 - 125	9.071	2.38	20	
Lead	16.67	0.480	9.61	6.874	102	75 - 125	16.7	0.215	20	

PDS Sample ID: **HS16011090-02BS** Units: **mg/Kg** Analysis Date: **29-Jan-2016 12:37**
Client ID: **SO-1620-CSFN3(0-5)-20160128** Run ID: **ICPMS04_268464** SeqNo: **3569221** PrepDate: **28-Jan-2016** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	9.609	0.483	9.664	1.452	84.4	75 - 125				
Lead	14.96	0.483	9.664	6.874	83.7	75 - 125				

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
WorkOrder: HS16011090

QC BATCH REPORT

Batch ID: 101005 **Instrument: ICPMS04** **Method: SW6020**

SD Sample ID: **HS16011090-02 DIL SX** Units: **mg/Kg** Analysis Date: **29-Jan-2016 12:25**
Client ID: **SO-1620-CSFN3(0-5)-20160128** Run ID: **ICPMS04_268464** SeqNo: **3569218** PrepDate: **28-Jan-2016** DF: **5**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%D	%D Limit	Qual
Arsenic	1.526	2.42					1.452	0	10	J
Lead	6.761	2.42					6.874	1.64	10	

The following samples were anayzed in this batch:

HS16011090-01	HS16011090-02	HS16011090-03	HS16011090-04
HS16011090-05	HS16011090-06	HS16011090-07	HS16011090-08
HS16011090-09	HS16011090-10	HS16011090-11	HS16011090-12

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
WorkOrder: HS16011090

QC BATCH REPORT

Batch ID: 100991 **Instrument: SV-7** **Method: SW8270**

MBLK Sample ID: **MBLK-100991** Units: **ug/Kg** Analysis Date: **29-Jan-2016 10:57**
Client ID: Run ID: **SV-7_268505** SeqNo: **3569826** PrepDate: **28-Jan-2016** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Diphenylhydrazine	U	6.6								
2,4-Dimethylphenol	U	6.6								
2,4-Dinitrotoluene	U	6.6								
2,6-Dinitrotoluene	U	6.6								
2-Chloronaphthalene	U	6.6								
2-Methylnaphthalene	U	3.3								
4,6-Dinitro-2-methylphenol	U	6.6								
4-Nitrophenol	U	13								
Acenaphthene	U	3.3								
Acenaphthylene	U	3.3								
Anthracene	U	3.3								
Benz(a)anthracene	U	3.3								
Benzo(a)pyrene	U	3.3								
Bis(2-chloroethoxy)methane	U	6.6								
Bis(2-ethylhexyl)phthalate	U	6.6								
Chrysene	U	3.3								
Dibenzofuran	U	3.3								
Di-n-butyl phthalate	U	6.6								
Fluoranthene	U	3.3								
Fluorene	U	3.3								
Naphthalene	U	3.3								
Nitrobenzene	U	6.6								
N-Nitrosodiphenylamine	U	6.6								
Pentachlorophenol	U	6.6								
Phenanthrene	U	3.3								
Phenol	U	6.6								
Pyrene	U	3.3								
Surr: 2,4,6-Tribromophenol	*209*	*0*	*167*	*0*	*125*	*36 - 126*				
Surr: 2-Fluorobiphenyl	*155.5*	*0*	*167*	*0*	*93.1*	*43 - 125*				
Surr: 2-Fluorophenol	*163.2*	*0*	*167*	*0*	*97.7*	*37 - 125*				
Surr: 4-Terphenyl-d14	*167.8*	*0*	*167*	*0*	*100*	*32 - 125*				
Surr: Nitrobenzene-d5	*198*	*0*	*167*	*0*	*119*	*37 - 125*				
Surr: Phenol-d6	*179.3*	*0*	*167*	*0*	*107*	*40 - 125*				

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
WorkOrder: HS16011090

QC BATCH REPORT

Batch ID: 100991 **Instrument: SV-7** **Method: SW8270**

LCS Sample ID: **LCS-100991** Units: **ug/Kg** Analysis Date: **29-Jan-2016 11:17**
Client ID: Run ID: **SV-7_268505** SeqNo: **3569827** PrepDate: **28-Jan-2016** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Diphenylhydrazine	164.5	6.6	167	0	98.5	50 - 135				
2,4-Dimethylphenol	156.6	6.6	167	0	93.8	45 - 120				
2,4-Dinitrotoluene	168.7	6.6	167	0	101	50 - 130				
2,6-Dinitrotoluene	178.9	6.6	167	0	107	50 - 125				
2-Chloronaphthalene	168.4	6.6	167	0	101	50 - 145				
2-Methylnaphthalene	151.7	3.3	167	0	90.8	50 - 120				
4,6-Dinitro-2-methylphenol	178.1	6.6	167	0	107	15 - 135				
4-Nitrophenol	180.7	13	167	0	108	40 - 147				
Acenaphthene	157.2	3.3	167	0	94.1	50 - 120				
Acenaphthylene	153.1	3.3	167	0	91.7	50 - 120				
Anthracene	157.3	3.3	167	0	94.2	50 - 123				
Benz(a)anthracene	163.2	3.3	167	0	97.7	50 - 131				
Benzo(a)pyrene	169.1	3.3	167	0	101	50 - 130				
Bis(2-chloroethoxy)methane	166.2	6.6	167	0	99.6	50 - 120				
Bis(2-ethylhexyl)phthalate	170.7	6.6	167	0	102	21 - 148				
Chrysene	150	3.3	167	0	89.8	50 - 130				
Dibenzofuran	157.1	3.3	167	0	94.1	50 - 125				
Di-n-butyl phthalate	159.5	6.6	167	0	95.5	50 - 140				
Fluoranthene	169.4	3.3	167	0	101	50 - 131				
Fluorene	160.8	3.3	167	0	96.3	50 - 125				
Naphthalene	151	3.3	167	0	90.4	50 - 125				
Nitrobenzene	193	6.6	167	0	116	50 - 125				
N-Nitrosodiphenylamine	149.1	6.6	167	0	89.3	50 - 130				
Pentachlorophenol	157.2	6.6	167	0	94.1	23 - 136				
Phenanthrene	154.1	3.3	167	0	92.3	50 - 125				
Phenol	164.2	6.6	167	0	98.3	45 - 130				
Pyrene	160.2	3.3	167	0	95.9	45 - 130				
Surr: 2,4,6-Tribromophenol	*205.4*	*0*	*167*	*0*	*123*	*36 - 126*				
Surr: 2-Fluorobiphenyl	*164.1*	*0*	*167*	*0*	*98.3*	*43 - 125*				
Surr: 2-Fluorophenol	*154.7*	*0*	*167*	*0*	*92.6*	*37 - 125*				
Surr: 4-Terphenyl-d14	*162*	*0*	*167*	*0*	*97.0*	*32 - 125*				
Surr: Nitrobenzene-d5	*197.7*	*0*	*167*	*0*	*118*	*37 - 125*				
Surr: Phenol-d6	*199.2*	*0*	*167*	*0*	*119*	*40 - 125*				

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
WorkOrder: HS16011090

QC BATCH REPORT

Batch ID: 100991 **Instrument: SV-7** **Method: SW8270**

MS Sample ID: **HS16010784-02MS** Units: **ug/Kg** Analysis Date: **29-Jan-2016 13:22**
Client ID: Run ID: **SV-7_268505** SeqNo: **3569829** PrepDate: **28-Jan-2016** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Diphenylhydrazine	199.3	9.8	248.6	0	80.1	50 - 135				
2,4-Dimethylphenol	168.5	9.8	248.6	0	67.8	45 - 120				
2,4-Dinitrotoluene	215.7	9.8	248.6	0	86.7	50 - 130				
2,6-Dinitrotoluene	204.9	9.8	248.6	0	82.4	50 - 125				
2-Chloronaphthalene	182.5	9.8	248.6	0	73.4	50 - 145				
2-Methylnaphthalene	225.5	4.9	248.6	40.57	74.4	50 - 120				
4,6-Dinitro-2-methylphenol	107.4	9.8	248.6	0	43.2	15 - 135				
4-Nitrophenol	11.18	20	248.6	0	4.50	40 - 147				JS
Acenaphthene	217.9	4.9	248.6	45.86	69.2	50 - 120				
Acenaphthylene	200.7	4.9	248.6	15.37	74.5	50 - 120				
Anthracene	305.7	4.9	248.6	111.7	78.0	50 - 123				
Benz(a)anthracene	583.2	4.9	248.6	379.7	81.8	50 - 131				E
Benzo(a)pyrene	657.1	4.9	248.6	440.5	87.1	50 - 130				E
Bis(2-chloroethoxy)methane	189.7	9.8	248.6	0	76.3	50 - 120				
Bis(2-ethylhexyl)phthalate	250.8	9.8	248.6	23.86	91.3	21 - 148				
Chrysene	687.4	4.9	248.6	509.3	71.6	50 - 130				E
Dibenzofuran	210.1	4.9	248.6	34.09	70.8	50 - 125				
Di-n-butyl phthalate	192.9	9.8	248.6	0	77.6	50 - 140				
Fluoranthene	930.9	4.9	248.6	866.9	25.8	50 - 131				SE
Fluorene	228	4.9	248.6	43.26	74.3	50 - 125				
Naphthalene	213.2	4.9	248.6	38.14	70.4	50 - 125				
Nitrobenzene	206.6	9.8	248.6	0	83.1	50 - 125				
N-Nitrosodiphenylamine	197.3	9.8	248.6	0	79.4	50 - 130				
Pentachlorophenol	200.5	9.8	248.6	0	80.7	23 - 136				
Phenanthrene	617.5	4.9	248.6	608.9	3.49	50 - 125				SE
Phenol	183	9.8	248.6	0	73.6	45 - 130				
Pyrene	818.3	4.9	248.6	735.5	33.3	45 - 130				SE
Surr: 2,4,6-Tribromophenol	*273.1*	*0*	*248.6*	*0*	*110*	*36 - 126*				
Surr: 2-Fluorobiphenyl	*183.9*	*0*	*248.6*	*0*	*74.0*	*43 - 125*				
Surr: 2-Fluorophenol	*167.2*	*0*	*248.6*	*0*	*67.3*	*37 - 125*				
Surr: 4-Terphenyl-d14	*195.1*	*0*	*248.6*	*0*	*78.5*	*32 - 125*				
Surr: Nitrobenzene-d5	*220.7*	*0*	*248.6*	*0*	*88.8*	*37 - 125*				
Surr: Phenol-d6	*262.5*	*0*	*248.6*	*0*	*106*	*40 - 125*				

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
WorkOrder: HS16011090

QC BATCH REPORT

Batch ID: 100991 **Instrument: SV-7** **Method: SW8270**

MSD Sample ID: **HS16010784-02MSD** Units: **ug/Kg** Analysis Date: **29-Jan-2016 13:41**
Client ID: Run ID: **SV-7_268505** SeqNo: **3569830** PrepDate: **28-Jan-2016** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual
1,2-Diphenylhydrazine	195.6	9.8	248.8	0	78.6	50 - 135	199.3	1.86	30	
2,4-Dimethylphenol	175.5	9.8	248.8	0	70.6	45 - 120	168.5	4.09	30	
2,4-Dinitrotoluene	181.7	9.8	248.8	0	73.0	50 - 130	215.7	17.1	30	
2,6-Dinitrotoluene	195.6	9.8	248.8	0	78.6	50 - 125	204.9	4.64	30	
2-Chloronaphthalene	179.3	9.8	248.8	0	72.1	50 - 145	182.5	1.77	30	
2-Methylnaphthalene	217.2	4.9	248.8	40.57	71.0	50 - 120	225.5	3.74	30	
4,6-Dinitro-2-methylphenol	86.48	9.8	248.8	0	34.8	15 - 135	107.4	21.6	30	
4-Nitrophenol	U	20	248.8	0	0	40 - 147	11.18	0	30	S
Acenaphthene	200	4.9	248.8	45.86	62.0	50 - 120	217.9	8.56	30	
Acenaphthylene	192.5	4.9	248.8	15.37	71.2	50 - 120	200.7	4.17	30	
Anthracene	267.9	4.9	248.8	111.7	62.8	50 - 123	305.7	13.2	30	
Benz(a)anthracene	517.7	4.9	248.8	379.7	55.5	50 - 131	583.2	11.9	30	E
Benzo(a)pyrene	599.1	4.9	248.8	440.5	63.7	50 - 130	657.1	9.24	30	E
Bis(2-chloroethoxy)methane	189	9.8	248.8	0	76.0	50 - 120	189.7	0.349	30	
Bis(2-ethylhexyl)phthalate	241.8	9.8	248.8	23.86	87.6	21 - 148	250.8	3.64	30	
Chrysene	592.1	4.9	248.8	509.3	33.3	50 - 130	687.4	14.9	30	SE
Dibenzofuran	196.4	4.9	248.8	34.09	65.2	50 - 125	210.1	6.75	30	
Di-n-butyl phthalate	189.5	9.8	248.8	0	76.2	50 - 140	192.9	1.79	30	
Fluoranthene	768.6	4.9	248.8	866.9	-39.5	50 - 131	930.9	19.1	30	SE
Fluorene	205.1	4.9	248.8	43.26	65.0	50 - 125	228	10.6	30	
Naphthalene	201.1	4.9	248.8	38.14	65.5	50 - 125	213.2	5.83	30	
Nitrobenzene	204.5	9.8	248.8	0	82.2	50 - 125	206.6	1.01	30	
N-Nitrosodiphenylamine	186.7	9.8	248.8	0	75.1	50 - 130	197.3	5.53	30	
Pentachlorophenol	189.5	9.8	248.8	0	76.2	23 - 136	200.5	5.68	30	
Phenanthrene	536.2	4.9	248.8	608.9	-29.2	50 - 125	617.5	14.1	30	SE
Phenol	169	9.8	248.8	0	67.9	45 - 130	183	7.94	30	
Pyrene	719.1	4.9	248.8	735.5	-6.56	45 - 130	818.3	12.9	30	SE
Surr: 2,4,6-Tribromophenol	*251.1*	*0*	*248.8*	*0*	*101*	*36 - 126*	*273.1*	*8.37*	*30*	
Surr: 2-Fluorobiphenyl	*169.4*	*0*	*248.8*	*0*	*68.1*	*43 - 125*	*183.9*	*8.21*	*30*	
Surr: 2-Fluorophenol	*184.5*	*0*	*248.8*	*0*	*74.2*	*37 - 125*	*167.2*	*9.82*	*30*	
Surr: 4-Terphenyl-d14	*185.1*	*0*	*248.8*	*0*	*74.4*	*32 - 125*	*195.1*	*5.24*	*30*	
Surr: Nitrobenzene-d5	*206.7*	*0*	*248.8*	*0*	*83.1*	*37 - 125*	*220.7*	*6.55*	*30*	
Surr: Phenol-d6	*207.2*	*0*	*248.8*	*0*	*83.3*	*40 - 125*	*262.5*	*23.6*	*30*	

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
WorkOrder: HS16011090

QC BATCH REPORT

Batch ID: 100991 **Instrument: SV-7** **Method: SW8270**

The following samples were anayzed in this batch:

HS16011090-01	HS16011090-02	HS16011090-03	HS16011090-04
HS16011090-05	HS16011090-06	HS16011090-07	HS16011090-08
HS16011090-09	HS16011090-10	HS16011090-11	HS16011090-12

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
WorkOrder: HS16011090

QC BATCH REPORT

Batch ID: **R268467** **Instrument:** **Balance1** **Method:** **ASTM D2216**

DUP Sample ID: **HS16011090-12DUP** Units: **wt%** Analysis Date: **28-Jan-2016 18:04**
Client ID: **SO-1620-GSB6(0-3)-20160128** Run ID: **Balance1_268467** SeqNo: **3569062** PrepDate: DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Percent Moisture	18.7	0.0100					20.7	10.2	20	

The following samples were anayzed in this batch:

HS16011090-01	HS16011090-02	HS16011090-03	HS16011090-04
HS16011090-05	HS16011090-06	HS16011090-07	HS16011090-08
HS16011090-09	HS16011090-10	HS16011090-11	HS16011090-12

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
WorkOrder: **HS16011090**

QUALIFIERS, ACRONYMS, UNITS

Qualifier	Description
*	Value exceeds Regulatory Limit
a	Not accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte detected below quantitation limit
M	Manually integrated, see raw data for justification
n	Not offered for accreditation
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL/SDL

Acronym	Description
DCS	Detectability Check Study
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
MBLK	Method Blank
MDL	Method Detection Limit
MQL	Method Quantitation Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PDS	Post Digestion Spike
PQL	Practical Quantitaion Limit
SD	Serial Dilution
SDL	Sample Detection Limit
TRRP	Texas Risk Reduction Program

Unit Reported	Description
mg/Kg-dry	Milligrams per Kilogram- Dry weight corrected

CERTIFICATIONS,ACCREDITATIONS & LICENSES

Agency	Number	Expire Date
Arkansas	15-024-0	27-Mar-2016
California	2919	31-Jul-2016
Illinois	003622	09-May-2016
Kansas	E-10352 2014-2015	31-Jan-2016
Kentucky	KY 2015-2016	30-Apr-2016
Louisiana	03087 2015/2016	30-Jun-2016
North Carolina	624 - 2016	31-Dec-2016
North Dakota	R-193 2015-2016	30-Apr-2016
Oklahoma	2015-047	31-Aug-2016
Texas	T104704231-15-15	30-Apr-2016

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
Work Order: HS16011090

SAMPLE TRACKING

Lab Samp ID	Client Sample ID	Action	Date	Person	New Location
HS16011090-01	SO-1620-CSFS3(0-5)-20160128	Login	1/28/2016 5:32:32 PM	PMG	10D
HS16011090-02	SO-1620-CSFN3(0-5)-20160128	Login	1/28/2016 5:37:46 PM	PMG	10D
HS16011090-03	SO-1620-ESB4(0-5)-20160127	Login	1/28/2016 5:37:46 PM	PMG	10D
HS16011090-04	SO-1620-ESB3(0-5)-20160127	Login	1/28/2016 5:37:46 PM	PMG	10D
HS16011090-05	SO-1620-ESB2(0-5)-20160127	Login	1/28/2016 5:37:46 PM	PMG	10D
HS16011090-06	SO-1620-ESB1(0-5)-20160127	Login	1/28/2016 5:37:46 PM	PMG	10D
HS16011090-07	SO-1620-GSB1(0-1.5)-20160128	Login	1/28/2016 5:37:46 PM	PMG	10D
HS16011090-08	SO-1620-GSB2(0-3)-20160128	Login	1/28/2016 5:37:46 PM	PMG	10D
HS16011090-09	SO-1620-GSB3(0-3)-20160128	Login	1/28/2016 5:37:46 PM	PMG	10D
HS16011090-10	SO-1620-GSB4(0-3)-20160128	Login	1/28/2016 5:37:46 PM	PMG	10D
HS16011090-11	SO-1620-GSB5(0-3)-20160128	Login	1/28/2016 5:37:46 PM	PMG	10D
HS16011090-12	SO-1620-GSB6(0-3)-20160128	Login	1/28/2016 5:37:46 PM	PMG	10D

Sample Receipt Checklist

Client Name: PBW
Work Order: HS16011090

Date/Time Received: **28-Jan-2016 17:20**
Received by: **PMG**

Checklist completed by: *Paresh M. Giga* eSignature — 28-Jan-2016 Date

Reviewed by: *Dane J. Wacasey* eSignature — 28-Jan-2016 Date

Matrices: **Soil**

Carrier name: **Client**

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on shipping container/cooler?	Yes ☐	No ☐	Not Present ☑
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☑	No ☐	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
TX1005 solids received in hermetically sealed vials?	Yes ☐	No ☐	N/A ☑
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time?	Yes ☑	No ☐	
Container/Temp Blank temperature in compliance?	Yes ☑	No ☐	
Temperature(s)/Thermometer(s):	1.6c/1.8c U/C	IR4	
Cooler(s)/Kit(s):	Green		
Date/Time sample(s) sent to storage:	1/28/16 17:45		
Water - VOA vials have zero headspace?	Yes ☐	No ☐	No VOA vials submitted ☑
Water - pH acceptable upon receipt?	Yes ☐	No ☐	N/A ☑
pH adjusted?	Yes ☐	No ☐	N/A ☑
pH adjusted by:			

Login Notes:

Client Contacted: Date Contacted: Person Contacted:

Contacted By: 0 Regarding:

Comments:

Corrective Action:

ALS Environmental

Cincinnati, OH +1 513 733 5336 | Everett, WA +1 425 356 2600 | Fort Collins, CO +1 970 490 1511 | Holland, MI +1 616 399 6070

Chain of Custody Form

Page 2 of 2

COC ID: 135241

HS16011090

Pastor, Behling & Wheeler, LLC

1620-11-Rev0 HoustonTX-Wood

ALS Project Manager:

Customer Information		Project Information			
Purchase Order	UPRR	Project Name	1620-10-Rev1 HoustonTX-Wood	A	8270_LOW_S (5632532 SemiVolatiles)
Work Order		Project Number	1620-10-Rev1	B	ICP_S_Low (5636002 5652646 Metals - As, Pb)
Company Name	Pastor, Behling & Wheeler, LLC	Bill To Company	Union Pacific Railroad- A/P	C	MOIST_ASTM (5631931 Gen.Chem. MOIST%)
Send Report To	Eric Matzner	Invoice Attn	Accounts Payable	D	
Address	2201 Double Creek Drive Suite 4004	Address	1400 Douglas Street Stop 0750	E	
				F	
City/State/Zip	Round Rock, TX 78664	City/State/Zip	Omaha, NE 681790750	G	
Phone	(512) 671-3434	Phone		H	
Fax	(512) 671-3446	Fax		I	
e-Mail Address		e-Mail Address		J	

No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
1	SO-1620-CSFS3(0-5)-20160128	1/28/16	10:15	Soil	8	1	X	X	X								
2	SO-1620-CSFN3(0-5)-20160128	1/28/16	10:00	Soil	8	1	X	X	X								
3																	
4																	
5																	
6																	
7																	
8																	
9																	
10																	

Sampler(s) Please Print & Sign: Chris Kalkowski

Shipment Method: Drop off

Required Turnaround Time: (Check Box) TAT 1 days Other:

Results Due Date:

Relinquished by:	Date:	Time:	Received by:
	1/28/16	1720	
Relinquished by:	Date:	Time:	Received by (Laboratory):
			1.28.16 17:20
Logged by (Laboratory):	Date:	Time:	Checked by (Laboratory):

Notes: IUPRR Houston MW/PW

Cooler ID	Cooler Temp.	QC Package: (Check One Box Below)
Green	1.6°	QC Level: TRRP LRC
	4 ct	Other:
	c/f 0.2°	

Preservative Key: 1-HCl 2-HNO_3 3-H_2SO_4 4-NaOH 5-$Na_2S_2O_3$ 6-$NaHSO_4$ 7-Other 8-4°C 9-5035

Note:
1. Any changes must be made in writing once samples and COC Form have been submitted to ALS Environmental.
2. Unless otherwise agreed in a formal contract, services provided by ALS Environmental are expressly limited to the terms and conditions stated on the reverse.
3. The Chain of Custody is a legal document. All information must be completed accurately.

ALS Environmental

Cincinnati, OH +1 513 733 5336
Everett, WA +1 425 356 2600
Fort Collins, CO +1 970 490 1511
Holland, MI +1 616 399 6070

Chain of Custody For

COC ID: 135243

HS16011090

Pastor, Behling & Wheeler, LLC
1620-11-Rev0 HoustonTX-Wood

ALS Project Manager:

Customer Information		Project Information	
Purchase Order	UPRR	Project Name	1620-10-Rev1 HoustonTX-Wood
Work Order		Project Number	1620-10-Rev1
Company Name	Pastor, Behling & Wheeler, LLC	Bill To Company	Union Pacific Railroad- A/P
Send Report To	Eric Matzner	Invoice Attn	Accounts Payable
Address	2201 Double Creek Drive Suite 4004	Address	1400 Douglas Street Stop 0750
City/State/Zip	Round Rock, TX 78664	City/State/Zip	Omaha, NE 681790750
Phone	(512) 671-3434	Phone	
Fax	(512) 671-3446	Fax	
e-Mail Address		e-Mail Address	

A	8270_LOW_S (5632532 SemiVolatiles)
B	ICP_S_Low (5636002 5652646 Metals - As, Pb)
C	MOIST_ASTM (5631931 Gen.Chem. MOIST%)
D	
E	
F	
G	
H	
I	
J	

No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
1	SO-1620-ESB4(0-5)-20160127	1/27/16	15:00	Soil	8	1	X	X	X								
2	SO-1620-ESB3(0-5)-20160127	1/27/16	15:40	Soil	8	1	X	X	X								
3	SO-1620-ESB2(0-5)-20160127	1/27/16	16:15	Soil	8	1	X	X	X								
4	SO-1620-ESB1(0-5)-20160127	1/27/16	16:45	Soil	8	1	X	X	X								
5	SO-1620-GSB1(0-1.5)-20160128	1/28/16	13:00	Soil	8	1	X	X	X								
6	SO-1620-GSB2(0-3)-20160128	1/28/16	14:16	Soil	8	1	X	X	X								
7	SO-1620-GSB3(0-3)-20160128	1/28/16	12:10	Soil	8	1	X	X	X								
8	SO-1620-GSB4(0-3)-20160128	1/28/16	11:15	Soil	8	1	X	X	X								
9	SO-1620-GSB5(0-3)-20160128	1/28/16	13:30	Soil	8	1	X	X	X								
10	SO-1620-GSB6(0-3)-20160128	1/28/16	14:00	Soil	8	1	X	X	X								

Sampler(s) Please Print & Sign: Chris Kaleczuski

Shipment Method: Dropoff

Required Turnaround Time: (Check Box) TAT 1 days Other:

Results Due Date:

Relinquished by:	Date: 1/28/16	Time: 1720	Received by:	
Relinquished by:	Date:	Time:	Received by (Laboratory): 1-28-16 17:20	
Logged by (Laboratory):	Date:	Time:	Checked by (Laboratory):	

Notes: IUPRR Houston NW/PW

Cooler ID	Cooler Temp.
Green	0.6
	1.6
	4
	c/f 0.2

QC Package: (Check One Box Below)
QC Level: TRRP LRC
Other:

Preservative Key: 1-HCl 2-HNO_3 3-H_2SO_4 4-NaOH 5-$Na_2S_2O_3$ 6-$NaHSO_4$ 7-Other 8-4°C 9-5035

Note:
1. Any changes must be made in writing once samples and COC Form have been submitted to ALS Environmental.
2. Unless otherwise agreed in a formal contract, services provided by ALS Environmental are expressly limited to the terms and conditions stated on the reverse.
3. The Chain of Custody is a legal document. All information must be completed accurately.

10450 Stancliff Rd. Suite 210
Houston, TX 77099
T: +1 281 530 5656
F: +1 281 530 5887
www.alsglobal.com

February 01, 2016

Eric Matzner
Pastor, Behling & Wheeler, LLC
2201 Double Creek Drive
Suite 4004
Round Rock, TX 78664

Work Order: **HS16011133**

Laboratory Results for: **1620-10-Rev1 HoustonTX-Wood**

Dear Eric,

ALS Environmental received 8 sample(s) on Jan 29, 2016 for the analysis presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested. Results are expressed as "as received" unless otherwise noted.

QC sample results for this data met EPA or laboratory specifications except as noted in the Case Narrative or as noted with qualifiers in the QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained by ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

If you have any questions regarding this report, please feel free to call me.

Sincerely,

Generated By: Jumoke.Lawal
Dane J. Wacasey

Client:	Pastor, Behling & Wheeler, LLC	**TRRP Laboratory Data Package Cover Page**
Project:	1620-10-Rev1 HoustonTX-Wood	
WorkOrder:	**HS16011133**	

This data package consists of all or some of the following as applicable:

This signature page, the laboratory review checklist, and the following reportable data:

R1 Field chain-of-custody documentation;

R2 Sample identification cross-reference;

R3 Test reports (analytical data sheets) for each environmental sample that includes:

a) Items consistent with NELAC Chapter 5,
b) dilution factors,
c) preparation methods,
d) cleanup methods, and
e) if required for the project, tentatively identified compounds (TICs).

R4 Surrogate recovery data including:

a) Calculated recovery (%R), and
b) The laboratory's surrogate QC limits.

R5 Test reports/summary forms for blank samples;

R6 Test reports/summary forms for laboratory control samples (LCSs) including:

a) LCS spiking amounts,
b) Calculated %R for each analyte, and
c)The laboratory's LCS QC limits.

R7 Test reports for project matrix spike/matrix spike duplicates (MS/MSDs) including:

a) Samples associated with the MS/MSD clearly identified,
b) MS/MSD spiking amounts,
c) Concentration of each MS/MSD analyte measured in the parent and spiked samples,
d) Calculated %Rs and relative percent differences (RPDs), and
e) The laboratory's MS/MSD QC limits.

R8 Laboratory analytical duplicate (if applicable) recovery and precision:

a) the amount of analyte measured in the duplicate,
b) the calculated RPD, and
c) the laboratory's QC limits for analytical duplicates.

R9 List of method quantitation limits (MQLs) and detectability check sample results for each analyte for each method and matrix.

R10 Other problems or anomalies.
The Exception Report for each "No" or "Not Reviewed (NR)" item in Laboratory Review Checklist and for each analyte, matrix, and method for which the laboratory does not hold NELAC accreditation under the Texas Laboratory Accreditation Program.

Client:	Pastor, Behling & Wheeler, LLC
Project:	1620-10-Rev1 HoustonTX-Wood
WorkOrder:	**HS16011133**

TRRP Laboratory Data Package Cover Page

Release Statement: I am responsible for the release of this laboratory data package. This laboratory is NELAC accredited under the Texas Laboratory Accreditation Program for all the methods, analytes and matrices reported in this data package except as noted in the Exception Reports. The data have been reviewed and are technically compliant with the requirements of the methods used, except where noted by the laboratory in the attached exception reports. By my signature below, I affirm to the best of my knowledge, all problems/anomalies, observed by the laboratory have been identified by the laboratory in the Laboratory Review Checklist, and no information affecting the quality of the data has been knowingly withheld.

Check, if applicable: [NA] This laboratory meets an exception under 30 TAC §25.6 and was last inspected by [ ] TCEQ or [ ] _____ on (enter date of last inspection). Any findings affecting the data in this laboratory data package are noted in the Exception Reports herein. The official signing the cover page of the report in which these data are used is responsible for releasing this data package and is by signature affirming the above release statement is true.

Dane J. Wacasey

Laboratory Review Checklist: Reportable Data								
Laboratory Name: ALS Laboratory Group			LRC Date: 02/01/2016					
Project Name: 1620-10-Rev1 HoustonTX-Wood			Laboratory Job Number: HS16011133					
Reviewer Name: Dane Wacasey			Prep Batch Number(s): 101043, 101046,R268581					
#[1]	**A[2]**	**Description**	**Yes**	**No**	**NA[3]**	**NR[4]**	**ER#[5]**
R1	OI	**Chain-of-custody (C-O-C)**					
		Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?	X				
		Were all departures from standard conditions described in an exception report?	X				
R2	OI	**Sample and quality control (QC) identification**					
		Are all field sample ID numbers cross-referenced to the laboratory ID numbers?	X				
		Are all laboratory ID numbers cross-referenced to the corresponding QC data?	X				
R3	OI	**Test reports**					
		Were all samples prepared and analyzed within holding times?	X				
		Other than those results < MQL, were all other raw values bracketed by calibration standards?	X				
		Were calculations checked by a peer or supervisor?	X				
		Were all analyte identifications checked by a peer or supervisor?	X				
		Were sample detection limits reported for all analytes not detected?	X				
		Were all results for soil and sediment samples reported on a dry weight basis?	X				
		Were % moisture (or solids) reported for all soil and sediment samples?	X				
		Were bulk soils/solids samples for volatile analysis extracted with methanol per SW-846 Method 5035?			X		
		If required for the project, TICs reported?			X		
R4	O	**Surrogate recovery data**					
		Were surrogates added prior to extraction?	X				
		Were surrogate percent recoveries in all samples within the laboratory QC limits?		X			1
R5	OI	**Test reports/summary forms for blank samples**					
		Were appropriate type(s) of blanks analyzed?	X				
		Were blanks analyzed at the appropriate frequency?	X				
		Were method blanks taken through the entire analytical process, including preparation and, if applicable, cleanup procedures?	X				
		Were blank concentrations < MQL?	X				
R6	OI	**Laboratory control samples (LCS):**					
		Were all COCs included in the LCS?	X				
		Was each LCS taken through the entire analytical procedure, including prep and cleanup steps?	X				
		Were LCSs analyzed at the required frequency?	X				
		Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?	X				
		Does the detectability data document the laboratory's capability to detect the COCs at the MDL used to calculate the SDLs?	X				
		Was the LCSD RPD within QC limits?	X				
R7	OI	**Matrix spike (MS) and matrix spike duplicate (MSD) data**					
		Were the project/method specified analytes included in the MS and MSD?	X				
		Were MS/MSD analyzed at the appropriate frequency?	X				
		Were MS (and MSD, if applicable) %Rs within the laboratory QC limits?		X			2
		Were MS/MSD RPDs within laboratory QC limits?	X				
R8	OI	**Analytical duplicate data**					
		Were appropriate analytical duplicates analyzed for each matrix?	X				
		Were analytical duplicates analyzed at the appropriate frequency?	X				
		Were RPDs or relative standard deviations within the laboratory QC limits?	X				
R9	OI	**Method quantitation limits (MQLs):**					
		Are the MQLs for each method analyte included in the laboratory data package?	X				
		Do the MQLs correspond to the concentration of the lowest non-zero calibration standard?	X				
		Are unadjusted MQLs and DCSs included in the laboratory data package?	X				
R10	OI	**Other problems/anomalies**					
		Are all known problems/anomalies/special conditions noted in this LRC and ER?	X				
		Were all necessary corrective actions performed for the reported data?	X				
		Was applicable and available technology used to lower the SDL and minimize the matrix interference affects on the sample results?	X				
		Is the laboratory NELAC-accredited under the Texas Laboratory Program for the analytes, matrices and methods associated with this laboratory data package?	X				

Laboratory Review Checklist: Reportable Data							
Laboratory Name: ALS Laboratory Group			LRC Date: 02/01/2016				
Project Name: 1620-10-Rev1 HoustonTX-Wood			Laboratory Job Number: HS16011133				
Reviewer Name: Dane Wacasey			Prep Batch Number(s): 101043, 101046,R268581				
#[1]	A[2]	Description	Yes	No	NA[3]	NR[4]	ER#[5]
S1	OI	**Initial calibration (ICAL)**					
		Were response factors and/or relative response factors for each analyte within QC limits?	X				
		Were percent RSDs or correlation coefficient criteria met?	X				
		Was the number of standards recommended in the method used for all analytes?	X				
		Were all points generated between the lowest and highest standard used to calculate the curve?	X				
		Are ICAL data available for all instruments used?	X				
		Has the initial calibration curve been verified using an appropriate second source standard?	X				
S2	OI	**Initial and continuing calibration verification (ICCV and CCV) and continuing calibration blank (CCB)**					
		Was the CCV analyzed at the method-required frequency?	X				
		Were percent differences for each analyte within the method-required QC limits?	X				
		Was the ICAL curve verified for each analyte?	X				
		Was the absolute value of the analyte concentration in the inorganic CCB < MDL?	X				
S3	O	**Mass spectral tuning:**					
		Was the appropriate compound for the method used for tuning?	X				
		Were ion abundance data within the method-required QC limits?	X				
S4	O	**Internal standards (IS):**					
		Were IS area counts and retention times within the method-required QC limits?	X				
S5	OI	**Raw data** (NELAC section 1 appendix A glossary, and section 5.12 or ISO/IEC 17025 section					
		Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst?	X				
		Were data associated with manual integrations flagged on the raw data?	X				
S6	O	**Dual column confirmation**					
		Did dual column confirmation results meet the method-required QC?			X		
S7	O	**Tentatively identified compounds (TICs):**					
		If TICs were requested, were the mass spectra and TIC data subject to appropriate checks?			X		
S8	I	**Interference Check Sample (ICS) results:**					
		Were percent recoveries within method QC limits?	X				
S9	I	**Serial dilutions, post digestion spikes, and method of standard additions**					
		Were percent differences, recoveries, and the linearity within the QC limits specified in the method?	X				
S10	OI	**Method detection limit (MDL) studies**					
		Was a MDL study performed for each reported analyte?	X				
		Is the MDL either adjusted or supported by the analysis of DCSs?	X				
S11	OI	**Proficiency test reports:**					
		Was the laboratory's performance acceptable on the applicable proficiency tests or evaluation studies?	X				
S12	OI	**Standards documentation**					
		Are all standards used in the analyses NIST-traceable or obtained from other appropriate sources?	X				
S13	OI	**Compound/analyte identification procedures**					
		Are the procedures for compound/analyte identification documented?	X				
S14	OI	**Demonstration of analyst competency (DOC)**					
		Was DOC conducted consistent with NELAC Chapter 5C or ISO/IEC 4?	X				
		Is documentation of the analyst's competency up-to-date and on file?	X				
S15	OI	**Verification/validation documentation for methods** (NELAC Chap 5 or ISO/IEC 17025 Section 5)					
		Are all the methods used to generate the data documented, verified, and validated, where applicable?	X				
S16	OI	**Laboratory standard operating procedures (SOPs):**					
		Are laboratory SOPs current and on file for each method performed?	X				

Items identified by the letter "R" must be included in the laboratory data package submitted in the TRRP-required report(s). Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period.
O = Organic Analyses; I = Inorganic Analyses (and general chemistry, when applicable);
NA = Not Applicable;
NR = Not Reviewed;
R# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

Laboratory Review Checklist: Reportable Data	
Laboratory Name: ALS Laboratory Group	LRC Date: 02/01/2016
Project Name: 1620-10-Rev1 HoustonTX-Wood	Laboratory Job Number: HS16011133
Reviewer Name: Dane Wacasey	Prep Batch Number(s): 101043, 101046,R268581

ER#[5]	Description
1	Volatile Organics Method SW8260, sample SO-1620-CSDS2(0-5)-20160129, surrogate 4-Terphenyl-d14 recovered above the upper control limit due to sample dilution. Extract was delivered at final volume of 10mL because the sample became viscous during concentration and could not concentrate to 1mL.
2	Batch 101043, Metals Method SW6020, sample SO-1620-CSFE1(0-5)-20160129, MS and MSD recovered below the lower control limit for Arsenic due to possible matrix interference. Batch 101046, Semivolatile Organics Method SW8260, sample HS16011129-01, MS and MSD were performed on an unrelated sample.

Items identified by the letter "R" must be included in the laboratory data package submitted in the TRRP-required report(s). Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period.
O = Organic Analyses; I = Inorganic Analyses (and general chemistry, when applicable);
NA = Not Applicable;
NR = Not Reviewed;
R# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
Work Order: HS16011133

SAMPLE SUMMARY

Lab Samp ID	Client Sample ID	Matrix	TagNo	Collection Date	Date Received	Hold
HS16011133-01	SO-1620-CSFE1(0-5)-20160129	Soil		29-Jan-2016 07:50	29-Jan-2016 14:05	☐
HS16011133-02	SO-1620-CSFE2(0-5)-20160129	Soil		29-Jan-2016 07:45	29-Jan-2016 14:05	☐
HS16011133-03	SO-1620-CSDW1(0-5)-20160129	Soil		29-Jan-2016 08:05	29-Jan-2016 14:05	☐
HS16011133-04	SO-1620-CSDW2(0-5)-20160129	Soil		29-Jan-2016 08:03	29-Jan-2016 14:05	☐
HS16011133-05	SO-1620-CSDS1(0-5)-20160129	Soil		29-Jan-2016 08:01	29-Jan-2016 14:05	☐
HS16011133-06	SO-1620-CSDS2(0-5)-20160129	Soil		29-Jan-2016 12:55	29-Jan-2016 14:05	☐
HS16011133-07	SO-1620-CSDE1(0-5)-20160129	Soil		29-Jan-2016 12:57	29-Jan-2016 14:05	☐
HS16011133-08	SO-1620-CSDE2(0-5)-20160129	Soil		29-Jan-2016 12:59	29-Jan-2016 14:05	☐

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
Sample ID: SO-1620-CSFE1(0-5)-20160129
Collection Date: 29-Jan-2016 07:50

ANALYTICAL REPORT
WorkOrder:HS16011133
Lab ID:HS16011133-01
Matrix:Soil

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES		**Method:SW8270**			Prep:SW3541 / 29-Jan-2016		Analyst: ACN
1,2-Diphenylhydrazine	U		0.0013	0.0081	mg/Kg-dry	1	01-Feb-2016 11:00
2,4-Dimethylphenol	U		0.0040	0.0081	mg/Kg-dry	1	01-Feb-2016 11:00
2,4-Dinitrotoluene	U		0.0011	0.0081	mg/Kg-dry	1	01-Feb-2016 11:00
2,6-Dinitrotoluene	U		0.0040	0.0081	mg/Kg-dry	1	01-Feb-2016 11:00
2-Chloronaphthalene	U		0.0016	0.0081	mg/Kg-dry	1	01-Feb-2016 11:00
2-Methylnaphthalene	**0.0030**	J	**0.00061**	**0.0040**	**mg/Kg-dry**	1	01-Feb-2016 11:00
4,6-Dinitro-2-methylphenol	U		0.0026	0.0081	mg/Kg-dry	1	01-Feb-2016 11:00
4-Nitrophenol	U		0.0023	0.016	mg/Kg-dry	1	01-Feb-2016 11:00
Acenaphthene	U		0.00061	0.0040	mg/Kg-dry	1	01-Feb-2016 11:00
Acenaphthylene	**0.0062**		**0.0012**	**0.0040**	**mg/Kg-dry**	1	01-Feb-2016 11:00
Anthracene	**0.0069**		**0.00061**	**0.0040**	**mg/Kg-dry**	1	01-Feb-2016 11:00
Benz(a)anthracene	**0.023**		**0.0020**	**0.0040**	**mg/Kg-dry**	1	01-Feb-2016 11:00
Benzo(a)pyrene	**0.12**		**0.0012**	**0.0040**	**mg/Kg-dry**	1	01-Feb-2016 11:00
Bis(2-chloroethoxy)methane	U		0.0011	0.0081	mg/Kg-dry	1	01-Feb-2016 11:00
Bis(2-ethylhexyl)phthalate	**0.011**		**0.0021**	**0.0081**	**mg/Kg-dry**	1	01-Feb-2016 11:00
Chrysene	**0.042**		**0.00098**	**0.0040**	**mg/Kg-dry**	1	01-Feb-2016 11:00
Dibenzofuran	**0.0029**	J	**0.00085**	**0.0040**	**mg/Kg-dry**	1	01-Feb-2016 11:00
Di-n-butyl phthalate	U		0.0015	0.0081	mg/Kg-dry	1	01-Feb-2016 11:00
Fluoranthene	**0.018**		**0.0013**	**0.0040**	**mg/Kg-dry**	1	01-Feb-2016 11:00
Fluorene	U		0.0013	0.0040	mg/Kg-dry	1	01-Feb-2016 11:00
Naphthalene	**0.0068**		**0.00073**	**0.0040**	**mg/Kg-dry**	1	01-Feb-2016 11:00
Nitrobenzene	U		0.0011	0.0081	mg/Kg-dry	1	01-Feb-2016 11:00
N-Nitrosodiphenylamine	U		0.00085	0.0081	mg/Kg-dry	1	01-Feb-2016 11:00
Pentachlorophenol	U		0.0040	0.0081	mg/Kg-dry	1	01-Feb-2016 11:00
Phenanthrene	**0.0086**		**0.0018**	**0.0040**	**mg/Kg-dry**	1	01-Feb-2016 11:00
Phenol	**0.0024**	J	**0.0013**	**0.0081**	**mg/Kg-dry**	1	01-Feb-2016 11:00
Pyrene	**0.036**		**0.00073**	**0.0040**	**mg/Kg-dry**	1	01-Feb-2016 11:00
Surr: 2,4,6-Tribromophenol	*73.3*			*36-126*	*%REC*	*1*	*01-Feb-2016 11:00*
Surr: 2-Fluorobiphenyl	*95.8*			*43-125*	*%REC*	*1*	*01-Feb-2016 11:00*
Surr: 2-Fluorophenol	*74.1*			*37-125*	*%REC*	*1*	*01-Feb-2016 11:00*
Surr: 4-Terphenyl-d14	*89.7*			*32-125*	*%REC*	*1*	*01-Feb-2016 11:00*
Surr: Nitrobenzene-d5	*108*			*37-125*	*%REC*	*1*	*01-Feb-2016 11:00*
Surr: Phenol-d6	*69.1*			*40-125*	*%REC*	*1*	*01-Feb-2016 11:00*
METALS BY SW6020A		**Method:SW6020**			Prep:SW3050A / 29-Jan-2016		Analyst: JDE
Arsenic	**2.16**		**0.109**	**0.545**	**mg/Kg-dry**	1	29-Jan-2016 21:51
Lead	**9.65**		**0.0545**	**0.545**	**mg/Kg-dry**	1	29-Jan-2016 21:51
MOISTURE - ASTM D2216		**Method:ASTM D2216**					Analyst: JHD
Percent Moisture	**18.5**		**0.0100**	**0.0100**	**wt%**	1	30-Jan-2016 16:54

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
Sample ID: SO-1620-CSFE2(0-5)-20160129
Collection Date: 29-Jan-2016 07:45

ANALYTICAL REPORT
WorkOrder:HS16011133
Lab ID:HS16011133-02
Matrix:Soil

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES	**Method:SW8270**				Prep:SW3541 / 29-Jan-2016		Analyst: ACN
1,2-Diphenylhydrazine	U		0.0013	0.0077	mg/Kg-dry	1	29-Jan-2016 18:16
2,4-Dimethylphenol	U		0.0038	0.0077	mg/Kg-dry	1	29-Jan-2016 18:16
2,4-Dinitrotoluene	U		0.0010	0.0077	mg/Kg-dry	1	29-Jan-2016 18:16
2,6-Dinitrotoluene	U		0.0038	0.0077	mg/Kg-dry	1	29-Jan-2016 18:16
2-Chloronaphthalene	U		0.0015	0.0077	mg/Kg-dry	1	29-Jan-2016 18:16
2-Methylnaphthalene	**0.0094**		**0.00058**	**0.0038**	**mg/Kg-dry**	1	29-Jan-2016 18:16
4,6-Dinitro-2-methylphenol	U		0.0024	0.0077	mg/Kg-dry	1	29-Jan-2016 18:16
4-Nitrophenol	U		0.0022	0.015	mg/Kg-dry	1	29-Jan-2016 18:16
Acenaphthene	U		0.00058	0.0038	mg/Kg-dry	1	29-Jan-2016 18:16
Acenaphthylene	**0.20**		**0.0012**	**0.0038**	**mg/Kg-dry**	1	29-Jan-2016 18:16
Anthracene	**0.015**		**0.00058**	**0.0038**	**mg/Kg-dry**	1	29-Jan-2016 18:16
Benz(a)anthracene	**0.13**		**0.0019**	**0.0038**	**mg/Kg-dry**	1	29-Jan-2016 18:16
Benzo(a)pyrene	**0.51**		**0.0046**	**0.015**	**mg/Kg-dry**	4	01-Feb-2016 11:20
Bis(2-chloroethoxy)methane	U		0.0010	0.0077	mg/Kg-dry	1	29-Jan-2016 18:16
Bis(2-ethylhexyl)phthalate	U		0.0020	0.0077	mg/Kg-dry	1	29-Jan-2016 18:16
Chrysene	**0.22**		**0.00093**	**0.0038**	**mg/Kg-dry**	1	29-Jan-2016 18:16
Dibenzofuran	**0.014**		**0.00081**	**0.0038**	**mg/Kg-dry**	1	29-Jan-2016 18:16
Di-n-butyl phthalate	U		0.0014	0.0077	mg/Kg-dry	1	29-Jan-2016 18:16
Fluoranthene	**0.099**		**0.0013**	**0.0038**	**mg/Kg-dry**	1	29-Jan-2016 18:16
Fluorene	**0.018**		**0.0013**	**0.0038**	**mg/Kg-dry**	1	29-Jan-2016 18:16
Naphthalene	**0.017**		**0.00070**	**0.0038**	**mg/Kg-dry**	1	29-Jan-2016 18:16
Nitrobenzene	U		0.0010	0.0077	mg/Kg-dry	1	29-Jan-2016 18:16
N-Nitrosodiphenylamine	U		0.00081	0.0077	mg/Kg-dry	1	29-Jan-2016 18:16
Pentachlorophenol	U		0.0038	0.0077	mg/Kg-dry	1	29-Jan-2016 18:16
Phenanthrene	**0.21**		**0.0017**	**0.0038**	**mg/Kg-dry**	1	29-Jan-2016 18:16
Phenol	**0.023**		**0.0013**	**0.0077**	**mg/Kg-dry**	1	29-Jan-2016 18:16
Pyrene	**0.18**		**0.00070**	**0.0038**	**mg/Kg-dry**	1	29-Jan-2016 18:16
Surr: 2,4,6-Tribromophenol	*60.8*			*36-126*	*%REC*	*1*	*29-Jan-2016 18:16*
Surr: 2,4,6-Tribromophenol	*40.7*			*36-126*	*%REC*	*4*	*01-Feb-2016 11:20*
Surr: 2-Fluorobiphenyl	*83.8*			*43-125*	*%REC*	*1*	*29-Jan-2016 18:16*
Surr: 2-Fluorobiphenyl	*57.5*			*43-125*	*%REC*	*4*	*01-Feb-2016 11:20*
Surr: 2-Fluorophenol	*63.4*			*37-125*	*%REC*	*1*	*29-Jan-2016 18:16*
Surr: 2-Fluorophenol	*65.5*			*37-125*	*%REC*	*4*	*01-Feb-2016 11:20*
Surr: 4-Terphenyl-d14	*80.0*			*32-125*	*%REC*	*1*	*29-Jan-2016 18:16*
Surr: 4-Terphenyl-d14	*95.4*			*32-125*	*%REC*	*4*	*01-Feb-2016 11:20*
Surr: Nitrobenzene-d5	*76.1*			*37-125*	*%REC*	*1*	*29-Jan-2016 18:16*
Surr: Nitrobenzene-d5	*111*			*37-125*	*%REC*	*4*	*01-Feb-2016 11:20*
Surr: Phenol-d6	*70.7*			*40-125*	*%REC*	*1*	*29-Jan-2016 18:16*
Surr: Phenol-d6	*52.5*			*40-125*	*%REC*	*4*	*01-Feb-2016 11:20*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Pastor, Behling & Wheeler, LLC
ANALYTICAL REPORT
Project: 1620-10-Rev1 HoustonTX-Wood
WorkOrder:HS16011133
Sample ID: SO-1620-CSFE2(0-5)-20160129
Lab ID:HS16011133-02
Collection Date: 29-Jan-2016 07:45
Matrix:Soil

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
METALS BY SW6020A	**Method:SW6020**				Prep:SW3050A / 29-Jan-2016		Analyst: JDE
Arsenic	**1.35**		**0.101**	**0.504**	**mg/Kg-dry**	1	29-Jan-2016 22:22
Lead	**7.84**		**0.0504**	**0.504**	**mg/Kg-dry**	1	29-Jan-2016 22:22
MOISTURE - ASTM D2216	**Method:ASTM D2216**						Analyst: JHD
Percent Moisture	**14.3**		**0.0100**	**0.0100**	**wt%**	1	30-Jan-2016 16:54

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
Sample ID: SO-1620-CSDW1(0-5)-20160129
Collection Date: 29-Jan-2016 08:05

ANALYTICAL REPORT
WorkOrder:HS16011133
Lab ID:HS16011133-03
Matrix:Soil

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES	**Method:SW8270**				Prep:SW3541 / 29-Jan-2016		Analyst: ACN
1,2-Diphenylhydrazine	U		0.0013	0.0081	mg/Kg-dry	1	29-Jan-2016 18:36
2,4-Dimethylphenol	U		0.0040	0.0081	mg/Kg-dry	1	29-Jan-2016 18:36
2,4-Dinitrotoluene	U		0.0011	0.0081	mg/Kg-dry	1	29-Jan-2016 18:36
2,6-Dinitrotoluene	U		0.0040	0.0081	mg/Kg-dry	1	29-Jan-2016 18:36
2-Chloronaphthalene	U		0.0016	0.0081	mg/Kg-dry	1	29-Jan-2016 18:36
2-Methylnaphthalene	U		0.00061	0.0040	mg/Kg-dry	1	29-Jan-2016 18:36
4,6-Dinitro-2-methylphenol	U		0.0026	0.0081	mg/Kg-dry	1	29-Jan-2016 18:36
4-Nitrophenol	U		0.0023	0.016	mg/Kg-dry	1	29-Jan-2016 18:36
Acenaphthene	**0.18**		**0.00061**	**0.0040**	**mg/Kg-dry**	1	29-Jan-2016 18:36
Acenaphthylene	**0.079**		**0.0012**	**0.0040**	**mg/Kg-dry**	1	29-Jan-2016 18:36
Anthracene	**0.12**		**0.00061**	**0.0040**	**mg/Kg-dry**	1	29-Jan-2016 18:36
Benz(a)anthracene	**0.25**		**0.0020**	**0.0040**	**mg/Kg-dry**	1	29-Jan-2016 18:36
Benzo(a)pyrene	**0.21**		**0.0012**	**0.0040**	**mg/Kg-dry**	1	29-Jan-2016 18:36
Bis(2-chloroethoxy)methane	**0.0026**	J	**0.0011**	**0.0081**	**mg/Kg-dry**	1	29-Jan-2016 18:36
Bis(2-ethylhexyl)phthalate	U		0.0021	0.0081	mg/Kg-dry	1	29-Jan-2016 18:36
Chrysene	**0.30**		**0.00098**	**0.0040**	**mg/Kg-dry**	1	29-Jan-2016 18:36
Dibenzofuran	**0.027**		**0.00085**	**0.0040**	**mg/Kg-dry**	1	29-Jan-2016 18:36
Di-n-butyl phthalate	U		0.0015	0.0081	mg/Kg-dry	1	29-Jan-2016 18:36
Fluoranthene	**1.3**		**0.0067**	**0.020**	**mg/Kg-dry**	5	30-Jan-2016 13:43
Fluorene	**0.051**		**0.0013**	**0.0040**	**mg/Kg-dry**	1	29-Jan-2016 18:36
Naphthalene	**0.0067**		**0.00073**	**0.0040**	**mg/Kg-dry**	1	29-Jan-2016 18:36
Nitrobenzene	U		0.0011	0.0081	mg/Kg-dry	1	29-Jan-2016 18:36
N-Nitrosodiphenylamine	U		0.00085	0.0081	mg/Kg-dry	1	29-Jan-2016 18:36
Pentachlorophenol	U		0.0040	0.0081	mg/Kg-dry	1	29-Jan-2016 18:36
Phenanthrene	**0.23**		**0.0018**	**0.0040**	**mg/Kg-dry**	1	29-Jan-2016 18:36
Phenol	**0.0054**	J	**0.0013**	**0.0081**	**mg/Kg-dry**	1	29-Jan-2016 18:36
Pyrene	**0.86**		**0.0037**	**0.020**	**mg/Kg-dry**	5	30-Jan-2016 13:43
Surr: 2,4,6-Tribromophenol	*66.8*			*36-126*	*%REC*	*1*	*29-Jan-2016 18:36*
Surr: 2,4,6-Tribromophenol	*52.6*			*36-126*	*%REC*	*5*	*30-Jan-2016 13:43*
Surr: 2-Fluorobiphenyl	*71.3*			*43-125*	*%REC*	*1*	*29-Jan-2016 18:36*
Surr: 2-Fluorobiphenyl	*69.9*			*43-125*	*%REC*	*5*	*30-Jan-2016 13:43*
Surr: 2-Fluorophenol	*64.1*			*37-125*	*%REC*	*1*	*29-Jan-2016 18:36*
Surr: 2-Fluorophenol	*55.4*			*37-125*	*%REC*	*5*	*30-Jan-2016 13:43*
Surr: 4-Terphenyl-d14	*95.5*			*32-125*	*%REC*	*1*	*29-Jan-2016 18:36*
Surr: 4-Terphenyl-d14	*79.0*			*32-125*	*%REC*	*5*	*30-Jan-2016 13:43*
Surr: Nitrobenzene-d5	*95.7*			*37-125*	*%REC*	*5*	*30-Jan-2016 13:43*
Surr: Nitrobenzene-d5	*87.8*			*37-125*	*%REC*	*1*	*29-Jan-2016 18:36*
Surr: Phenol-d6	*72.5*			*40-125*	*%REC*	*1*	*29-Jan-2016 18:36*
Surr: Phenol-d6	*64.3*			*40-125*	*%REC*	*5*	*30-Jan-2016 13:43*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Pastor, Behling & Wheeler, LLC
ANALYTICAL REPORT
Project: 1620-10-Rev1 HoustonTX-Wood
WorkOrder:HS16011133
Sample ID: SO-1620-CSDW1(0-5)-20160129
Lab ID:HS16011133-03
Collection Date: 29-Jan-2016 08:05
Matrix:Soil

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
METALS BY SW6020A	**Method:SW6020**				Prep:SW3050A / 29-Jan-2016		Analyst: JDE
Arsenic	**1.24**		**0.107**	**0.533**	**mg/Kg-dry**	1	29-Jan-2016 22:27
Lead	**6.28**		**0.0533**	**0.533**	**mg/Kg-dry**	1	29-Jan-2016 22:27
MOISTURE - ASTM D2216	**Method:ASTM D2216**						Analyst: JHD
Percent Moisture	**18.4**		**0.0100**	**0.0100**	**wt%**	1	30-Jan-2016 16:54

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
Sample ID: SO-1620-CSDW2(0-5)-20160129
Collection Date: 29-Jan-2016 08:03

ANALYTICAL REPORT
WorkOrder:HS16011133
Lab ID:HS16011133-04
Matrix:Soil

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES	**Method:SW8270**				Prep:SW3541 / 29-Jan-2016		Analyst: ACN
1,2-Diphenylhydrazine	U		0.0013	0.0080	mg/Kg-dry	1	29-Jan-2016 18:56
2,4-Dimethylphenol	U		0.0040	0.0080	mg/Kg-dry	1	29-Jan-2016 18:56
2,4-Dinitrotoluene	U		0.0011	0.0080	mg/Kg-dry	1	29-Jan-2016 18:56
2,6-Dinitrotoluene	U		0.0040	0.0080	mg/Kg-dry	1	29-Jan-2016 18:56
2-Chloronaphthalene	U		0.0016	0.0080	mg/Kg-dry	1	29-Jan-2016 18:56
2-Methylnaphthalene	**0.0031**	J	**0.00060**	**0.0040**	**mg/Kg-dry**	1	29-Jan-2016 18:56
4,6-Dinitro-2-methylphenol	U		0.0025	0.0080	mg/Kg-dry	1	29-Jan-2016 18:56
4-Nitrophenol	U		0.0023	0.016	mg/Kg-dry	1	29-Jan-2016 18:56
Acenaphthene	**0.0098**		**0.00060**	**0.0040**	**mg/Kg-dry**	1	29-Jan-2016 18:56
Acenaphthylene	**0.10**		**0.0012**	**0.0040**	**mg/Kg-dry**	1	29-Jan-2016 18:56
Anthracene	**0.034**		**0.00060**	**0.0040**	**mg/Kg-dry**	1	29-Jan-2016 18:56
Benz(a)anthracene	**0.27**		**0.0019**	**0.0040**	**mg/Kg-dry**	1	29-Jan-2016 18:56
Benzo(a)pyrene	**0.24**		**0.0012**	**0.0040**	**mg/Kg-dry**	1	29-Jan-2016 18:56
Bis(2-chloroethoxy)methane	U		0.0011	0.0080	mg/Kg-dry	1	29-Jan-2016 18:56
Bis(2-ethylhexyl)phthalate	U		0.0021	0.0080	mg/Kg-dry	1	29-Jan-2016 18:56
Chrysene	**0.30**		**0.00097**	**0.0040**	**mg/Kg-dry**	1	29-Jan-2016 18:56
Dibenzofuran	**0.0025**	J	**0.00084**	**0.0040**	**mg/Kg-dry**	1	29-Jan-2016 18:56
Di-n-butyl phthalate	U		0.0014	0.0080	mg/Kg-dry	1	29-Jan-2016 18:56
Fluoranthene	**0.73**		**0.0066**	**0.020**	**mg/Kg-dry**	5	30-Jan-2016 14:03
Fluorene	**0.012**		**0.0013**	**0.0040**	**mg/Kg-dry**	1	29-Jan-2016 18:56
Naphthalene	**0.0031**	J	**0.00072**	**0.0040**	**mg/Kg-dry**	1	29-Jan-2016 18:56
Nitrobenzene	U		0.0011	0.0080	mg/Kg-dry	1	29-Jan-2016 18:56
N-Nitrosodiphenylamine	U		0.00084	0.0080	mg/Kg-dry	1	29-Jan-2016 18:56
Pentachlorophenol	U		0.0040	0.0080	mg/Kg-dry	1	29-Jan-2016 18:56
Phenanthrene	**0.076**		**0.0018**	**0.0040**	**mg/Kg-dry**	1	29-Jan-2016 18:56
Phenol	**0.0058**	J	**0.0013**	**0.0080**	**mg/Kg-dry**	1	29-Jan-2016 18:56
Pyrene	**0.60**		**0.0036**	**0.020**	**mg/Kg-dry**	5	30-Jan-2016 14:03
Surr: 2,4,6-Tribromophenol	*55.5*			*36-126*	*%REC*	*5*	*30-Jan-2016 14:03*
Surr: 2,4,6-Tribromophenol	*72.7*			*36-126*	*%REC*	*1*	*29-Jan-2016 18:56*
Surr: 2-Fluorobiphenyl	*89.4*			*43-125*	*%REC*	*1*	*29-Jan-2016 18:56*
Surr: 2-Fluorobiphenyl	*82.0*			*43-125*	*%REC*	*5*	*30-Jan-2016 14:03*
Surr: 2-Fluorophenol	*77.9*			*37-125*	*%REC*	*5*	*30-Jan-2016 14:03*
Surr: 2-Fluorophenol	*74.5*			*37-125*	*%REC*	*1*	*29-Jan-2016 18:56*
Surr: 4-Terphenyl-d14	*93.5*			*32-125*	*%REC*	*1*	*29-Jan-2016 18:56*
Surr: 4-Terphenyl-d14	*102*			*32-125*	*%REC*	*5*	*30-Jan-2016 14:03*
Surr: Nitrobenzene-d5	*77.4*			*37-125*	*%REC*	*5*	*30-Jan-2016 14:03*
Surr: Nitrobenzene-d5	*99.3*			*37-125*	*%REC*	*1*	*29-Jan-2016 18:56*
Surr: Phenol-d6	*83.3*			*40-125*	*%REC*	*5*	*30-Jan-2016 14:03*
Surr: Phenol-d6	*80.9*			*40-125*	*%REC*	*1*	*29-Jan-2016 18:56*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
Sample ID: SO-1620-CSDW2(0-5)-20160129
Collection Date: 29-Jan-2016 08:03

ANALYTICAL REPORT
WorkOrder:HS16011133
Lab ID:HS16011133-04
Matrix:Soil

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
METALS BY SW6020A	**Method:SW6020**				Prep:SW3050A / 29-Jan-2016		Analyst: JDE
Arsenic	**1.41**		**0.108**	**0.541**	**mg/Kg-dry**	1	29-Jan-2016 22:32
Lead	**8.35**		**0.0541**	**0.541**	**mg/Kg-dry**	1	29-Jan-2016 22:32
MOISTURE - ASTM D2216	**Method:ASTM D2216**						Analyst: JHD
Percent Moisture	**17.6**		**0.0100**	**0.0100**	**wt%**	1	30-Jan-2016 16:54

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
Sample ID: SO-1620-CSDS1(0-5)-20160129
Collection Date: 29-Jan-2016 08:01

ANALYTICAL REPORT
WorkOrder:HS16011133
Lab ID:HS16011133-05
Matrix:Soil

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES	**Method:SW8270**				Prep:SW3541 / 29-Jan-2016		Analyst: ACN
1,2-Diphenylhydrazine	U		0.0014	0.0082	mg/Kg-dry	1	29-Jan-2016 19:17
2,4-Dimethylphenol	U		0.0041	0.0082	mg/Kg-dry	1	29-Jan-2016 19:17
2,4-Dinitrotoluene	U		0.0011	0.0082	mg/Kg-dry	1	29-Jan-2016 19:17
2,6-Dinitrotoluene	U		0.0041	0.0082	mg/Kg-dry	1	29-Jan-2016 19:17
2-Chloronaphthalene	U		0.0016	0.0082	mg/Kg-dry	1	29-Jan-2016 19:17
2-Methylnaphthalene	**0.19**		**0.00062**	**0.0041**	**mg/Kg-dry**	1	29-Jan-2016 19:17
4,6-Dinitro-2-methylphenol	U		0.0026	0.0082	mg/Kg-dry	1	29-Jan-2016 19:17
4-Nitrophenol	U		0.0024	0.016	mg/Kg-dry	1	29-Jan-2016 19:17
Acenaphthene	**1.4**		**0.0031**	**0.021**	**mg/Kg-dry**	5	30-Jan-2016 14:44
Acenaphthylene	**0.38**		**0.0012**	**0.0041**	**mg/Kg-dry**	1	29-Jan-2016 19:17
Anthracene	**1.1**		**0.0031**	**0.021**	**mg/Kg-dry**	5	30-Jan-2016 14:44
Benz(a)anthracene	**2.3**		**0.020**	**0.041**	**mg/Kg-dry**	10	30-Jan-2016 15:04
Benzo(a)pyrene	**1.5**		**0.0062**	**0.021**	**mg/Kg-dry**	5	30-Jan-2016 14:44
Bis(2-chloroethoxy)methane	U		0.0011	0.0082	mg/Kg-dry	1	29-Jan-2016 19:17
Bis(2-ethylhexyl)phthalate	U		0.0021	0.0082	mg/Kg-dry	1	29-Jan-2016 19:17
Chrysene	**2.5**		**0.010**	**0.041**	**mg/Kg-dry**	10	30-Jan-2016 15:04
Dibenzofuran	**0.41**		**0.00087**	**0.0041**	**mg/Kg-dry**	1	29-Jan-2016 19:17
Di-n-butyl phthalate	U		0.0015	0.0082	mg/Kg-dry	1	29-Jan-2016 19:17
Fluoranthene	**8.3**		**0.069**	**0.21**	**mg/Kg-dry**	50	30-Jan-2016 17:06
Fluorene	**0.92**		**0.0069**	**0.021**	**mg/Kg-dry**	5	30-Jan-2016 14:44
Naphthalene	**0.35**		**0.00075**	**0.0041**	**mg/Kg-dry**	1	29-Jan-2016 19:17
Nitrobenzene	U		0.0011	0.0082	mg/Kg-dry	1	29-Jan-2016 19:17
N-Nitrosodiphenylamine	U		0.00087	0.0082	mg/Kg-dry	1	29-Jan-2016 19:17
Pentachlorophenol	U		0.0041	0.0082	mg/Kg-dry	1	29-Jan-2016 19:17
Phenanthrene	**4.2**		**0.094**	**0.21**	**mg/Kg-dry**	50	30-Jan-2016 17:06
Phenol	**0.027**		**0.0014**	**0.0082**	**mg/Kg-dry**	1	29-Jan-2016 19:17
Pyrene	**8.3**		**0.037**	**0.21**	**mg/Kg-dry**	50	30-Jan-2016 17:06
Surr: 2,4,6-Tribromophenol	*71.4*			*36-126*	*%REC*	*10*	*30-Jan-2016 15:04*
Surr: 2,4,6-Tribromophenol	*56.5*			*36-126*	*%REC*	*5*	*30-Jan-2016 14:44*
Surr: 2,4,6-Tribromophenol	*46.7*			*36-126*	*%REC*	*50*	*30-Jan-2016 17:06*
Surr: 2,4,6-Tribromophenol	*51.4*			*36-126*	*%REC*	*1*	*29-Jan-2016 19:17*
Surr: 2-Fluorobiphenyl	*53.6*			*43-125*	*%REC*	*1*	*29-Jan-2016 19:17*
Surr: 2-Fluorobiphenyl	*47.8*			*43-125*	*%REC*	*50*	*30-Jan-2016 17:06*
Surr: 2-Fluorobiphenyl	*46.8*			*43-125*	*%REC*	*5*	*30-Jan-2016 14:44*
Surr: 2-Fluorobiphenyl	*57.3*			*43-125*	*%REC*	*10*	*30-Jan-2016 15:04*
Surr: 2-Fluorophenol	*67.8*			*37-125*	*%REC*	*10*	*30-Jan-2016 15:04*
Surr: 2-Fluorophenol	*59.4*			*37-125*	*%REC*	*5*	*30-Jan-2016 14:44*
Surr: 2-Fluorophenol	*69.3*			*37-125*	*%REC*	*50*	*30-Jan-2016 17:06*
Surr: 2-Fluorophenol	*70.8*			*37-125*	*%REC*	*1*	*29-Jan-2016 19:17*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
Sample ID: SO-1620-CSDS1(0-5)-20160129
Collection Date: 29-Jan-2016 08:01

ANALYTICAL REPORT
WorkOrder:HS16011133
Lab ID:HS16011133-05
Matrix:Soil

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES	**Method:SW8270**				Prep:SW3541 / 29-Jan-2016		Analyst: ACN
Surr: 4-Terphenyl-d14	*117*			*32-125*	*%REC*	*50*	*30-Jan-2016 17:06*
Surr: 4-Terphenyl-d14	*109*			*32-125*	*%REC*	*5*	*30-Jan-2016 14:44*
Surr: 4-Terphenyl-d14	*78.7*			*32-125*	*%REC*	*1*	*29-Jan-2016 19:17*
Surr: 4-Terphenyl-d14	*107*			*32-125*	*%REC*	*10*	*30-Jan-2016 15:04*
Surr: Nitrobenzene-d5	*106*			*37-125*	*%REC*	*50*	*30-Jan-2016 17:06*
Surr: Nitrobenzene-d5	*64.8*			*37-125*	*%REC*	*5*	*30-Jan-2016 14:44*
Surr: Nitrobenzene-d5	*81.5*			*37-125*	*%REC*	*1*	*29-Jan-2016 19:17*
Surr: Nitrobenzene-d5	*100*			*37-125*	*%REC*	*10*	*30-Jan-2016 15:04*
Surr: Phenol-d6	*75.5*			*40-125*	*%REC*	*1*	*29-Jan-2016 19:17*
Surr: Phenol-d6	*66.3*			*40-125*	*%REC*	*50*	*30-Jan-2016 17:06*
Surr: Phenol-d6	*65.1*			*40-125*	*%REC*	*10*	*30-Jan-2016 15:04*
Surr: Phenol-d6	*51.4*			*40-125*	*%REC*	*5*	*30-Jan-2016 14:44*
METALS BY SW6020A	**Method:SW6020**				Prep:SW3050A / 29-Jan-2016		Analyst: JDE
Arsenic	**177**		**0.110**	**0.550**	**mg/Kg-dry**	1	29-Jan-2016 22:36
Lead	**8.75**		**0.0550**	**0.550**	**mg/Kg-dry**	1	29-Jan-2016 22:36
MOISTURE - ASTM D2216	**Method:ASTM D2216**						Analyst: JHD
Percent Moisture	**20.2**		**0.0100**	**0.0100**	**wt%**	1	30-Jan-2016 16:54

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
Sample ID: SO-1620-CSDS2(0-5)-20160129
Collection Date: 29-Jan-2016 12:55

ANALYTICAL REPORT
WorkOrder:HS16011133
Lab ID:HS16011133-06
Matrix:Soil

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES		**Method:SW8270**			Prep:SW3541 / 29-Jan-2016		Analyst: ACN
1,2-Diphenylhydrazine	U		0.014	0.082	mg/Kg-dry	1	01-Feb-2016 12:03
2,4-Dimethylphenol	U		0.041	0.082	mg/Kg-dry	1	01-Feb-2016 12:03
2,4-Dinitrotoluene	U		0.011	0.082	mg/Kg-dry	1	01-Feb-2016 12:03
2,6-Dinitrotoluene	U		0.041	0.082	mg/Kg-dry	1	01-Feb-2016 12:03
2-Chloronaphthalene	U		0.016	0.082	mg/Kg-dry	1	01-Feb-2016 12:03
2-Methylnaphthalene	U		0.0062	0.041	mg/Kg-dry	1	01-Feb-2016 12:03
4,6-Dinitro-2-methylphenol	U		0.026	0.082	mg/Kg-dry	1	01-Feb-2016 12:03
4-Nitrophenol	U		0.024	0.16	mg/Kg-dry	1	01-Feb-2016 12:03
Acenaphthene	U		0.0062	0.041	mg/Kg-dry	1	01-Feb-2016 12:03
Acenaphthylene	**0.43**		**0.012**	**0.041**	**mg/Kg-dry**	1	01-Feb-2016 12:03
Anthracene	**0.44**		**0.0062**	**0.041**	**mg/Kg-dry**	1	01-Feb-2016 12:03
Benz(a)anthracene	**0.72**		**0.020**	**0.041**	**mg/Kg-dry**	1	01-Feb-2016 12:03
Benzo(a)pyrene	**1.5**		**0.012**	**0.041**	**mg/Kg-dry**	1	01-Feb-2016 12:03
Bis(2-chloroethoxy)methane	U		0.011	0.082	mg/Kg-dry	1	01-Feb-2016 12:03
Bis(2-ethylhexyl)phthalate	U		0.021	0.082	mg/Kg-dry	1	01-Feb-2016 12:03
Chrysene	**1.00**		**0.0099**	**0.041**	**mg/Kg-dry**	1	01-Feb-2016 12:03
Dibenzofuran	U		0.0087	0.041	mg/Kg-dry	1	01-Feb-2016 12:03
Di-n-butyl phthalate	U		0.015	0.082	mg/Kg-dry	1	01-Feb-2016 12:03
Fluoranthene	**0.65**		**0.014**	**0.041**	**mg/Kg-dry**	1	01-Feb-2016 12:03
Fluorene	**0.043**		**0.014**	**0.041**	**mg/Kg-dry**	1	01-Feb-2016 12:03
Naphthalene	**0.048**		**0.0074**	**0.041**	**mg/Kg-dry**	1	01-Feb-2016 12:03
Nitrobenzene	U		0.011	0.082	mg/Kg-dry	1	01-Feb-2016 12:03
N-Nitrosodiphenylamine	U		0.0087	0.082	mg/Kg-dry	1	01-Feb-2016 12:03
Pentachlorophenol	U		0.041	0.082	mg/Kg-dry	1	01-Feb-2016 12:03
Phenanthrene	**0.11**		**0.019**	**0.041**	**mg/Kg-dry**	1	01-Feb-2016 12:03
Phenol	**0.045**	J	**0.014**	**0.082**	**mg/Kg-dry**	1	01-Feb-2016 12:03
Pyrene	**0.90**		**0.0074**	**0.041**	**mg/Kg-dry**	1	01-Feb-2016 12:03
Surr: 2,4,6-Tribromophenol	*89.4*			*36-126*	*%REC*	*1*	*01-Feb-2016 12:03*
Surr: 2-Fluorobiphenyl	*72.6*			*43-125*	*%REC*	*1*	*01-Feb-2016 12:03*
Surr: 2-Fluorophenol	*90.3*			*37-125*	*%REC*	*1*	*01-Feb-2016 12:03*
Surr: 4-Terphenyl-d14	*129*	*S*		*32-125*	*%REC*	*1*	*01-Feb-2016 12:03*
Surr: Nitrobenzene-d5	*102*			*37-125*	*%REC*	*1*	*01-Feb-2016 12:03*
Surr: Phenol-d6	*91.3*			*40-125*	*%REC*	*1*	*01-Feb-2016 12:03*
METALS BY SW6020A		**Method:SW6020**			Prep:SW3050A / 29-Jan-2016		Analyst: JDE
Arsenic	**2.19**		**0.110**	**0.551**	**mg/Kg-dry**	1	29-Jan-2016 22:41
Lead	**19.1**		**0.0551**	**0.551**	**mg/Kg-dry**	1	29-Jan-2016 22:41
MOISTURE - ASTM D2216		**Method:ASTM D2216**					Analyst: JHD
Percent Moisture	**19.6**		**0.0100**	**0.0100**	**wt%**	1	30-Jan-2016 16:54

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
Sample ID: SO-1620-CSDE1(0-5)-20160129
Collection Date: 29-Jan-2016 12:57

ANALYTICAL REPORT
WorkOrder:HS16011133
Lab ID:HS16011133-07
Matrix:Soil

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES	**Method:SW8270**				Prep:SW3541 / 29-Jan-2016		Analyst: ACN
1,2-Diphenylhydrazine	U		0.0013	0.0081	mg/Kg-dry	1	29-Jan-2016 19:57
2,4-Dimethylphenol	U		0.0040	0.0081	mg/Kg-dry	1	29-Jan-2016 19:57
2,4-Dinitrotoluene	U		0.0011	0.0081	mg/Kg-dry	1	29-Jan-2016 19:57
2,6-Dinitrotoluene	U		0.0040	0.0081	mg/Kg-dry	1	29-Jan-2016 19:57
2-Chloronaphthalene	U		0.0016	0.0081	mg/Kg-dry	1	29-Jan-2016 19:57
2-Methylnaphthalene	**0.0054**		**0.00061**	**0.0040**	**mg/Kg-dry**	1	29-Jan-2016 19:57
4,6-Dinitro-2-methylphenol	U		0.0026	0.0081	mg/Kg-dry	1	29-Jan-2016 19:57
4-Nitrophenol	U		0.0023	0.016	mg/Kg-dry	1	29-Jan-2016 19:57
Acenaphthene	**0.0089**		**0.00061**	**0.0040**	**mg/Kg-dry**	1	29-Jan-2016 19:57
Acenaphthylene	**0.25**		**0.0012**	**0.0040**	**mg/Kg-dry**	1	29-Jan-2016 19:57
Anthracene	**0.023**		**0.00061**	**0.0040**	**mg/Kg-dry**	1	29-Jan-2016 19:57
Benz(a)anthracene	**0.17**		**0.0020**	**0.0040**	**mg/Kg-dry**	1	29-Jan-2016 19:57
Benzo(a)pyrene	**0.64**		**0.0049**	**0.016**	**mg/Kg-dry**	4	01-Feb-2016 11:40
Bis(2-chloroethoxy)methane	U		0.0011	0.0081	mg/Kg-dry	1	29-Jan-2016 19:57
Bis(2-ethylhexyl)phthalate	U		0.0021	0.0081	mg/Kg-dry	1	29-Jan-2016 19:57
Chrysene	**0.27**		**0.00098**	**0.0040**	**mg/Kg-dry**	1	29-Jan-2016 19:57
Dibenzofuran	**0.0067**		**0.00086**	**0.0040**	**mg/Kg-dry**	1	29-Jan-2016 19:57
Di-n-butyl phthalate	U		0.0015	0.0081	mg/Kg-dry	1	29-Jan-2016 19:57
Fluoranthene	**0.13**		**0.0013**	**0.0040**	**mg/Kg-dry**	1	29-Jan-2016 19:57
Fluorene	**0.027**		**0.0013**	**0.0040**	**mg/Kg-dry**	1	29-Jan-2016 19:57
Naphthalene	**0.0097**		**0.00074**	**0.0040**	**mg/Kg-dry**	1	29-Jan-2016 19:57
Nitrobenzene	U		0.0011	0.0081	mg/Kg-dry	1	29-Jan-2016 19:57
N-Nitrosodiphenylamine	U		0.00086	0.0081	mg/Kg-dry	1	29-Jan-2016 19:57
Pentachlorophenol	**0.014**		**0.0040**	**0.0081**	**mg/Kg-dry**	1	29-Jan-2016 19:57
Phenanthrene	**0.26**		**0.0018**	**0.0040**	**mg/Kg-dry**	1	29-Jan-2016 19:57
Phenol	**0.024**		**0.0013**	**0.0081**	**mg/Kg-dry**	1	29-Jan-2016 19:57
Pyrene	**0.26**		**0.00074**	**0.0040**	**mg/Kg-dry**	1	29-Jan-2016 19:57
Surr: 2,4,6-Tribromophenol	*79.8*			*36-126*	*%REC*	*1*	*29-Jan-2016 19:57*
Surr: 2,4,6-Tribromophenol	*87.8*			*36-126*	*%REC*	*4*	*01-Feb-2016 11:40*
Surr: 2-Fluorobiphenyl	*75.3*			*43-125*	*%REC*	*4*	*01-Feb-2016 11:40*
Surr: 2-Fluorobiphenyl	*82.2*			*43-125*	*%REC*	*1*	*29-Jan-2016 19:57*
Surr: 2-Fluorophenol	*75.7*			*37-125*	*%REC*	*1*	*29-Jan-2016 19:57*
Surr: 2-Fluorophenol	*75.0*			*37-125*	*%REC*	*4*	*01-Feb-2016 11:40*
Surr: 4-Terphenyl-d14	*86.3*			*32-125*	*%REC*	*4*	*01-Feb-2016 11:40*
Surr: 4-Terphenyl-d14	*94.3*			*32-125*	*%REC*	*1*	*29-Jan-2016 19:57*
Surr: Nitrobenzene-d5	*89.6*			*37-125*	*%REC*	*1*	*29-Jan-2016 19:57*
Surr: Nitrobenzene-d5	*85.6*			*37-125*	*%REC*	*4*	*01-Feb-2016 11:40*
Surr: Phenol-d6	*68.7*			*40-125*	*%REC*	*4*	*01-Feb-2016 11:40*
Surr: Phenol-d6	*83.8*			*40-125*	*%REC*	*1*	*29-Jan-2016 19:57*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
Sample ID: SO-1620-CSDE1(0-5)-20160129
Collection Date: 29-Jan-2016 12:57

ANALYTICAL REPORT
WorkOrder:HS16011133
Lab ID:HS16011133-07
Matrix:Soil

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
METALS BY SW6020A	**Method:SW6020**				Prep:SW3050A / 29-Jan-2016		Analyst: JDE
Arsenic	**2.04**		**0.106**	**0.530**	**mg/Kg-dry**	1	29-Jan-2016 22:45
Lead	**13.6**		**0.0530**	**0.530**	**mg/Kg-dry**	1	29-Jan-2016 22:45
MOISTURE - ASTM D2216	**Method:ASTM D2216**						Analyst: JHD
Percent Moisture	**18.9**		**0.0100**	**0.0100**	**wt%**	1	30-Jan-2016 16:54

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
Sample ID: SO-1620-CSDE2(0-5)-20160129
Collection Date: 29-Jan-2016 12:59

ANALYTICAL REPORT
WorkOrder:HS16011133
Lab ID:HS16011133-08
Matrix:Soil

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES		**Method:SW8270**			Prep:SW3541 / 29-Jan-2016		Analyst: ACN
1,2-Diphenylhydrazine	U		0.0013	0.0079	mg/Kg-dry	1	29-Jan-2016 20:17
2,4-Dimethylphenol	U		0.0039	0.0079	mg/Kg-dry	1	29-Jan-2016 20:17
2,4-Dinitrotoluene	U		0.0011	0.0079	mg/Kg-dry	1	29-Jan-2016 20:17
2,6-Dinitrotoluene	U		0.0039	0.0079	mg/Kg-dry	1	29-Jan-2016 20:17
2-Chloronaphthalene	U		0.0015	0.0079	mg/Kg-dry	1	29-Jan-2016 20:17
2-Methylnaphthalene	**0.011**		**0.00060**	**0.0039**	**mg/Kg-dry**	1	29-Jan-2016 20:17
4,6-Dinitro-2-methylphenol	U		0.0025	0.0079	mg/Kg-dry	1	29-Jan-2016 20:17
4-Nitrophenol	U		0.0023	0.016	mg/Kg-dry	1	29-Jan-2016 20:17
Acenaphthene	**0.080**		**0.00060**	**0.0039**	**mg/Kg-dry**	1	29-Jan-2016 20:17
Acenaphthylene	**0.14**		**0.0012**	**0.0039**	**mg/Kg-dry**	1	29-Jan-2016 20:17
Anthracene	**0.15**		**0.00060**	**0.0039**	**mg/Kg-dry**	1	29-Jan-2016 20:17
Benz(a)anthracene	**0.13**		**0.0019**	**0.0039**	**mg/Kg-dry**	1	29-Jan-2016 20:17
Benzo(a)pyrene	**0.27**		**0.0012**	**0.0039**	**mg/Kg-dry**	1	29-Jan-2016 20:17
Bis(2-chloroethoxy)methane	U		0.0011	0.0079	mg/Kg-dry	1	29-Jan-2016 20:17
Bis(2-ethylhexyl)phthalate	U		0.0020	0.0079	mg/Kg-dry	1	29-Jan-2016 20:17
Chrysene	**0.20**		**0.00095**	**0.0039**	**mg/Kg-dry**	1	29-Jan-2016 20:17
Dibenzofuran	**0.046**		**0.00083**	**0.0039**	**mg/Kg-dry**	1	29-Jan-2016 20:17
Di-n-butyl phthalate	U		0.0014	0.0079	mg/Kg-dry	1	29-Jan-2016 20:17
Fluoranthene	**0.38**		**0.0013**	**0.0039**	**mg/Kg-dry**	1	29-Jan-2016 20:17
Fluorene	**0.085**		**0.0013**	**0.0039**	**mg/Kg-dry**	1	29-Jan-2016 20:17
Naphthalene	**0.0093**		**0.00071**	**0.0039**	**mg/Kg-dry**	1	29-Jan-2016 20:17
Nitrobenzene	U		0.0011	0.0079	mg/Kg-dry	1	29-Jan-2016 20:17
N-Nitrosodiphenylamine	U		0.00083	0.0079	mg/Kg-dry	1	29-Jan-2016 20:17
Pentachlorophenol	U		0.0039	0.0079	mg/Kg-dry	1	29-Jan-2016 20:17
Phenanthrene	**0.26**		**0.0018**	**0.0039**	**mg/Kg-dry**	1	29-Jan-2016 20:17
Phenol	**0.013**		**0.0013**	**0.0079**	**mg/Kg-dry**	1	29-Jan-2016 20:17
Pyrene	**0.38**		**0.00071**	**0.0039**	**mg/Kg-dry**	1	29-Jan-2016 20:17
Surr: 2,4,6-Tribromophenol	*96.2*			*36-126*	*%REC*	*1*	*29-Jan-2016 20:17*
Surr: 2-Fluorobiphenyl	*93.1*			*43-125*	*%REC*	*1*	*29-Jan-2016 20:17*
Surr: 2-Fluorophenol	*73.4*			*37-125*	*%REC*	*1*	*29-Jan-2016 20:17*
Surr: 4-Terphenyl-d14	*87.7*			*32-125*	*%REC*	*1*	*29-Jan-2016 20:17*
Surr: Nitrobenzene-d5	*83.9*			*37-125*	*%REC*	*1*	*29-Jan-2016 20:17*
Surr: Phenol-d6	*76.0*			*40-125*	*%REC*	*1*	*29-Jan-2016 20:17*
METALS BY SW6020A		**Method:SW6020**			Prep:SW3050A / 29-Jan-2016		Analyst: JDE
Arsenic	**1.67**		**0.101**	**0.503**	**mg/Kg-dry**	1	29-Jan-2016 22:50
Lead	**7.26**		**0.0503**	**0.503**	**mg/Kg-dry**	1	29-Jan-2016 22:50
MOISTURE - ASTM D2216		**Method:ASTM D2216**					Analyst: JHD
Percent Moisture	**16.2**		**0.0100**	**0.0100**	**wt%**	1	30-Jan-2016 16:54

Note: See Qualifiers Page for a list of qualifiers and their explanation.

WEIGHT LOG

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
WorkOrder: HS16011133

Batch ID: 101043 **Method:** METALS BY SW6020A **Prep:** 3050_I_LOW

SampID	Container	Sample Wt/Vol	Final Volume	Prep Factor
HS16011133-01	1	0.5626	50 (mL)	88.87
HS16011133-02	1	0.5787	50 (mL)	86.4
HS16011133-03	1	0.5749	50 (mL)	86.97
HS16011133-04	1	0.5609	50 (mL)	89.14
HS16011133-05	1	0.5691	50 (mL)	87.86
HS16011133-06	1	0.5643	50 (mL)	88.61
HS16011133-07	1	0.582	50 (mL)	85.91
HS16011133-08	1	0.5936	50 (mL)	84.23

Batch ID: 101046 **Method:** LOW-LEVEL SEMIVOLATILES **Prep:** 3541_B_LOW

SampID	Container	Sample Wt/Vol	Final Volume	Prep Factor
HS16011133-01	1	30.16	1 (mL)	0.03316
HS16011133-02	1	30.12	1 (mL)	0.0332
HS16011133-03	1	30.11	1 (mL)	0.03321
HS16011133-04	1	30.18	1 (mL)	0.03313
HS16011133-05	1	30.15	1 (mL)	0.03317
HS16011133-06	1	30.09	10 (mL)	0.3323
HS16011133-07	1	30.17	1 (mL)	0.03315
HS16011133-08	1	30.06	1 (mL)	0.03327

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
WorkOrder: HS16011133

DATES REPORT

Sample ID	Client Samp ID	Collection Date	TCLP Date	Prep Date	Analysis Date	DF
Batch ID 101043	**Test Name :** METALS BY SW6020A			**Matrix:** Soil		
HS16011133-01	SO-1620-CSFE1(0-5)-20160129	29 Jan 2016 07:50		29 Jan 2016 15:17	29 Jan 2016 21:51	1
HS16011133-02	SO-1620-CSFE2(0-5)-20160129	29 Jan 2016 07:45		29 Jan 2016 15:17	29 Jan 2016 22:22	1
HS16011133-03	SO-1620-CSDW1(0-5)-20160129	29 Jan 2016 08:05		29 Jan 2016 15:17	29 Jan 2016 22:27	1
HS16011133-04	SO-1620-CSDW2(0-5)-20160129	29 Jan 2016 08:03		29 Jan 2016 15:17	29 Jan 2016 22:32	1
HS16011133-05	SO-1620-CSDS1(0-5)-20160129	29 Jan 2016 08:01		29 Jan 2016 15:17	29 Jan 2016 22:36	1
HS16011133-06	SO-1620-CSDS2(0-5)-20160129	29 Jan 2016 12:55		29 Jan 2016 15:17	29 Jan 2016 22:41	1
HS16011133-07	SO-1620-CSDE1(0-5)-20160129	29 Jan 2016 12:57		29 Jan 2016 15:17	29 Jan 2016 22:45	1
HS16011133-08	SO-1620-CSDE2(0-5)-20160129	29 Jan 2016 12:59		29 Jan 2016 15:17	29 Jan 2016 22:50	1
Batch ID 101046	**Test Name :** LOW-LEVEL SEMIVOLATILES			**Matrix:** Soil		
HS16011133-01	SO-1620-CSFE1(0-5)-20160129	29 Jan 2016 07:50		29 Jan 2016 15:03	01 Feb 2016 11:00	1
HS16011133-02	SO-1620-CSFE2(0-5)-20160129	29 Jan 2016 07:45		29 Jan 2016 15:03	29 Jan 2016 18:16	1
HS16011133-02	SO-1620-CSFE2(0-5)-20160129	29 Jan 2016 07:45		29 Jan 2016 15:03	01 Feb 2016 11:20	4
HS16011133-03	SO-1620-CSDW1(0-5)-20160129	29 Jan 2016 08:05		29 Jan 2016 15:03	30 Jan 2016 13:43	5
HS16011133-03	SO-1620-CSDW1(0-5)-20160129	29 Jan 2016 08:05		29 Jan 2016 15:03	29 Jan 2016 18:36	1
HS16011133-04	SO-1620-CSDW2(0-5)-20160129	29 Jan 2016 08:03		29 Jan 2016 15:03	30 Jan 2016 14:03	5
HS16011133-04	SO-1620-CSDW2(0-5)-20160129	29 Jan 2016 08:03		29 Jan 2016 15:03	29 Jan 2016 18:56	1
HS16011133-05	SO-1620-CSDS1(0-5)-20160129	29 Jan 2016 08:01		29 Jan 2016 15:03	30 Jan 2016 17:06	50
HS16011133-05	SO-1620-CSDS1(0-5)-20160129	29 Jan 2016 08:01		29 Jan 2016 15:03	30 Jan 2016 15:04	10
HS16011133-05	SO-1620-CSDS1(0-5)-20160129	29 Jan 2016 08:01		29 Jan 2016 15:03	30 Jan 2016 14:44	5
HS16011133-05	SO-1620-CSDS1(0-5)-20160129	29 Jan 2016 08:01		29 Jan 2016 15:03	29 Jan 2016 19:17	1
HS16011133-06	SO-1620-CSDS2(0-5)-20160129	29 Jan 2016 12:55		29 Jan 2016 15:03	01 Feb 2016 12:03	1
HS16011133-07	SO-1620-CSDE1(0-5)-20160129	29 Jan 2016 12:57		29 Jan 2016 15:03	29 Jan 2016 19:57	1
HS16011133-07	SO-1620-CSDE1(0-5)-20160129	29 Jan 2016 12:57		29 Jan 2016 15:03	01 Feb 2016 11:40	4
HS16011133-08	SO-1620-CSDE2(0-5)-20160129	29 Jan 2016 12:59		29 Jan 2016 15:03	29 Jan 2016 20:17	1

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
WorkOrder: HS16011133

DATES REPORT

Sample ID	Client Samp ID	Collection Date	TCLP Date	Prep Date	Analysis Date	DF
Batch ID R268581	**Test Name :** MOISTURE - ASTM D2216			**Matrix:** Soil		
HS16011133-01	SO-1620-CSFE1(0-5)-20160129	29 Jan 2016 07:50			30 Jan 2016 16:54	1
HS16011133-02	SO-1620-CSFE2(0-5)-20160129	29 Jan 2016 07:45			30 Jan 2016 16:54	1
HS16011133-03	SO-1620-CSDW1(0-5)-20160129	29 Jan 2016 08:05			30 Jan 2016 16:54	1
HS16011133-04	SO-1620-CSDW2(0-5)-20160129	29 Jan 2016 08:03			30 Jan 2016 16:54	1
HS16011133-05	SO-1620-CSDS1(0-5)-20160129	29 Jan 2016 08:01			30 Jan 2016 16:54	1
HS16011133-06	SO-1620-CSDS2(0-5)-20160129	29 Jan 2016 12:55			30 Jan 2016 16:54	1
HS16011133-07	SO-1620-CSDE1(0-5)-20160129	29 Jan 2016 12:57			30 Jan 2016 16:54	1
HS16011133-08	SO-1620-CSDE2(0-5)-20160129	29 Jan 2016 12:59			30 Jan 2016 16:54	1

WorkOrder: HS16011133
InstrumentID: ICPMS04
Test Code: ICP_S_Low
Test Number: SW6020
Test Name: Metals by SW6020A

METHOD DETECTION / REPORTING LIMITS

Matrix: Solid **Units:** mg/Kg

Type	Analyte	CAS	DCS Spike	DCS	MDL	PQL
A	Arsenic	7440-38-2	0.100	0.119	0.100	0.500
A	Lead	7439-92-1	0.100	0.0949	0.0500	0.500

WorkOrder: HS16011133
InstrumentID: SV-4
Test Code: 8270_LOW_S
Test Number: SW8270
Test Name: Low-Level Semivolatiles

METHOD DETECTION / REPORTING LIMITS

Matrix: Solid **Units:** mg/Kg

Type	Analyte	CAS	DCS Spike	DCS	MDL	PQL
A	1,2-Diphenylhydrazine	122-66-7	0.0033	0.0029	0.0011	0.0066
A	2,4-Dimethylphenol	105-67-9	0.0033	0.00084	0.0033	0.0066
A	2,4-Dinitrotoluene	121-14-2	0.0033	0.0025	0.00090	0.0066
A	2,6-Dinitrotoluene	606-20-2	0.0033	0.0030	0.0033	0.0066
A	2-Chloronaphthalene	91-58-7	0.0033	0.0025	0.0013	0.0066
A	2-Methylnaphthalene	91-57-6	0.0033	0.0034	0.00050	0.0033
A	4,6-Dinitro-2-methylphenol	534-52-1	0.0033	0.0036	0.0021	0.0066
A	4-Nitrophenol	100-02-7	0.0033	0.0043	0.0019	0.013
A	Acenaphthene	83-32-9	0.0033	0.0029	0.00050	0.0033
A	Acenaphthene	83-32-9	0.0017	0.0015	0.00050	0.0033
A	Acenaphthylene	208-96-8	0.0017	0.0017	0.0010	0.0033
A	Acenaphthylene	208-96-8	0.0033	0.0023	0.0010	0.0033
A	Anthracene	120-12-7	0.0033	0.0031	0.00050	0.0033
A	Anthracene	120-12-7	0.0017	0.0017	0.00050	0.0033
A	Benz(a)anthracene	56-55-3	0.0017	0.0020	0.0016	0.0033
A	Benz(a)anthracene	56-55-3	0.0033	0.0032	0.0016	0.0033
A	Benzo(a)pyrene	50-32-8	0.0017	0.0018	0.0010	0.0033
A	Benzo(a)pyrene	50-32-8	0.0033	0.0032	0.0010	0.0033
A	Bis(2-chloroethoxy)methane	111-91-1	0.0033	0.0033	0.00090	0.0066
A	Bis(2-ethylhexyl)phthalate	117-81-7	0.0033	0.0060	0.0017	0.0066
A	Chrysene	218-01-9	0.0033	0.0044	0.00080	0.0033
A	Chrysene	218-01-9	0.0017	0.0017	0.00080	0.0033
A	Dibenzofuran	132-64-9	0.0033	0.0028	0.00070	0.0033
A	Di-n-butyl phthalate	84-74-2	0.0033	0.0038	0.0012	0.0066
A	Fluoranthene	206-44-0	0.0033	0.0038	0.0011	0.0033
A	Fluoranthene	206-44-0	0.0017	0.0019	0.0011	0.0033
A	Fluorene	86-73-7	0.0017	0.0015	0.0011	0.0033
A	Fluorene	86-73-7	0.0033	0.0027	0.0011	0.0033
A	Naphthalene	91-20-3	0.0033	0.0034	0.00060	0.0033
A	Nitrobenzene	98-95-3	0.0033	0.0038	0.00090	0.0066
A	N-Nitrosodiphenylamine	86-30-6	0.0033	0.0037	0.00070	0.0066
A	Pentachlorophenol	87-86-5	0.0033	0.0023	0.0033	0.0066
A	Phenanthrene	85-01-8	0.0033	0.0031	0.0015	0.0033
A	Phenol	108-95-2	0.0033	0.0038	0.0011	0.0066
A	Pyrene	129-00-0	0.0033	0.0045	0.00060	0.0033
A	Pyrene	129-00-0	0.0017	0.0019	0.00060	0.0033
S	2,4,6-Tribromophenol	118-79-6	0	0	0	0
S	2-Fluorobiphenyl	321-60-8	0	0	0	0
S	2-Fluorophenol	367-12-4	0	0	0	0
S	4-Terphenyl-d14	1718-51-0	0	0	0	0
S	Nitrobenzene-d5	4165-60-0	0	0	0	0

WorkOrder: HS16011133
InstrumentID: SV-4
Test Code: 8270_LOW_S
Test Number: SW8270
Test Name: Low-Level Semivolatiles

METHOD DETECTION / REPORTING LIMITS

Matrix: Solid **Units:** mg/Kg

Type	Analyte	CAS	DCS Spike	DCS	MDL	PQL
S	Phenol-d6	13127-88-3	0	0	0	0

WorkOrder: HS16011133
InstrumentID: Balance1
Test Code: MOIST_ASTM
Test Number: ASTM D2216
Test Name: Moisture - ASTM D2216

METHOD DETECTION / REPORTING LIMITS

Matrix: Solid **Units:** wt%

Type	Analyte	CAS	DCS Spike	DCS	MDL	PQL
A	Percent Moisture	MOIST	0.0100	0.0100	0.0100	0.0100

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
WorkOrder: HS16011133

QC BATCH REPORT

Batch ID: 101043 **Instrument: ICPMS04** **Method: SW6020**

MBLK Sample ID: **MBLK-101043** Units: **mg/Kg** Analysis Date: **29-Jan-2016 21:38**
Client ID: Run ID: **ICPMS04_268464** SeqNo: **3571226** PrepDate: **29-Jan-2016** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	U	0.500								
Lead	U	0.500								

LCS Sample ID: **LCS-101043** Units: **mg/Kg** Analysis Date: **29-Jan-2016 21:43**
Client ID: Run ID: **ICPMS04_268464** SeqNo: **3571227** PrepDate: **29-Jan-2016** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	8.481	0.500	10	0	84.8	80 - 120				
Lead	8.711	0.500	10	0	87.1	80 - 120				

MS Sample ID: **HS16011133-01MS** Units: **mg/Kg** Analysis Date: **29-Jan-2016 22:01**
Client ID: **SO-1620-CSFE1(0-5)-20160129** Run ID: **ICPMS04_268464** SeqNo: **3571231** PrepDate: **29-Jan-2016** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	8.377	0.444	8.878	1.763	74.5	75 - 125				S
Lead	15.07	0.444	8.878	7.868	81.2	75 - 125				

MSD Sample ID: **HS16011133-01MSD** Units: **mg/Kg** Analysis Date: **29-Jan-2016 22:05**
Client ID: **SO-1620-CSFE1(0-5)-20160129** Run ID: **ICPMS04_268464** SeqNo: **3571232** PrepDate: **29-Jan-2016** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	8.238	0.434	8.678	1.763	74.6	75 - 125	8.377	1.67	20	S
Lead	15.08	0.434	8.678	7.868	83.1	75 - 125	15.07	0.065	20	

PDS Sample ID: **HS16011133-01BS** Units: **mg/Kg** Analysis Date: **29-Jan-2016 22:09**
Client ID: **SO-1620-CSFE1(0-5)-20160129** Run ID: **ICPMS04_268464** SeqNo: **3571233** PrepDate: **29-Jan-2016** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	9.369	0.444	8.887	1.763	85.6	75 - 125				
Lead	15.56	0.444	8.887	7.868	86.5	75 - 125				

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
WorkOrder: HS16011133

QC BATCH REPORT

Batch ID: 101043 **Instrument: ICPMS04** **Method: SW6020**

SD Sample ID: **HS16011133-01 DIL SX** Units: **mg/Kg** Analysis Date: **29-Jan-2016 21:56**
Client ID: **SO-1620-CSFE1(0-5)-20160129** Run ID: **ICPMS04_268464** SeqNo: **3571230** PrepDate: **29-Jan-2016** DF: **5**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%D	%D Limit	Qual
Arsenic	1.968	2.22					1.763	0	10	J
Lead	8.029	2.22					7.868	2.04	10	

The following samples were anayzed in this batch:

HS16011133-01	HS16011133-02	HS16011133-03	HS16011133-04
HS16011133-05	HS16011133-06	HS16011133-07	HS16011133-08

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
WorkOrder: HS16011133

QC BATCH REPORT

Batch ID: 101046 **Instrument: SV-4** **Method: SW8270**

MBLK Sample ID: **MBLK-101046** Units: **ug/Kg** Analysis Date: **29-Jan-2016 19:29**
Client ID: Run ID: **SV-4_268544** SeqNo: **3570563** PrepDate: **29-Jan-2016** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Diphenylhydrazine	U	6.6								
2,4-Dimethylphenol	U	6.6								
2,4-Dinitrotoluene	U	6.6								
2,6-Dinitrotoluene	U	6.6								
2-Chloronaphthalene	U	6.6								
2-Methylnaphthalene	U	3.3								
4,6-Dinitro-2-methylphenol	U	6.6								
4-Nitrophenol	U	13								
Acenaphthene	U	3.3								
Acenaphthylene	U	3.3								
Anthracene	U	3.3								
Benz(a)anthracene	U	3.3								
Benzo(a)pyrene	U	3.3								
Bis(2-chloroethoxy)methane	U	6.6								
Bis(2-ethylhexyl)phthalate	U	6.6								
Chrysene	U	3.3								
Dibenzofuran	U	3.3								
Di-n-butyl phthalate	U	6.6								
Fluoranthene	U	3.3								
Fluorene	U	3.3								
Naphthalene	U	3.3								
Nitrobenzene	U	6.6								
N-Nitrosodiphenylamine	U	6.6								
Pentachlorophenol	U	6.6								
Phenanthrene	U	3.3								
Phenol	U	6.6								
Pyrene	U	3.3								
Surr: 2,4,6-Tribromophenol	*149.7*	*0*	*167*	*0*	*89.6*	*36 - 126*				
Surr: 2-Fluorobiphenyl	*150.6*	*0*	*167*	*0*	*90.2*	*43 - 125*				
Surr: 2-Fluorophenol	*154.8*	*0*	*167*	*0*	*92.7*	*37 - 125*				
Surr: 4-Terphenyl-d14	*165.3*	*0*	*167*	*0*	*99.0*	*32 - 125*				
Surr: Nitrobenzene-d5	*181.6*	*0*	*167*	*0*	*109*	*37 - 125*				
Surr: Phenol-d6	*176.7*	*0*	*167*	*0*	*106*	*40 - 125*				

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
WorkOrder: HS16011133

QC BATCH REPORT

Batch ID: 101046 **Instrument: SV-4** **Method: SW8270**

LCS Sample ID: **LCS-101046** Units: **ug/Kg** Analysis Date: **29-Jan-2016 19:48**
Client ID: Run ID: **SV-4_268544** SeqNo: **3570564** PrepDate: **29-Jan-2016** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Diphenylhydrazine	153.4	6.6	167	0	91.9	50 - 135				
2,4-Dimethylphenol	117.6	6.6	167	0	70.4	45 - 120				
2,4-Dinitrotoluene	135.5	6.6	167	0	81.1	50 - 130				
2,6-Dinitrotoluene	145.7	6.6	167	0	87.2	50 - 125				
2-Chloronaphthalene	132.3	6.6	167	0	79.3	50 - 145				
2-Methylnaphthalene	136.8	3.3	167	0	81.9	50 - 120				
4,6-Dinitro-2-methylphenol	63.4	6.6	167	0	38.0	15 - 135				
4-Nitrophenol	176.1	13	167	0	105	40 - 147				
Acenaphthene	138.9	3.3	167	0	83.2	50 - 120				
Acenaphthylene	136.1	3.3	167	0	81.5	50 - 120				
Anthracene	163.9	3.3	167	0	98.1	50 - 123				
Benz(a)anthracene	148.6	3.3	167	0	89.0	50 - 131				
Benzo(a)pyrene	161.6	3.3	167	0	96.8	50 - 130				
Bis(2-chloroethoxy)methane	159.2	6.6	167	0	95.3	50 - 120				
Bis(2-ethylhexyl)phthalate	169.7	6.6	167	0	102	21 - 148				
Chrysene	168.8	3.3	167	0	101	50 - 130				
Dibenzofuran	137.1	3.3	167	0	82.1	50 - 125				
Di-n-butyl phthalate	155.5	6.6	167	0	93.1	50 - 140				
Fluoranthene	156.9	3.3	167	0	93.9	50 - 131				
Fluorene	146.3	3.3	167	0	87.6	50 - 125				
Naphthalene	132.6	3.3	167	0	79.4	50 - 125				
Nitrobenzene	166	6.6	167	0	99.4	50 - 125				
N-Nitrosodiphenylamine	136.8	6.6	167	0	81.9	50 - 130				
Pentachlorophenol	111.2	6.6	167	0	66.6	23 - 136				
Phenanthrene	133	3.3	167	0	79.6	50 - 125				
Phenol	121.1	6.6	167	0	72.5	45 - 130				
Pyrene	147.8	3.3	167	0	88.5	45 - 130				
Surr: 2,4,6-Tribromophenol	*183.6*	*0*	*167*	*0*	*110*	*36 - 126*				
Surr: 2-Fluorobiphenyl	*145.9*	*0*	*167*	*0*	*87.4*	*43 - 125*				
Surr: 2-Fluorophenol	*156.2*	*0*	*167*	*0*	*93.5*	*37 - 125*				
Surr: 4-Terphenyl-d14	*155.4*	*0*	*167*	*0*	*93.0*	*32 - 125*				
Surr: Nitrobenzene-d5	*174*	*0*	*167*	*0*	*104*	*37 - 125*				
Surr: Phenol-d6	*154.1*	*0*	*167*	*0*	*92.3*	*40 - 125*				

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
WorkOrder: HS16011133

QC BATCH REPORT

Batch ID: 101046 **Instrument: SV-4** **Method: SW8270**

MS Sample ID: **HS16011129-01MS** Units: **ug/Kg** Analysis Date: **29-Jan-2016 20:27**
Client ID: Run ID: **SV-4_268544** SeqNo: **3570566** PrepDate: **29-Jan-2016** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Diphenylhydrazine	156.9	6.6	166	0	94.5	50 - 135				
2,4-Dimethylphenol	101.7	6.6	166	0	61.3	45 - 120				
2,4-Dinitrotoluene	147.6	6.6	166	0	88.9	50 - 130				
2,6-Dinitrotoluene	139.5	6.6	166	0	84.1	50 - 125				
2-Chloronaphthalene	121.4	6.6	166	0	73.1	50 - 145				
2-Methylnaphthalene	133.3	3.3	166	0	80.3	50 - 120				
4,6-Dinitro-2-methylphenol	17.7	6.6	166	0	10.7	15 - 135				S
4-Nitrophenol	U	13	166	0	0	40 - 147				S
Acenaphthene	135.6	3.3	166	0	81.7	50 - 120				
Acenaphthylene	131.1	3.3	166	0	79.0	50 - 120				
Anthracene	150	3.3	166	3.373	88.4	50 - 123				
Benz(a)anthracene	140.8	3.3	166	6.768	80.8	50 - 131				
Benzo(a)pyrene	146.9	3.3	166	0	88.5	50 - 130				
Bis(2-chloroethoxy)methane	135.8	6.6	166	0	81.8	50 - 120				
Bis(2-ethylhexyl)phthalate	184.1	6.6	166	10.76	104	21 - 148				
Chrysene	156	3.3	166	7.652	89.4	50 - 130				
Dibenzofuran	132.7	3.3	166	0	80.0	50 - 125				
Di-n-butyl phthalate	142.7	6.6	166	0	86.0	50 - 140				
Fluoranthene	151.6	3.3	166	17.75	80.6	50 - 131				
Fluorene	136.4	3.3	166	0	82.2	50 - 125				
Naphthalene	118.5	3.3	166	0	71.4	50 - 125				
Nitrobenzene	140.8	6.6	166	0	84.8	50 - 125				
N-Nitrosodiphenylamine	142.3	6.6	166	0	85.7	50 - 130				
Pentachlorophenol	147	6.6	166	0	88.6	23 - 136				
Phenanthrene	140	3.3	166	8.445	79.3	50 - 125				
Phenol	168.4	6.6	166	0	101	45 - 130				
Pyrene	156.1	3.3	166	14.51	85.3	45 - 130				
Surr: 2,4,6-Tribromophenol	*191.6*	*0*	*166*	*0*	*115*	*36 - 126*				
Surr: 2-Fluorobiphenyl	*140.7*	*0*	*166*	*0*	*84.7*	*43 - 125*				
Surr: 2-Fluorophenol	*109.7*	*0*	*166*	*0*	*66.1*	*37 - 125*				
Surr: 4-Terphenyl-d14	*155*	*0*	*166*	*0*	*93.4*	*32 - 125*				
Surr: Nitrobenzene-d5	*154.7*	*0*	*166*	*0*	*93.2*	*37 - 125*				
Surr: Phenol-d6	*165.9*	*0*	*166*	*0*	*100.0*	*40 - 125*				

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
WorkOrder: HS16011133

QC BATCH REPORT

Batch ID: 101046 **Instrument: SV-4** **Method: SW8270**

MSD Sample ID: **HS16011129-01MSD** Units: **ug/Kg** Analysis Date: **29-Jan-2016 20:46**
Client ID: Run ID: **SV-4_268544** SeqNo: **3570567** PrepDate: **29-Jan-2016** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual
1,2-Diphenylhydrazine	166	6.6	165.9	0	100	50 - 135	156.9	5.68	30	
2,4-Dimethylphenol	112.4	6.6	165.9	0	67.7	45 - 120	101.7	9.99	30	
2,4-Dinitrotoluene	153.3	6.6	165.9	0	92.4	50 - 130	147.6	3.79	30	
2,6-Dinitrotoluene	150.5	6.6	165.9	0	90.7	50 - 125	139.5	7.55	30	
2-Chloronaphthalene	121.7	6.6	165.9	0	73.3	50 - 145	121.4	0.194	30	
2-Methylnaphthalene	136.7	3.3	165.9	0	82.4	50 - 120	133.3	2.52	30	
4,6-Dinitro-2-methylphenol	U	6.6	165.9	0	0	15 - 135	17.7	0	30	S
4-Nitrophenol	U	13	165.9	0	0	40 - 147	0	0	30	S
Acenaphthene	143.8	3.3	165.9	0	86.7	50 - 120	135.6	5.86	30	
Acenaphthylene	133.6	3.3	165.9	0	80.5	50 - 120	131.1	1.87	30	
Anthracene	163.6	3.3	165.9	3.373	96.5	50 - 123	150	8.64	30	
Benz(a)anthracene	155.2	3.3	165.9	6.768	89.4	50 - 131	140.8	9.71	30	
Benzo(a)pyrene	149.2	3.3	165.9	0	89.9	50 - 130	146.9	1.6	30	
Bis(2-chloroethoxy)methane	143.5	6.6	165.9	0	86.5	50 - 120	135.8	5.51	30	
Bis(2-ethylhexyl)phthalate	178.4	6.6	165.9	10.76	101	21 - 148	184.1	3.18	30	
Chrysene	163.5	3.3	165.9	7.652	93.9	50 - 130	156	4.69	30	
Dibenzofuran	136.9	3.3	165.9	0	82.5	50 - 125	132.7	3.13	30	
Di-n-butyl phthalate	150.7	6.6	165.9	0	90.8	50 - 140	142.7	5.43	30	
Fluoranthene	161.9	3.3	165.9	17.75	86.9	50 - 131	151.6	6.61	30	
Fluorene	137.9	3.3	165.9	0	83.1	50 - 125	136.4	1.04	30	
Naphthalene	121.4	3.3	165.9	0	73.2	50 - 125	118.5	2.43	30	
Nitrobenzene	157	6.6	165.9	0	94.6	50 - 125	140.8	10.9	30	
N-Nitrosodiphenylamine	150.6	6.6	165.9	0	90.7	50 - 130	142.3	5.67	30	
Pentachlorophenol	145.6	6.6	165.9	0	87.8	23 - 136	147	0.948	30	
Phenanthrene	146.4	3.3	165.9	8.445	83.1	50 - 125	140	4.48	30	
Phenol	136.1	6.6	165.9	0	82.0	45 - 130	168.4	21.2	30	
Pyrene	157.1	3.3	165.9	14.51	85.9	45 - 130	156.1	0.628	30	
Surr: 2,4,6-Tribromophenol	*162.8*	*0*	*165.9*	*0*	*98.1*	*36 - 126*	*191.6*	*16.2*	*30*	
Surr: 2-Fluorobiphenyl	*132.6*	*0*	*165.9*	*0*	*79.9*	*43 - 125*	*140.7*	*5.93*	*30*	
Surr: 2-Fluorophenol	*134*	*0*	*165.9*	*0*	*80.7*	*37 - 125*	*109.7*	*19.9*	*30*	
Surr: 4-Terphenyl-d14	*155.3*	*0*	*165.9*	*0*	*93.6*	*32 - 125*	*155*	*0.154*	*30*	
Surr: Nitrobenzene-d5	*167.4*	*0*	*165.9*	*0*	*101*	*37 - 125*	*154.7*	*7.89*	*30*	
Surr: Phenol-d6	*139.7*	*0*	*165.9*	*0*	*84.2*	*40 - 125*	*165.9*	*17.1*	*30*	

The following samples were anayzed in this batch: HS16011133-01 HS16011133-02 HS16011133-03 HS16011133-04 HS16011133-05 HS16011133-06 HS16011133-07 HS16011133-08

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
WorkOrder: HS16011133

QC BATCH REPORT

Batch ID: **R268581** **Instrument:** **Balance1** **Method:** **ASTM D2216**

DUP Sample ID: **HS16011133-08DUP** Units: **wt%** Analysis Date: **30-Jan-2016 16:54**
Client ID: **SO-1620-CSDE2(0-5)-20160129** Run ID: **Balance1_268581** SeqNo: **3571145** PrepDate: DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Percent Moisture	16.5	0.0100					16.2	1.83	20	

The following samples were anayzed in this batch: HS16011133-01, HS16011133-02, HS16011133-03, HS16011133-04, HS16011133-05, HS16011133-06, HS16011133-07, HS16011133-08

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
WorkOrder: **HS16011133**

QUALIFIERS, ACRONYMS, UNITS

Qualifier	Description
*	Value exceeds Regulatory Limit
a	Not accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte detected below quantitation limit
M	Manually integrated, see raw data for justification
n	Not offered for accreditation
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL/SDL

Acronym	Description
DCS	Detectability Check Study
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
MBLK	Method Blank
MDL	Method Detection Limit
MQL	Method Quantitation Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PDS	Post Digestion Spike
PQL	Practical Quantitaion Limit
SD	Serial Dilution
SDL	Sample Detection Limit
TRRP	Texas Risk Reduction Program

Unit Reported	Description
mg/Kg-dry	Milligrams per Kilogram- Dry weight corrected

CERTIFICATIONS,ACCREDITATIONS & LICENSES

Agency	Number	Expire Date
Arkansas	15-024-0	27-Mar-2016
California	2919	31-Jul-2016
Illinois	003622	09-May-2016
Kentucky	KY 2015-2016	30-Apr-2016
Louisiana	03087 2015/2016	30-Jun-2016
North Carolina	624 - 2016	31-Dec-2016
North Dakota	R-193 2015-2016	30-Apr-2016
Oklahoma	2015-047	31-Aug-2016
Texas	T104704231-15-15	30-Apr-2016

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
Work Order: HS16011133

SAMPLE TRACKING

Lab Samp ID	Client Sample ID	Action	Date	Person	New Location
HS16011133-01	SO-1620-CSFE1(0-5)-20160129	Login	1/29/2016 2:33:41 PM	PMG	11D
HS16011133-02	SO-1620-CSFE2(0-5)-20160129	Login	1/29/2016 2:33:41 PM	PMG	11D
HS16011133-03	SO-1620-CSDW1(0-5)-20160129	Login	1/29/2016 2:33:41 PM	PMG	11D
HS16011133-04	SO-1620-CSDW2(0-5)-20160129	Login	1/29/2016 2:33:41 PM	PMG	11D
HS16011133-05	SO-1620-CSDS1(0-5)-20160129	Login	1/29/2016 2:33:41 PM	PMG	11D
HS16011133-06	SO-1620-CSDS2(0-5)-20160129	Login	1/29/2016 2:33:41 PM	PMG	11D
HS16011133-07	SO-1620-CSDE1(0-5)-20160129	Login	1/29/2016 2:33:41 PM	PMG	11D
HS16011133-08	SO-1620-CSDE2(0-5)-20160129	Login	1/29/2016 2:33:41 PM	PMG	11D
HS16011133-01	SO-1620-CSFE1(0-5)-20160129	Out	1/29/2016 3:45:45 PM	JCJ	METPREP
HS16011133-02	SO-1620-CSFE2(0-5)-20160129	Out	1/29/2016 3:45:45 PM	JCJ	METPREP
HS16011133-03	SO-1620-CSDW1(0-5)-20160129	Out	1/29/2016 3:45:45 PM	JCJ	METPREP
HS16011133-04	SO-1620-CSDW2(0-5)-20160129	Out	1/29/2016 3:45:45 PM	JCJ	METPREP
HS16011133-05	SO-1620-CSDS1(0-5)-20160129	Out	1/29/2016 3:45:45 PM	JCJ	METPREP
HS16011133-06	SO-1620-CSDS2(0-5)-20160129	Out	1/29/2016 3:45:45 PM	JCJ	METPREP
HS16011133-07	SO-1620-CSDE1(0-5)-20160129	Out	1/29/2016 3:45:45 PM	JCJ	METPREP
HS16011133-08	SO-1620-CSDE2(0-5)-20160129	Out	1/29/2016 3:45:45 PM	JCJ	METPREP
HS16011133-01	SO-1620-CSFE1(0-5)-20160129	Return	1/29/2016 3:46:04 PM	JCJ	11D
HS16011133-02	SO-1620-CSFE2(0-5)-20160129	Return	1/29/2016 3:46:04 PM	JCJ	11D
HS16011133-03	SO-1620-CSDW1(0-5)-20160129	Return	1/29/2016 3:46:04 PM	JCJ	11D
HS16011133-04	SO-1620-CSDW2(0-5)-20160129	Return	1/29/2016 3:46:04 PM	JCJ	11D
HS16011133-05	SO-1620-CSDS1(0-5)-20160129	Return	1/29/2016 3:46:04 PM	JCJ	11D
HS16011133-06	SO-1620-CSDS2(0-5)-20160129	Return	1/29/2016 3:46:04 PM	JCJ	11D
HS16011133-07	SO-1620-CSDE1(0-5)-20160129	Return	1/29/2016 3:46:04 PM	JCJ	11D
HS16011133-08	SO-1620-CSDE2(0-5)-20160129	Return	1/29/2016 3:46:04 PM	JCJ	11D

Sample Receipt Checklist

Client Name: PBW
Work Order: HS16011133

Date/Time Received: **29-Jan-2016 14:05**
Received by: **CGG**

Checklist completed by: *Paresh M. Giga* eSignature — 29-Jan-2016 Date

Reviewed by: *Dane J. Wacasey* eSignature — 29-Jan-2016 Date

Matrices: **Soil**

Carrier name: **Client**

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on shipping container/cooler?	Yes ☐	No ☐	Not Present ☑
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☑	No ☐	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
TX1005 solids received in hermetically sealed vials?	Yes ☐	No ☐	N/A ☑
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time?	Yes ☑	No ☐	
Container/Temp Blank temperature in compliance?	Yes ☑	No ☐	
Temperature(s)/Thermometer(s):	0.9c/1.4c U/C	IR4	
Cooler(s)/Kit(s):	Client Cooler		
Date/Time sample(s) sent to storage:	1/29/16 14:55		
Water - VOA vials have zero headspace?	Yes ☐	No ☐	No VOA vials submitted ☑
Water - pH acceptable upon receipt?	Yes ☐	No ☐	N/A ☑
pH adjusted?	Yes ☐	No ☐	N/A ☑
pH adjusted by:			

Login Notes:

Client Contacted: Date Contacted: Person Contacted:

Contacted By: 0 Regarding:

Comments:

Corrective Action:

ALS Environmental

Cincinnati, OH +1 513 733 5336 | Everett, WA +1 425 356 2600 | Fort Collins, CO +1 970 490 1511 | Holland, MI +1 616 399 6070

Chain of Custody Form

Page 1 of ____

COC ID: 135240

HS16011133

WV

Pastor, Behling & Wheeler, LLC

1620-10-Rev1 HoustonTX-Wood

ALS Project Manager:

Customer Information		Project Information			
Purchase Order	UPRR	Project Name	1620-10-Rev1 HoustonTX-Wood	A	8270_LOW_S (5632532 SemiVolatiles)
Work Order		Project Number	1620-10-Rev1	B	ICP_S_Low (5636002 5652646 Metals - As, Pb)
Company Name	Pastor, Behling & Wheeler, LLC	Bill To Company	Union Pacific Railroad- A/P	C	MOIST_ASTM (5631931 Gen.Chem. MOIST%)
Send Report To	Eric Matzner	Invoice Attn	Accounts Payable	D	
Address	2201 Double Creek Drive Suite 4004	Address	1400 Douglas Street Stop 0750	E	
				F	
City/State/Zip	Round Rock, TX 78664	City/State/Zip	Omaha, NE 681790750	G	
Phone	(512) 671-3434	Phone		H	
Fax	(512) 671-3446	Fax		I	
e-Mail Address		e-Mail Address		J	

No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
1	SO-1620-CSFE1(0-5)-20160129	1/29/16	750	Soil	—	1	X	X	X								
2	SO-1620-CSFE2(0-5)-20160129		745		—	1	X	X	X								
3	SO-1620-CSDW1(0-5)-20160129		805		—	1	X	X	X								
4	SO-1620-CSDW2(0-5)-20160129		803		—	1	X	X	X								
5	SO-1620-CSDS1(0-5)-20160129		801		—	1	X	X	X								
6	SO-1620-CSDS2(0-5)-20160129		1255		—	1	X	X	X								
7	SO-1620-CSDE1(0-5)-20160129		1257		—	1	X	X	X								
8	SO-1620-CSDE2(0-5)-20160129		1259		—	1	X	X	X								
9																	
10																	

Sampler(s) Please Print & Sign: Kevin Dwoosly

Shipment Method: Drop

Required Turnaround Time: (Check Box) TAT: 1 days Other:

Results Due Date:

Relinquished by: Date: 1/29/16 Time: 1405 Received by:

Relinquished by: Date: Time: Received by (Laboratory): cc 1/29/16 1405

Logged by (Laboratory): Date: Time: Checked by (Laboratory):

Notes: [UPRR Houston MWPW]

Cooler ID	Cooler Temp.
N/A	0.9
IRS	

QC Package: (Check One Box Below)

QC Level: TRRP LRC

Other:

Preservative Key: 1-HCl 2-HNO_3 3-H_2SO_4 4-NaOH 5-$Na_2S_2O_3$ 6-$NaHSO_4$ 7-Other 8-4°C 9-5035

Note:
1. Any changes must be made in writing once samples and COC Form have been submitted to ALS Environmental.
2. Unless otherwise agreed in a formal contract, services provided by ALS Environmental are expressly limited to the terms and conditions stated on the reverse.
3. The Chain of Custody is a legal document. All information must be completed accurately.

10450 Stancliff Rd. Suite 210
Houston, TX 77099
T: +1 281 530 5656
F: +1 281 530 5887
www.alsglobal.com

February 02, 2016

Eric Matzner
Pastor, Behling & Wheeler, LLC
2201 Double Creek Drive
Suite 4004
Round Rock, TX 78664

Work Order: **HS16020012**

Laboratory Results for: **1620-10-Rev1 HoustonTX-Wood**

Dear Eric,

ALS Environmental received 6 sample(s) on Feb 01, 2016 for the analysis presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested. Results are expressed as "as received" unless otherwise noted.

QC sample results for this data met EPA or laboratory specifications except as noted in the Case Narrative or as noted with qualifiers in the QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained by ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

If you have any questions regarding this report, please feel free to call me.

Sincerely,

Generated By: Jumoke.Lawal
Dane J. Wacasey

Client:	Pastor, Behling & Wheeler, LLC	**TRRP Laboratory Data Package Cover Page**
Project:	1620-10-Rev1 HoustonTX-Wood	
WorkOrder:	**HS16020012**	

This data package consists of all or some of the following as applicable:

This signature page, the laboratory review checklist, and the following reportable data:

R1 Field chain-of-custody documentation;

R2 Sample identification cross-reference;

R3 Test reports (analytical data sheets) for each environmental sample that includes:

a) Items consistent with NELAC Chapter 5,
b) dilution factors,
c) preparation methods,
d) cleanup methods, and
e) if required for the project, tentatively identified compounds (TICs).

R4 Surrogate recovery data including:

a) Calculated recovery (%R), and
b) The laboratory's surrogate QC limits.

R5 Test reports/summary forms for blank samples;

R6 Test reports/summary forms for laboratory control samples (LCSs) including:

a) LCS spiking amounts,
b) Calculated %R for each analyte, and
c)The laboratory's LCS QC limits.

R7 Test reports for project matrix spike/matrix spike duplicates (MS/MSDs) including:

a) Samples associated with the MS/MSD clearly identified,
b) MS/MSD spiking amounts,
c) Concentration of each MS/MSD analyte measured in the parent and spiked samples,
d) Calculated %Rs and relative percent differences (RPDs), and
e) The laboratory's MS/MSD QC limits.

R8 Laboratory analytical duplicate (if applicable) recovery and precision:

a) the amount of analyte measured in the duplicate,
b) the calculated RPD, and
c) the laboratory's QC limits for analytical duplicates.

R9 List of method quantitation limits (MQLs) and detectability check sample results for each analyte for each method and matrix.

R10 Other problems or anomalies.
The Exception Report for each "No" or "Not Reviewed (NR)" item in Laboratory Review Checklist and for each analyte, matrix, and method for which the laboratory does not hold NELAC accreditation under the Texas Laboratory Accreditation Program.

Client:	Pastor, Behling & Wheeler, LLC
Project:	1620-10-Rev1 HoustonTX-Wood
WorkOrder:	**HS16020012**

TRRP Laboratory Data Package Cover Page

Release Statement: I am responsible for the release of this laboratory data package. This laboratory is NELAC accredited under the Texas Laboratory Accreditation Program for all the methods, analytes and matrices reported in this data package except as noted in the Exception Reports. The data have been reviewed and are technically compliant with the requirements of the methods used, except where noted by the laboratory in the attached exception reports. By my signature below, I affirm to the best of my knowledge, all problems/anomalies, observed by the laboratory have been identified by the laboratory in the Laboratory Review Checklist, and no information affecting the quality of the data has been knowingly withheld.

Check, if applicable: [NA] This laboratory meets an exception under 30 TAC §25.6 and was last inspected by [ ] TCEQ or [ ] _____ on (enter date of last inspection). Any findings affecting the data in this laboratory data package are noted in the Exception Reports herein. The official signing the cover page of the report in which these data are used is responsible for releasing this data package and is by signature affirming the above release statement is true.

Dane J. Wacasey

Laboratory Review Checklist: Reportable Data								
Laboratory Name: ALS Laboratory Group			LRC Date: 02/02/2016					
Project Name: 1620-10-Rev1 HoustonTX-Wood			Laboratory Job Number: HS16020012					
Reviewer Name: Dane Wacasey			Prep Batch Number(s): 101063,101078,R268647					
#[1]	A[2]	Description	Yes	No	NA[3]	NR[4]	ER#[5]	
R1	OI	**Chain-of-custody (C-O-C)**						
		Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?	X					
		Were all departures from standard conditions described in an exception report?	X					
R2	OI	**Sample and quality control (QC) identification**						
		Are all field sample ID numbers cross-referenced to the laboratory ID numbers?	X					
		Are all laboratory ID numbers cross-referenced to the corresponding QC data?	X					
R3	OI	**Test reports**						
		Were all samples prepared and analyzed within holding times?	X					
		Other than those results < MQL, were all other raw values bracketed by calibration standards?	X					
		Were calculations checked by a peer or supervisor?	X					
		Were all analyte identifications checked by a peer or supervisor?	X					
		Were sample detection limits reported for all analytes not detected?	X					
		Were all results for soil and sediment samples reported on a dry weight basis?	X					
		Were % moisture (or solids) reported for all soil and sediment samples?	X					
		Were bulk soils/solids samples for volatile analysis extracted with methanol per SW-846 Method 5035?			X			
		If required for the project, TICs reported?			X			
R4	O	**Surrogate recovery data**						
		Were surrogates added prior to extraction?	X					
		Were surrogate percent recoveries in all samples within the laboratory QC limits?		X			1	
R5	OI	**Test reports/summary forms for blank samples**						
		Were appropriate type(s) of blanks analyzed?	X					
		Were blanks analyzed at the appropriate frequency?	X					
		Were method blanks taken through the entire analytical process, including preparation and, if applicable, cleanup procedures?	X					
		Were blank concentrations < MQL?	X					
R6	OI	**Laboratory control samples (LCS):**						
		Were all COCs included in the LCS?	X					
		Was each LCS taken through the entire analytical procedure, including prep and cleanup steps?	X					
		Were LCSs analyzed at the required frequency?	X					
		Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?	X					
		Does the detectability data document the laboratory's capability to detect the COCs at the MDL used to calculate the SDLs?	X					
		Was the LCSD RPD within QC limits?	X					
R7	OI	**Matrix spike (MS) and matrix spike duplicate (MSD) data**						
		Were the project/method specified analytes included in the MS and MSD?	X					
		Were MS/MSD analyzed at the appropriate frequency?	X					
		Were MS (and MSD, if applicable) %Rs within the laboratory QC limits?		X			2	
		Were MS/MSD RPDs within laboratory QC limits?		X			3	
R8	OI	**Analytical duplicate data**						
		Were appropriate analytical duplicates analyzed for each matrix?	X					
		Were analytical duplicates analyzed at the appropriate frequency?	X					
		Were RPDs or relative standard deviations within the laboratory QC limits?	X					
R9	OI	**Method quantitation limits (MQLs):**						
		Are the MQLs for each method analyte included in the laboratory data package?	X					
		Do the MQLs correspond to the concentration of the lowest non-zero calibration standard?	X					
		Are unadjusted MQLs and DCSs included in the laboratory data package?	X					
R10	OI	**Other problems/anomalies**						
		Are all known problems/anomalies/special conditions noted in this LRC and ER?	X					
		Were all necessary corrective actions performed for the reported data?	X					
		Was applicable and available technology used to lower the SDL and minimize the matrix interference affects on the sample results?	X					
		Is the laboratory NELAC-accredited under the Texas Laboratory Program for the analytes, matrices and methods associated with this laboratory data package?	X					

Laboratory Review Checklist: Reportable Data							
Laboratory Name: ALS Laboratory Group			LRC Date: 02/02/2016				
Project Name: 1620-10-Rev1 HoustonTX-Wood			Laboratory Job Number: HS16020012				
Reviewer Name: Dane Wacasey			Prep Batch Number(s): 101063,101078,R268647				
#[1]	A[2]	Description	Yes	No	NA[3]	NR[4]	ER#[5]
S1	OI	**Initial calibration (ICAL)**					
		Were response factors and/or relative response factors for each analyte within QC limits?	X				
		Were percent RSDs or correlation coefficient criteria met?	X				
		Was the number of standards recommended in the method used for all analytes?	X				
		Were all points generated between the lowest and highest standard used to calculate the curve?	X				
		Are ICAL data available for all instruments used?	X				
		Has the initial calibration curve been verified using an appropriate second source standard?	X				
S2	OI	**Initial and continuing calibration verification (ICCV and CCV) and continuing calibration blank (CCB)**					
		Was the CCV analyzed at the method-required frequency?	X				
		Were percent differences for each analyte within the method-required QC limits?	X				
		Was the ICAL curve verified for each analyte?	X				
		Was the absolute value of the analyte concentration in the inorganic CCB < MDL?	X				
S3	O	**Mass spectral tuning:**					
		Was the appropriate compound for the method used for tuning?	X				
		Were ion abundance data within the method-required QC limits?	X				
S4	O	**Internal standards (IS):**					
		Were IS area counts and retention times within the method-required QC limits?		X			4
S5	OI	**Raw data** (NELAC section 1 appendix A glossary, and section 5.12 or ISO/IEC 17025 section					
		Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst?	X				
		Were data associated with manual integrations flagged on the raw data?	X				
S6	O	**Dual column confirmation**					
		Did dual column confirmation results meet the method-required QC?			X		
S7	O	**Tentatively identified compounds (TICs):**					
		If TICs were requested, were the mass spectra and TIC data subject to appropriate checks?			X		
S8	I	**Interference Check Sample (ICS) results:**					
		Were percent recoveries within method QC limits?	X				
S9	I	**Serial dilutions, post digestion spikes, and method of standard additions**					
		Were percent differences, recoveries, and the linearity within the QC limits specified in the method?	X				
S10	OI	**Method detection limit (MDL) studies**					
		Was a MDL study performed for each reported analyte?	X				
		Is the MDL either adjusted or supported by the analysis of DCSs?	X				
S11	OI	**Proficiency test reports:**					
		Was the laboratory's performance acceptable on the applicable proficiency tests or evaluation studies?	X				
S12	OI	**Standards documentation**					
		Are all standards used in the analyses NIST-traceable or obtained from other appropriate sources?	X				
S13	OI	**Compound/analyte identification procedures**					
		Are the procedures for compound/analyte identification documented?	X				
S14	OI	**Demonstration of analyst competency (DOC)**					
		Was DOC conducted consistent with NELAC Chapter 5C or ISO/IEC 4?	X				
		Is documentation of the analyst's competency up-to-date and on file?	X				
S15	OI	**Verification/validation documentation for methods** (NELAC Chap 5 or ISO/IEC 17025 Section 5)					
		Are all the methods used to generate the data documented, verified, and validated, where applicable?	X				
S16	OI	**Laboratory standard operating procedures (SOPs):**					
		Are laboratory SOPs current and on file for each method performed?	X				

Items identified by the letter "R" must be included in the laboratory data package submitted in the TRRP-required report(s). Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period.
O = Organic Analyses; I = Inorganic Analyses (and general chemistry, when applicable);
NA = Not Applicable;
NR = Not Reviewed;
R# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

Laboratory Review Checklist: Reportable Data	
Laboratory Name: ALS Laboratory Group	LRC Date: 02/02/2016
Project Name: 1620-10-Rev1 HoustonTX-Wood	Laboratory Job Number: HS16020012
Reviewer Name: Dane Wacasey	Prep Batch Number(s): 101063,101078,R268647

ER#[5]	Description
1	Semivolatile Organics Method SW8270, sample SO-1620-CSDN2(0-5)-20160130, surrogate 2,4,6-Tribromophenol recovered above the upper control limit due to sample matrix effects. During concentration, the extract became viscous and could not concentrate to 1 mL. Final extracts were delivered at 10mL final volume.
2	Batch 101063, Metals Method SW6020, sample HS16011094-08, MS and MSD were performed on unrelated sample. Batch 101078, Semivolatile Organics Method SW8270, sample SO-1620-CSEE1(0-5)-20160201 MS recovered below the lower control limit for Benzo(a)pyrene
3	Batch 101078, Semivolatile Organics Method SW8270, sample SO-1620-CSEE1(0-5)-20160201, MSD RPD criterion was exceeded for Benzo(a)pyrene and Fluoranthene due to non-homogeneity of the soil matrix and/or matrix interference.
4	Semivolatile Organics Method SW8270, samples SO-1620-CSDN2(0-5)-20160130, SO-1620-CSEW1(0-5)-20160130, SO-1620-CSEE1(0-5)-20160201, SO-1620-CSEE1(0-5)-20160201 and SO-1620-CSEE1(0-5)-20160201: One or more of the GCMS semi-volatile internal standards were recovered at <50%. The samples were re-analyzed with similar results indicating sample matrix interference.

Items identified by the letter "R" must be included in the laboratory data package submitted in the TRRP-required report(s). Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period.
O = Organic Analyses; I = Inorganic Analyses (and general chemistry, when applicable);
NA = Not Applicable;
NR = Not Reviewed;
R# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
Work Order: HS16020012

SAMPLE SUMMARY

Lab Samp ID	Client Sample ID	Matrix	TagNo	Collection Date	Date Received	Hold
HS16020012-01	SO-1620-CSDN1(0-5)-20160130	Soil		30-Jan-2016 09:26	01-Feb-2016 09:20	☐
HS16020012-02	SO-1620-CSDN2(0-5)-20160130	Soil		30-Jan-2016 09:24	01-Feb-2016 09:20	☐
HS16020012-03	SO-1620-CSEN1(0-5)-20160130	Soil		30-Jan-2016 14:45	01-Feb-2016 09:20	☐
HS16020012-04	SO-1620-CSEW1(0-5)-20160130	Soil		30-Jan-2016 14:47	01-Feb-2016 09:20	☐
HS16020012-05	SO-1620-CSES1(0-5)-20160130	Soil		30-Jan-2016 14:51	01-Feb-2016 09:20	☐
HS16020012-06	SO-1620-CSEE1(0-5)-20160201	Soil		01-Feb-2016 08:25	01-Feb-2016 09:20	☐

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
Sample ID: SO-1620-CSDN1(0-5)-20160130
Collection Date: 30-Jan-2016 09:26

ANALYTICAL REPORT
WorkOrder:HS16020012
Lab ID:HS16020012-01
Matrix:Soil

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES	**Method:SW8270**				Prep:SW3541 / 01-Feb-2016		Analyst: ACN
1,2-Diphenylhydrazine	U		0.0014	0.0083	mg/Kg-dry	1	01-Feb-2016 16:51
2,4-Dimethylphenol	U		0.0041	0.0083	mg/Kg-dry	1	01-Feb-2016 16:51
2,4-Dinitrotoluene	U		0.0011	0.0083	mg/Kg-dry	1	01-Feb-2016 16:51
2,6-Dinitrotoluene	U		0.0041	0.0083	mg/Kg-dry	1	01-Feb-2016 16:51
2-Chloronaphthalene	U		0.0016	0.0083	mg/Kg-dry	1	01-Feb-2016 16:51
2-Methylnaphthalene	U		0.00063	0.0041	mg/Kg-dry	1	01-Feb-2016 16:51
4,6-Dinitro-2-methylphenol	U		0.0026	0.0083	mg/Kg-dry	1	01-Feb-2016 16:51
4-Nitrophenol	U		0.0024	0.017	mg/Kg-dry	1	01-Feb-2016 16:51
Acenaphthene	**0.021**		**0.00063**	**0.0041**	**mg/Kg-dry**	1	01-Feb-2016 16:51
Acenaphthylene	**0.097**		**0.0013**	**0.0041**	**mg/Kg-dry**	1	01-Feb-2016 16:51
Anthracene	**0.038**		**0.00063**	**0.0041**	**mg/Kg-dry**	1	01-Feb-2016 16:51
Benz(a)anthracene	**0.28**		**0.0020**	**0.0041**	**mg/Kg-dry**	1	01-Feb-2016 16:51
Benzo(a)pyrene	**0.41**		**0.0013**	**0.0041**	**mg/Kg-dry**	1	01-Feb-2016 16:51
Bis(2-chloroethoxy)methane	U		0.0011	0.0083	mg/Kg-dry	1	01-Feb-2016 16:51
Bis(2-ethylhexyl)phthalate	**0.0072**	J	**0.0021**	**0.0083**	**mg/Kg-dry**	1	01-Feb-2016 16:51
Chrysene	**0.37**		**0.0010**	**0.0041**	**mg/Kg-dry**	1	01-Feb-2016 16:51
Dibenzofuran	U		0.00088	0.0041	mg/Kg-dry	1	01-Feb-2016 16:51
Di-n-butyl phthalate	**0.0031**	J	**0.0015**	**0.0083**	**mg/Kg-dry**	1	01-Feb-2016 16:51
Fluoranthene	**1.1**		**0.0069**	**0.021**	**mg/Kg-dry**	5	01-Feb-2016 19:26
Fluorene	**0.0075**		**0.0014**	**0.0041**	**mg/Kg-dry**	1	01-Feb-2016 16:51
Naphthalene	U		0.00075	0.0041	mg/Kg-dry	1	01-Feb-2016 16:51
Nitrobenzene	U		0.0011	0.0083	mg/Kg-dry	1	01-Feb-2016 16:51
N-Nitrosodiphenylamine	U		0.00088	0.0083	mg/Kg-dry	1	01-Feb-2016 16:51
Pentachlorophenol	U		0.0041	0.0083	mg/Kg-dry	1	01-Feb-2016 16:51
Phenanthrene	**0.0060**		**0.0019**	**0.0041**	**mg/Kg-dry**	1	01-Feb-2016 16:51
Phenol	**0.0024**	J	**0.0014**	**0.0083**	**mg/Kg-dry**	1	01-Feb-2016 16:51
Pyrene	**0.78**		**0.0038**	**0.021**	**mg/Kg-dry**	5	01-Feb-2016 19:26
Surr: 2,4,6-Tribromophenol	*122*			*36-126*	*%REC*	*1*	*01-Feb-2016 16:51*
Surr: 2,4,6-Tribromophenol	*87.3*			*36-126*	*%REC*	*5*	*01-Feb-2016 19:26*
Surr: 2-Fluorobiphenyl	*91.5*			*43-125*	*%REC*	*1*	*01-Feb-2016 16:51*
Surr: 2-Fluorobiphenyl	*59.9*			*43-125*	*%REC*	*5*	*01-Feb-2016 19:26*
Surr: 2-Fluorophenol	*68.9*			*37-125*	*%REC*	*1*	*01-Feb-2016 16:51*
Surr: 2-Fluorophenol	*40.2*			*37-125*	*%REC*	*5*	*01-Feb-2016 19:26*
Surr: 4-Terphenyl-d14	*88.9*			*32-125*	*%REC*	*1*	*01-Feb-2016 16:51*
Surr: 4-Terphenyl-d14	*98.0*			*32-125*	*%REC*	*5*	*01-Feb-2016 19:26*
Surr: Nitrobenzene-d5	*89.5*			*37-125*	*%REC*	*1*	*01-Feb-2016 16:51*
Surr: Nitrobenzene-d5	*71.4*			*37-125*	*%REC*	*5*	*01-Feb-2016 19:26*
Surr: Phenol-d6	*89.1*			*40-125*	*%REC*	*1*	*01-Feb-2016 16:51*
Surr: Phenol-d6	*80.0*			*40-125*	*%REC*	*5*	*01-Feb-2016 19:26*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
Sample ID: SO-1620-CSDN1(0-5)-20160130
Collection Date: 30-Jan-2016 09:26

ANALYTICAL REPORT
WorkOrder:HS16020012
Lab ID:HS16020012-01
Matrix:Soil

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
METALS BY SW6020A	**Method:SW6020**				Prep:SW3050A / 01-Feb-2016		Analyst: JDE
Arsenic	**8.53**		**0.122**	**0.612**	**mg/Kg-dry**	1	01-Feb-2016 18:38
Lead	**24.1**		**0.0612**	**0.612**	**mg/Kg-dry**	1	01-Feb-2016 18:38
MOISTURE - ASTM D2216	**Method:ASTM D2216**						Analyst: DFF
Percent Moisture	**20.3**		**0.0100**	**0.0100**	**wt%**	1	01-Feb-2016 10:41

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
Sample ID: SO-1620-CSDN2(0-5)-20160130
Collection Date: 30-Jan-2016 09:24

ANALYTICAL REPORT
WorkOrder:HS16020012
Lab ID:HS16020012-02
Matrix:Soil

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES		**Method:SW8270**			Prep:SW3541 / 01-Feb-2016		Analyst: ACN
1,2-Diphenylhydrazine	U		0.013	0.080	mg/Kg-dry	1	01-Feb-2016 17:10
2,4-Dimethylphenol	U		0.040	0.080	mg/Kg-dry	1	01-Feb-2016 17:10
2,4-Dinitrotoluene	U		0.011	0.080	mg/Kg-dry	1	01-Feb-2016 17:10
2,6-Dinitrotoluene	U		0.040	0.080	mg/Kg-dry	1	01-Feb-2016 17:10
2-Chloronaphthalene	U		0.016	0.080	mg/Kg-dry	1	01-Feb-2016 17:10
2-Methylnaphthalene	U		0.0060	0.040	mg/Kg-dry	1	01-Feb-2016 17:10
4,6-Dinitro-2-methylphenol	U		0.025	0.080	mg/Kg-dry	1	01-Feb-2016 17:10
4-Nitrophenol	U		0.023	0.16	mg/Kg-dry	1	01-Feb-2016 17:10
Acenaphthene	**0.039**	J	**0.0060**	**0.040**	**mg/Kg-dry**	1	01-Feb-2016 17:10
Acenaphthylene	**0.25**		**0.012**	**0.040**	**mg/Kg-dry**	1	01-Feb-2016 17:10
Anthracene	**0.17**		**0.0060**	**0.040**	**mg/Kg-dry**	1	01-Feb-2016 17:10
Benz(a)anthracene	**0.34**		**0.019**	**0.040**	**mg/Kg-dry**	1	01-Feb-2016 17:10
Benzo(a)pyrene	**1.1**		**0.012**	**0.040**	**mg/Kg-dry**	1	01-Feb-2016 17:10
Bis(2-chloroethoxy)methane	U		0.011	0.080	mg/Kg-dry	1	01-Feb-2016 17:10
Bis(2-ethylhexyl)phthalate	**0.042**	J	**0.021**	**0.080**	**mg/Kg-dry**	1	01-Feb-2016 17:10
Chrysene	**0.61**		**0.0097**	**0.040**	**mg/Kg-dry**	1	01-Feb-2016 17:10
Dibenzofuran	U		0.0084	0.040	mg/Kg-dry	1	01-Feb-2016 17:10
Di-n-butyl phthalate	U		0.014	0.080	mg/Kg-dry	1	01-Feb-2016 17:10
Fluoranthene	**0.73**		**0.013**	**0.040**	**mg/Kg-dry**	1	01-Feb-2016 17:10
Fluorene	U		0.013	0.040	mg/Kg-dry	1	01-Feb-2016 17:10
Naphthalene	U		0.0072	0.040	mg/Kg-dry	1	01-Feb-2016 17:10
Nitrobenzene	U		0.011	0.080	mg/Kg-dry	1	01-Feb-2016 17:10
N-Nitrosodiphenylamine	U		0.0084	0.080	mg/Kg-dry	1	01-Feb-2016 17:10
Pentachlorophenol	U		0.040	0.080	mg/Kg-dry	1	01-Feb-2016 17:10
Phenanthrene	**0.061**		**0.018**	**0.040**	**mg/Kg-dry**	1	01-Feb-2016 17:10
Phenol	U		0.013	0.080	mg/Kg-dry	1	01-Feb-2016 17:10
Pyrene	**0.63**		**0.0072**	**0.040**	**mg/Kg-dry**	1	01-Feb-2016 17:10
Surr: 2,4,6-Tribromophenol	*131*	*S*		*36-126*	*%REC*	*1*	*01-Feb-2016 17:10*
Surr: 2-Fluorobiphenyl	*87.6*			*43-125*	*%REC*	*1*	*01-Feb-2016 17:10*
Surr: 2-Fluorophenol	*58.6*			*37-125*	*%REC*	*1*	*01-Feb-2016 17:10*
Surr: 4-Terphenyl-d14	*105*			*32-125*	*%REC*	*1*	*01-Feb-2016 17:10*
Surr: Nitrobenzene-d5	*121*			*37-125*	*%REC*	*1*	*01-Feb-2016 17:10*
Surr: Phenol-d6	*85.1*			*40-125*	*%REC*	*1*	*01-Feb-2016 17:10*
METALS BY SW6020A		**Method:SW6020**			Prep:SW3050A / 01-Feb-2016		Analyst: JDE
Arsenic	**3.04**		**0.111**	**0.555**	**mg/Kg-dry**	1	01-Feb-2016 18:42
Lead	**12.7**		**0.0555**	**0.555**	**mg/Kg-dry**	1	01-Feb-2016 18:42
MOISTURE - ASTM D2216		**Method:ASTM D2216**					Analyst: DFF
Percent Moisture	**17.4**		**0.0100**	**0.0100**	**wt%**	1	01-Feb-2016 10:41

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
Sample ID: SO-1620-CSEN1(0-5)-20160130
Collection Date: 30-Jan-2016 14:45

ANALYTICAL REPORT
WorkOrder:HS16020012
Lab ID:HS16020012-03
Matrix:Soil

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES		**Method:SW8270**			Prep:SW3541 / 01-Feb-2016		Analyst: ACN
1,2-Diphenylhydrazine	U		0.0013	0.0078	mg/Kg-dry	1	01-Feb-2016 20:25
2,4-Dimethylphenol	U		0.0039	0.0078	mg/Kg-dry	1	01-Feb-2016 20:25
2,4-Dinitrotoluene	U		0.0011	0.0078	mg/Kg-dry	1	01-Feb-2016 20:25
2,6-Dinitrotoluene	U		0.0039	0.0078	mg/Kg-dry	1	01-Feb-2016 20:25
2-Chloronaphthalene	U		0.0015	0.0078	mg/Kg-dry	1	01-Feb-2016 20:25
2-Methylnaphthalene	U		0.00059	0.0039	mg/Kg-dry	1	01-Feb-2016 20:25
4,6-Dinitro-2-methylphenol	U		0.0025	0.0078	mg/Kg-dry	1	01-Feb-2016 20:25
4-Nitrophenol	U		0.0023	0.016	mg/Kg-dry	1	01-Feb-2016 20:25
Acenaphthene	U		0.00059	0.0039	mg/Kg-dry	1	01-Feb-2016 20:25
Acenaphthylene	**0.0032**	J	**0.0012**	**0.0039**	**mg/Kg-dry**	1	01-Feb-2016 20:25
Anthracene	**0.0062**		**0.00059**	**0.0039**	**mg/Kg-dry**	1	01-Feb-2016 20:25
Benz(a)anthracene	**0.019**		**0.0019**	**0.0039**	**mg/Kg-dry**	1	01-Feb-2016 20:25
Benzo(a)pyrene	**0.017**		**0.0012**	**0.0039**	**mg/Kg-dry**	1	01-Feb-2016 20:25
Bis(2-chloroethoxy)methane	U		0.0011	0.0078	mg/Kg-dry	1	01-Feb-2016 20:25
Bis(2-ethylhexyl)phthalate	**0.0033**	J	**0.0020**	**0.0078**	**mg/Kg-dry**	1	01-Feb-2016 20:25
Chrysene	**0.029**		**0.00095**	**0.0039**	**mg/Kg-dry**	1	01-Feb-2016 20:25
Dibenzofuran	U		0.00083	0.0039	mg/Kg-dry	1	01-Feb-2016 20:25
Di-n-butyl phthalate	U		0.0014	0.0078	mg/Kg-dry	1	01-Feb-2016 20:25
Fluoranthene	**0.037**		**0.0013**	**0.0039**	**mg/Kg-dry**	1	01-Feb-2016 20:25
Fluorene	U		0.0013	0.0039	mg/Kg-dry	1	01-Feb-2016 20:25
Naphthalene	U		0.00071	0.0039	mg/Kg-dry	1	01-Feb-2016 20:25
Nitrobenzene	U		0.0011	0.0078	mg/Kg-dry	1	01-Feb-2016 20:25
N-Nitrosodiphenylamine	U		0.00083	0.0078	mg/Kg-dry	1	01-Feb-2016 20:25
Pentachlorophenol	U		0.0039	0.0078	mg/Kg-dry	1	01-Feb-2016 20:25
Phenanthrene	**0.0070**		**0.0018**	**0.0039**	**mg/Kg-dry**	1	01-Feb-2016 20:25
Phenol	**0.0064**	J	**0.0013**	**0.0078**	**mg/Kg-dry**	1	01-Feb-2016 20:25
Pyrene	**0.036**		**0.00071**	**0.0039**	**mg/Kg-dry**	1	01-Feb-2016 20:25
Surr: 2,4,6-Tribromophenol	*117*			*36-126*	*%REC*	*1*	*01-Feb-2016 20:25*
Surr: 2-Fluorobiphenyl	*91.8*			*43-125*	*%REC*	*1*	*01-Feb-2016 20:25*
Surr: 2-Fluorophenol	*90.0*			*37-125*	*%REC*	*1*	*01-Feb-2016 20:25*
Surr: 4-Terphenyl-d14	*108*			*32-125*	*%REC*	*1*	*01-Feb-2016 20:25*
Surr: Nitrobenzene-d5	*104*			*37-125*	*%REC*	*1*	*01-Feb-2016 20:25*
Surr: Phenol-d6	*108*			*40-125*	*%REC*	*1*	*01-Feb-2016 20:25*
METALS BY SW6020A		**Method:SW6020**			Prep:SW3050A / 01-Feb-2016		Analyst: JDE
Arsenic	**1.05**		**0.112**	**0.561**	**mg/Kg-dry**	1	01-Feb-2016 18:46
Lead	**7.28**		**0.0561**	**0.561**	**mg/Kg-dry**	1	01-Feb-2016 18:46
MOISTURE - ASTM D2216		**Method:ASTM D2216**					Analyst: DFF
Percent Moisture	**16.1**		**0.0100**	**0.0100**	**wt%**	1	01-Feb-2016 10:41

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
Sample ID: SO-1620-CSEW1(0-5)-20160130
Collection Date: 30-Jan-2016 14:47

ANALYTICAL REPORT
WorkOrder:HS16020012
Lab ID:HS16020012-04
Matrix:Soil

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES	**Method:SW8270**				Prep:SW3541 / 01-Feb-2016		Analyst: ACN
1,2-Diphenylhydrazine	U		0.0013	0.0080	mg/Kg-dry	1	01-Feb-2016 17:49
2,4-Dimethylphenol	U		0.0040	0.0080	mg/Kg-dry	1	01-Feb-2016 17:49
2,4-Dinitrotoluene	U		0.0011	0.0080	mg/Kg-dry	1	01-Feb-2016 17:49
2,6-Dinitrotoluene	U		0.0040	0.0080	mg/Kg-dry	1	01-Feb-2016 17:49
2-Chloronaphthalene	U		0.0016	0.0080	mg/Kg-dry	1	01-Feb-2016 17:49
2-Methylnaphthalene	**0.016**		**0.00060**	**0.0040**	**mg/Kg-dry**	1	01-Feb-2016 17:49
4,6-Dinitro-2-methylphenol	U		0.0025	0.0080	mg/Kg-dry	1	01-Feb-2016 17:49
4-Nitrophenol	U		0.0023	0.016	mg/Kg-dry	1	01-Feb-2016 17:49
Acenaphthene	**0.100**		**0.00060**	**0.0040**	**mg/Kg-dry**	1	01-Feb-2016 17:49
Acenaphthylene	**0.055**		**0.0012**	**0.0040**	**mg/Kg-dry**	1	01-Feb-2016 17:49
Anthracene	**0.14**		**0.00060**	**0.0040**	**mg/Kg-dry**	1	01-Feb-2016 17:49
Benz(a)anthracene	**0.18**		**0.0019**	**0.0040**	**mg/Kg-dry**	1	01-Feb-2016 17:49
Benzo(a)pyrene	**0.25**		**0.0012**	**0.0040**	**mg/Kg-dry**	1	01-Feb-2016 17:49
Bis(2-chloroethoxy)methane	U		0.0011	0.0080	mg/Kg-dry	1	01-Feb-2016 17:49
Bis(2-ethylhexyl)phthalate	**0.0063**	J	**0.0021**	**0.0080**	**mg/Kg-dry**	1	01-Feb-2016 17:49
Chrysene	**0.26**		**0.00096**	**0.0040**	**mg/Kg-dry**	1	01-Feb-2016 17:49
Dibenzofuran	**0.070**		**0.00084**	**0.0040**	**mg/Kg-dry**	1	01-Feb-2016 17:49
Di-n-butyl phthalate	**0.0025**	J	**0.0014**	**0.0080**	**mg/Kg-dry**	1	01-Feb-2016 17:49
Fluoranthene	**0.76**		**0.0066**	**0.020**	**mg/Kg-dry**	5	01-Feb-2016 19:46
Fluorene	**0.070**		**0.0013**	**0.0040**	**mg/Kg-dry**	1	01-Feb-2016 17:49
Naphthalene	**0.029**		**0.00072**	**0.0040**	**mg/Kg-dry**	1	01-Feb-2016 17:49
Nitrobenzene	U		0.0011	0.0080	mg/Kg-dry	1	01-Feb-2016 17:49
N-Nitrosodiphenylamine	U		0.00084	0.0080	mg/Kg-dry	1	01-Feb-2016 17:49
Pentachlorophenol	U		0.0040	0.0080	mg/Kg-dry	1	01-Feb-2016 17:49
Phenanthrene	**0.37**		**0.0090**	**0.020**	**mg/Kg-dry**	5	01-Feb-2016 19:46
Phenol	**0.0029**	J	**0.0013**	**0.0080**	**mg/Kg-dry**	1	01-Feb-2016 17:49
Pyrene	**0.47**		**0.0036**	**0.020**	**mg/Kg-dry**	5	01-Feb-2016 19:46
Surr: 2,4,6-Tribromophenol	*112*			*36-126*	*%REC*	*1*	*01-Feb-2016 17:49*
Surr: 2,4,6-Tribromophenol	*89.9*			*36-126*	*%REC*	*5*	*01-Feb-2016 19:46*
Surr: 2-Fluorobiphenyl	*67.8*			*43-125*	*%REC*	*5*	*01-Feb-2016 19:46*
Surr: 2-Fluorobiphenyl	*90.3*			*43-125*	*%REC*	*1*	*01-Feb-2016 17:49*
Surr: 2-Fluorophenol	*98.3*			*37-125*	*%REC*	*1*	*01-Feb-2016 17:49*
Surr: 2-Fluorophenol	*64.9*			*37-125*	*%REC*	*5*	*01-Feb-2016 19:46*
Surr: 4-Terphenyl-d14	*72.3*			*32-125*	*%REC*	*5*	*01-Feb-2016 19:46*
Surr: 4-Terphenyl-d14	*73.4*			*32-125*	*%REC*	*1*	*01-Feb-2016 17:49*
Surr: Nitrobenzene-d5	*67.3*			*37-125*	*%REC*	*5*	*01-Feb-2016 19:46*
Surr: Nitrobenzene-d5	*93.5*			*37-125*	*%REC*	*1*	*01-Feb-2016 17:49*
Surr: Phenol-d6	*60.9*			*40-125*	*%REC*	*5*	*01-Feb-2016 19:46*
Surr: Phenol-d6	*86.7*			*40-125*	*%REC*	*1*	*01-Feb-2016 17:49*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
Sample ID: SO-1620-CSEW1(0-5)-20160130
Collection Date: 30-Jan-2016 14:47

ANALYTICAL REPORT
WorkOrder:HS16020012
Lab ID:HS16020012-04
Matrix:Soil

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
METALS BY SW6020A	**Method:SW6020**				Prep:SW3050A / 01-Feb-2016		Analyst: JDE
Arsenic	**1.99**		**0.116**	**0.581**	**mg/Kg-dry**	1	01-Feb-2016 18:51
Lead	**13.0**		**0.0581**	**0.581**	**mg/Kg-dry**	1	01-Feb-2016 18:51
MOISTURE - ASTM D2216	**Method:ASTM D2216**						Analyst: DFF
Percent Moisture	**17.5**		**0.0100**	**0.0100**	**wt%**	1	01-Feb-2016 10:41

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
Sample ID: SO-1620-CSES1(0-5)-20160130
Collection Date: 30-Jan-2016 14:51

ANALYTICAL REPORT
WorkOrder:HS16020012
Lab ID:HS16020012-05
Matrix:Soil

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES		**Method:SW8270**			Prep:SW3541 / 01-Feb-2016		Analyst: ACN
1,2-Diphenylhydrazine	U		0.013	0.080	mg/Kg-dry	1	01-Feb-2016 20:44
2,4-Dimethylphenol	U		0.040	0.080	mg/Kg-dry	1	01-Feb-2016 20:44
2,4-Dinitrotoluene	U		0.011	0.080	mg/Kg-dry	1	01-Feb-2016 20:44
2,6-Dinitrotoluene	U		0.040	0.080	mg/Kg-dry	1	01-Feb-2016 20:44
2-Chloronaphthalene	U		0.016	0.080	mg/Kg-dry	1	01-Feb-2016 20:44
2-Methylnaphthalene	U		0.0061	0.040	mg/Kg-dry	1	01-Feb-2016 20:44
4,6-Dinitro-2-methylphenol	U		0.025	0.080	mg/Kg-dry	1	01-Feb-2016 20:44
4-Nitrophenol	U		0.023	0.16	mg/Kg-dry	1	01-Feb-2016 20:44
Acenaphthene	**0.028**	J	**0.0061**	**0.040**	**mg/Kg-dry**	1	01-Feb-2016 20:44
Acenaphthylene	**0.100**		**0.012**	**0.040**	**mg/Kg-dry**	1	01-Feb-2016 20:44
Anthracene	**0.036**	J	**0.0061**	**0.040**	**mg/Kg-dry**	1	01-Feb-2016 20:44
Benz(a)anthracene	**0.39**		**0.019**	**0.040**	**mg/Kg-dry**	1	01-Feb-2016 20:44
Benzo(a)pyrene	**0.65**		**0.012**	**0.040**	**mg/Kg-dry**	1	01-Feb-2016 20:44
Bis(2-chloroethoxy)methane	U		0.011	0.080	mg/Kg-dry	1	01-Feb-2016 20:44
Bis(2-ethylhexyl)phthalate	U		0.021	0.080	mg/Kg-dry	1	01-Feb-2016 20:44
Chrysene	**0.61**		**0.0097**	**0.040**	**mg/Kg-dry**	1	01-Feb-2016 20:44
Dibenzofuran	U		0.0085	0.040	mg/Kg-dry	1	01-Feb-2016 20:44
Di-n-butyl phthalate	U		0.015	0.080	mg/Kg-dry	1	01-Feb-2016 20:44
Fluoranthene	**0.91**		**0.013**	**0.040**	**mg/Kg-dry**	1	01-Feb-2016 20:44
Fluorene	U		0.013	0.040	mg/Kg-dry	1	01-Feb-2016 20:44
Naphthalene	U		0.0073	0.040	mg/Kg-dry	1	01-Feb-2016 20:44
Nitrobenzene	U		0.011	0.080	mg/Kg-dry	1	01-Feb-2016 20:44
N-Nitrosodiphenylamine	U		0.0085	0.080	mg/Kg-dry	1	01-Feb-2016 20:44
Pentachlorophenol	U		0.040	0.080	mg/Kg-dry	1	01-Feb-2016 20:44
Phenanthrene	**0.032**	J	**0.018**	**0.040**	**mg/Kg-dry**	1	01-Feb-2016 20:44
Phenol	U		0.013	0.080	mg/Kg-dry	1	01-Feb-2016 20:44
Pyrene	**0.85**		**0.0073**	**0.040**	**mg/Kg-dry**	1	01-Feb-2016 20:44
Surr: 2,4,6-Tribromophenol	*119*			*36-126*	*%REC*	*1*	*01-Feb-2016 20:44*
Surr: 2-Fluorobiphenyl	*98.3*			*43-125*	*%REC*	*1*	*01-Feb-2016 20:44*
Surr: 2-Fluorophenol	*59.0*			*37-125*	*%REC*	*1*	*01-Feb-2016 20:44*
Surr: 4-Terphenyl-d14	*115*			*32-125*	*%REC*	*1*	*01-Feb-2016 20:44*
Surr: Nitrobenzene-d5	*89.4*			*37-125*	*%REC*	*1*	*01-Feb-2016 20:44*
Surr: Phenol-d6	*94.8*			*40-125*	*%REC*	*1*	*01-Feb-2016 20:44*
METALS BY SW6020A		**Method:SW6020**			Prep:SW3050A / 01-Feb-2016		Analyst: JDE
Arsenic	**1.57**		**0.111**	**0.556**	**mg/Kg-dry**	1	01-Feb-2016 18:55
Lead	**9.57**		**0.0556**	**0.556**	**mg/Kg-dry**	1	01-Feb-2016 18:55
MOISTURE - ASTM D2216		**Method:ASTM D2216**					Analyst: DFF
Percent Moisture	**17.8**		**0.0100**	**0.0100**	**wt%**	1	01-Feb-2016 10:41

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
Sample ID: SO-1620-CSEE1(0-5)-20160201
Collection Date: 01-Feb-2016 08:25

ANALYTICAL REPORT
WorkOrder:HS16020012
Lab ID:HS16020012-06
Matrix:Soil

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES		**Method:SW8270**			Prep:SW3541 / 01-Feb-2016		Analyst: ACN
1,2-Diphenylhydrazine	U		0.0013	0.0081	mg/Kg-dry	1	01-Feb-2016 21:03
2,4-Dimethylphenol	U		0.0040	0.0081	mg/Kg-dry	1	01-Feb-2016 21:03
2,4-Dinitrotoluene	U		0.0011	0.0081	mg/Kg-dry	1	01-Feb-2016 21:03
2,6-Dinitrotoluene	U		0.0040	0.0081	mg/Kg-dry	1	01-Feb-2016 21:03
2-Chloronaphthalene	U		0.0016	0.0081	mg/Kg-dry	1	01-Feb-2016 21:03
2-Methylnaphthalene	U		0.00061	0.0040	mg/Kg-dry	1	01-Feb-2016 21:03
4,6-Dinitro-2-methylphenol	U		0.0026	0.0081	mg/Kg-dry	1	01-Feb-2016 21:03
4-Nitrophenol	U		0.0023	0.016	mg/Kg-dry	1	01-Feb-2016 21:03
Acenaphthene	**0.0032**	J	**0.00061**	**0.0040**	**mg/Kg-dry**	1	01-Feb-2016 21:03
Acenaphthylene	**0.060**		**0.0012**	**0.0040**	**mg/Kg-dry**	1	01-Feb-2016 21:03
Anthracene	**0.040**		**0.00061**	**0.0040**	**mg/Kg-dry**	1	01-Feb-2016 21:03
Benz(a)anthracene	**0.064**		**0.0020**	**0.0040**	**mg/Kg-dry**	1	01-Feb-2016 21:03
Benzo(a)pyrene	**0.26**		**0.0012**	**0.0040**	**mg/Kg-dry**	1	01-Feb-2016 21:03
Bis(2-chloroethoxy)methane	U		0.0011	0.0081	mg/Kg-dry	1	01-Feb-2016 21:03
Bis(2-ethylhexyl)phthalate	**0.0074**	J	**0.0021**	**0.0081**	**mg/Kg-dry**	1	01-Feb-2016 21:03
Chrysene	**0.12**		**0.00098**	**0.0040**	**mg/Kg-dry**	1	01-Feb-2016 21:03
Dibenzofuran	U		0.00086	0.0040	mg/Kg-dry	1	01-Feb-2016 21:03
Di-n-butyl phthalate	U		0.0015	0.0081	mg/Kg-dry	1	01-Feb-2016 21:03
Fluoranthene	**0.032**		**0.0013**	**0.0040**	**mg/Kg-dry**	1	01-Feb-2016 21:03
Fluorene	**0.0044**		**0.0013**	**0.0040**	**mg/Kg-dry**	1	01-Feb-2016 21:03
Naphthalene	**0.0022**	J	**0.00073**	**0.0040**	**mg/Kg-dry**	1	01-Feb-2016 21:03
Nitrobenzene	U		0.0011	0.0081	mg/Kg-dry	1	01-Feb-2016 21:03
N-Nitrosodiphenylamine	U		0.00086	0.0081	mg/Kg-dry	1	01-Feb-2016 21:03
Pentachlorophenol	U		0.0040	0.0081	mg/Kg-dry	1	01-Feb-2016 21:03
Phenanthrene	**0.0059**		**0.0018**	**0.0040**	**mg/Kg-dry**	1	01-Feb-2016 21:03
Phenol	**0.0098**		**0.0013**	**0.0081**	**mg/Kg-dry**	1	01-Feb-2016 21:03
Pyrene	**0.049**		**0.00073**	**0.0040**	**mg/Kg-dry**	1	01-Feb-2016 21:03
Surr: 2,4,6-Tribromophenol	*115*			*36-126*	*%REC*	*1*	*01-Feb-2016 21:03*
Surr: 2-Fluorobiphenyl	*91.6*			*43-125*	*%REC*	*1*	*01-Feb-2016 21:03*
Surr: 2-Fluorophenol	*95.9*			*37-125*	*%REC*	*1*	*01-Feb-2016 21:03*
Surr: 4-Terphenyl-d14	*87.1*			*32-125*	*%REC*	*1*	*01-Feb-2016 21:03*
Surr: Nitrobenzene-d5	*120*			*37-125*	*%REC*	*1*	*01-Feb-2016 21:03*
Surr: Phenol-d6	*122*			*40-125*	*%REC*	*1*	*01-Feb-2016 21:03*
METALS BY SW6020A		**Method:SW6020**			Prep:SW3050A / 01-Feb-2016		Analyst: JDE
Arsenic	**2.27**		**0.115**	**0.574**	**mg/Kg-dry**	1	01-Feb-2016 18:59
Lead	**11.6**		**0.0574**	**0.574**	**mg/Kg-dry**	1	01-Feb-2016 18:59
MOISTURE - ASTM D2216		**Method:ASTM D2216**					Analyst: DFF
Percent Moisture	**18.4**		**0.0100**	**0.0100**	**wt%**	1	01-Feb-2016 10:41

Note: See Qualifiers Page for a list of qualifiers and their explanation.

WEIGHT LOG

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
WorkOrder: HS16020012

Batch ID: 101063 **Method:** METALS BY SW6020A **Prep:** 3050_I_LOW

SampID	Container	Sample Wt/Vol	Final Volume	Prep Factor
HS16020012-01	1	0.5124	50 (mL)	97.58
HS16020012-02	1	0.5457	50 (mL)	91.63
HS16020012-03	1	0.5311	50 (mL)	94.14
HS16020012-04	1	0.5212	50 (mL)	95.93
HS16020012-05	1	0.5472	50 (mL)	91.37
HS16020012-06	1	0.5337	50 (mL)	93.69

Batch ID: 101078 **Method:** LOW-LEVEL SEMIVOLATILES **Prep:** 3541_B_LOW

SampID	Container	Sample Wt/Vol	Final Volume	Prep Factor
HS16020012-01	1	30.05	1 (mL)	0.03328
HS16020012-02	1	30.09	10 (mL)	0.3323
HS16020012-03	1	30.18	1 (mL)	0.03313
HS16020012-04	1	30.15	1 (mL)	0.03317
HS16020012-05	1	30.1	10 (mL)	0.3322
HS16020012-06	1	30.09	1 (mL)	0.03323

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
WorkOrder: HS16020012

DATES REPORT

Sample ID	Client Samp ID	Collection Date	TCLP Date	Prep Date	Analysis Date	DF
Batch ID 101063	**Test Name :** METALS BY SW6020A			**Matrix:** Soil		
HS16020012-01	SO-1620-CSDN1(0-5)-20160130	30 Jan 2016 09:26		01 Feb 2016 10:25	01 Feb 2016 18:38	1
HS16020012-02	SO-1620-CSDN2(0-5)-20160130	30 Jan 2016 09:24		01 Feb 2016 10:25	01 Feb 2016 18:42	1
HS16020012-03	SO-1620-CSEN1(0-5)-20160130	30 Jan 2016 14:45		01 Feb 2016 10:25	01 Feb 2016 18:46	1
HS16020012-04	SO-1620-CSEW1(0-5)-20160130	30 Jan 2016 14:47		01 Feb 2016 10:25	01 Feb 2016 18:51	1
HS16020012-05	SO-1620-CSES1(0-5)-20160130	30 Jan 2016 14:51		01 Feb 2016 10:25	01 Feb 2016 18:55	1
HS16020012-06	SO-1620-CSEE1(0-5)-20160201	01 Feb 2016 08:25		01 Feb 2016 10:25	01 Feb 2016 18:59	1
Batch ID 101078	**Test Name :** LOW-LEVEL SEMIVOLATILES			**Matrix:** Soil		
HS16020012-01	SO-1620-CSDN1(0-5)-20160130	30 Jan 2016 09:26		01 Feb 2016 11:30	01 Feb 2016 19:26	5
HS16020012-01	SO-1620-CSDN1(0-5)-20160130	30 Jan 2016 09:26		01 Feb 2016 11:30	01 Feb 2016 16:51	1
HS16020012-02	SO-1620-CSDN2(0-5)-20160130	30 Jan 2016 09:24		01 Feb 2016 11:30	01 Feb 2016 17:10	1
HS16020012-03	SO-1620-CSEN1(0-5)-20160130	30 Jan 2016 14:45		01 Feb 2016 11:30	01 Feb 2016 20:25	1
HS16020012-04	SO-1620-CSEW1(0-5)-20160130	30 Jan 2016 14:47		01 Feb 2016 11:30	01 Feb 2016 19:46	5
HS16020012-04	SO-1620-CSEW1(0-5)-20160130	30 Jan 2016 14:47		01 Feb 2016 11:30	01 Feb 2016 17:49	1
HS16020012-05	SO-1620-CSES1(0-5)-20160130	30 Jan 2016 14:51		01 Feb 2016 11:30	01 Feb 2016 20:44	1
HS16020012-06	SO-1620-CSEE1(0-5)-20160201	01 Feb 2016 08:25		01 Feb 2016 11:30	01 Feb 2016 21:03	1
Batch ID R268647	**Test Name :** MOISTURE - ASTM D2216			**Matrix:** Soil		
HS16020012-01	SO-1620-CSDN1(0-5)-20160130	30 Jan 2016 09:26			01 Feb 2016 10:41	1
HS16020012-02	SO-1620-CSDN2(0-5)-20160130	30 Jan 2016 09:24			01 Feb 2016 10:41	1
HS16020012-03	SO-1620-CSEN1(0-5)-20160130	30 Jan 2016 14:45			01 Feb 2016 10:41	1
HS16020012-04	SO-1620-CSEW1(0-5)-20160130	30 Jan 2016 14:47			01 Feb 2016 10:41	1
HS16020012-05	SO-1620-CSES1(0-5)-20160130	30 Jan 2016 14:51			01 Feb 2016 10:41	1
HS16020012-06	SO-1620-CSEE1(0-5)-20160201	01 Feb 2016 08:25			01 Feb 2016 10:41	1

WorkOrder: HS16020012
InstrumentID: ICPMS04
Test Code: ICP_S_Low
Test Number: SW6020
Test Name: Metals by SW6020A

METHOD DETECTION / REPORTING LIMITS

Matrix: Solid **Units:** mg/Kg

Type	Analyte	CAS	DCS Spike	DCS	MDL	PQL
A	Arsenic	7440-38-2	0.100	0.0974	0.100	0.500
A	Lead	7439-92-1	0.100	0.0927	0.0500	0.500

WorkOrder: HS16020012
InstrumentID: SV-7
Test Code: 8270_LOW_S
Test Number: SW8270
Test Name: Low-Level Semivolatiles

METHOD DETECTION / REPORTING LIMITS

Matrix: Solid **Units:** mg/Kg

Type	Analyte	CAS	DCS Spike	DCS	MDL	PQL
A	1,2-Diphenylhydrazine	122-66-7	0.0033	0.0029	0.0011	0.0066
A	2,4-Dimethylphenol	105-67-9	0.0033	0.00084	0.0033	0.0066
A	2,4-Dinitrotoluene	121-14-2	0.0033	0.0025	0.00090	0.0066
A	2,6-Dinitrotoluene	606-20-2	0.0033	0.0030	0.0033	0.0066
A	2-Chloronaphthalene	91-58-7	0.0033	0.0025	0.0013	0.0066
A	2-Methylnaphthalene	91-57-6	0.0033	0.0034	0.00050	0.0033
A	4,6-Dinitro-2-methylphenol	534-52-1	0.0033	0.0036	0.0021	0.0066
A	4-Nitrophenol	100-02-7	0.0033	0.0043	0.0019	0.013
A	Acenaphthene	83-32-9	0.0033	0.0029	0.00050	0.0033
A	Acenaphthene	83-32-9	0.0017	0.0015	0.00050	0.0033
A	Acenaphthylene	208-96-8	0.0017	0.0017	0.0010	0.0033
A	Acenaphthylene	208-96-8	0.0033	0.0023	0.0010	0.0033
A	Anthracene	120-12-7	0.0033	0.0031	0.00050	0.0033
A	Anthracene	120-12-7	0.0017	0.0017	0.00050	0.0033
A	Benz(a)anthracene	56-55-3	0.0017	0.0020	0.0016	0.0033
A	Benz(a)anthracene	56-55-3	0.0033	0.0032	0.0016	0.0033
A	Benzo(a)pyrene	50-32-8	0.0017	0.0018	0.0010	0.0033
A	Benzo(a)pyrene	50-32-8	0.0033	0.0032	0.0010	0.0033
A	Bis(2-chloroethoxy)methane	111-91-1	0.0033	0.0033	0.00090	0.0066
A	Bis(2-ethylhexyl)phthalate	117-81-7	0.0033	0.0060	0.0017	0.0066
A	Chrysene	218-01-9	0.0017	0.0017	0.00080	0.0033
A	Chrysene	218-01-9	0.0033	0.0044	0.00080	0.0033
A	Dibenzofuran	132-64-9	0.0033	0.0028	0.00070	0.0033
A	Di-n-butyl phthalate	84-74-2	0.0033	0.0038	0.0012	0.0066
A	Fluoranthene	206-44-0	0.0017	0.0019	0.0011	0.0033
A	Fluoranthene	206-44-0	0.0033	0.0038	0.0011	0.0033
A	Fluorene	86-73-7	0.0033	0.0027	0.0011	0.0033
A	Fluorene	86-73-7	0.0017	0.0015	0.0011	0.0033
A	Naphthalene	91-20-3	0.0017	0.0019	0.00060	0.0033
A	Naphthalene	91-20-3	0.0033	0.0034	0.00060	0.0033
A	Nitrobenzene	98-95-3	0.0033	0.0038	0.00090	0.0066
A	N-Nitrosodiphenylamine	86-30-6	0.0033	0.0037	0.00070	0.0066
A	Pentachlorophenol	87-86-5	0.0033	0.0023	0.0033	0.0066
A	Phenanthrene	85-01-8	0.0033	0.0031	0.0015	0.0033
A	Phenol	108-95-2	0.0033	0.0038	0.0011	0.0066
A	Pyrene	129-00-0	0.0033	0.0045	0.00060	0.0033
A	Pyrene	129-00-0	0.0017	0.0019	0.00060	0.0033
S	2,4,6-Tribromophenol	118-79-6	0	0	0	0
S	2-Fluorobiphenyl	321-60-8	0	0	0	0
S	2-Fluorophenol	367-12-4	0	0	0	0
S	4-Terphenyl-d14	1718-51-0	0	0	0	0

WorkOrder: HS16020012
InstrumentID: SV-7
Test Code: 8270_LOW_S
Test Number: SW8270
Test Name: Low-Level Semivolatiles

METHOD DETECTION / REPORTING LIMITS

Matrix: Solid **Units:** mg/Kg

Type	Analyte	CAS	DCS Spike	DCS	MDL	PQL
S	Nitrobenzene-d5	4165-60-0	0	0	0	0
S	Phenol-d6	13127-88-3	0	0	0	0

WorkOrder: HS16020012
InstrumentID: Balance1
Test Code: MOIST_ASTM
Test Number: ASTM D2216
Test Name: Moisture - ASTM D2216

METHOD DETECTION / REPORTING LIMITS

Matrix: Solid **Units:** wt%

Type	Analyte	CAS	DCS Spike	DCS	MDL	PQL
A	Percent Moisture	MOIST	0.0100	0.0100	0.0100	0.0100

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
WorkOrder: HS16020012

QC BATCH REPORT

Batch ID: 101063 **Instrument: ICPMS04** **Method: SW6020**

MBLK Sample ID: **MBLK-101063** Units: **mg/Kg** Analysis Date: **01-Feb-2016 17:17**
Client ID: Run ID: **ICPMS04_268609** SeqNo: **3572187** PrepDate: **01-Feb-2016** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	U	0.500								
Lead	U	0.500								

LCS Sample ID: **MLCS-101063** Units: **mg/Kg** Analysis Date: **01-Feb-2016 17:21**
Client ID: Run ID: **ICPMS04_268609** SeqNo: **3572188** PrepDate: **01-Feb-2016** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	9.761	0.500	10	0	97.6	80 - 120				
Lead	10.3	0.500	10	0	103	80 - 120				

MS Sample ID: **HS16011094-08MS** Units: **mg/Kg** Analysis Date: **01-Feb-2016 19:21**
Client ID: Run ID: **ICPMS04_268609** SeqNo: **3572216** PrepDate: **01-Feb-2016** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	16.64	0.477	9.538	10.04	69.3	75 - 125				S
Lead	30.84	0.477	9.538	22.27	89.8	75 - 125				

MSD Sample ID: **HS16011094-08MSD** Units: **mg/Kg** Analysis Date: **01-Feb-2016 19:25**
Client ID: Run ID: **ICPMS04_268609** SeqNo: **3572217** PrepDate: **01-Feb-2016** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	14.65	0.464	9.28	10.04	49.8	75 - 125	16.64	12.7	20	S
Lead	25.35	0.464	9.28	22.27	33.2	75 - 125	30.84	19.5	20	S

PDS Sample ID: **HS16011094-08BS** Units: **mg/Kg** Analysis Date: **01-Feb-2016 19:29**
Client ID: Run ID: **ICPMS04_268609** SeqNo: **3572218** PrepDate: **01-Feb-2016** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	18.89	0.476	9.515	10.04	93.1	75 - 125				
Lead	30.94	0.476	9.515	22.27	91.2	75 - 125				

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
WorkOrder: HS16020012

QC BATCH REPORT

Batch ID: 101063 **Instrument: ICPMS04** **Method: SW6020**

SD Sample ID: **HS16011094-08 DIL SX** Units: **mg/Kg** Analysis Date: **01-Feb-2016 19:16**
Client ID: Run ID: **ICPMS04_268609** SeqNo: **3572215** PrepDate: **01-Feb-2016** DF: **5**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%D	%D Limit	Qual
Arsenic	10.42	2.38					10.04	3.82	10	
Lead	22.3	2.38					22.27	0.135	10	

The following samples were anayzed in this batch: HS16020012-01 HS16020012-02 HS16020012-03 HS16020012-04 HS16020012-05 HS16020012-06

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
WorkOrder: HS16020012

QC BATCH REPORT

Batch ID: 101078 **Instrument: SV-7** **Method: SW8270**

MBLK Sample ID: **MBLK-101078** Units: **ug/Kg** Analysis Date: **01-Feb-2016 15:10**
Client ID: Run ID: **SV-7_268640** SeqNo: **3572300** PrepDate: **01-Feb-2016** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Diphenylhydrazine	U	6.6								
2,4-Dimethylphenol	U	6.6								
2,4-Dinitrotoluene	U	6.6								
2,6-Dinitrotoluene	U	6.6								
2-Chloronaphthalene	U	6.6								
2-Methylnaphthalene	U	3.3								
4,6-Dinitro-2-methylphenol	U	6.6								
4-Nitrophenol	U	13								
Acenaphthene	U	3.3								
Acenaphthylene	U	3.3								
Anthracene	U	3.3								
Benz(a)anthracene	U	3.3								
Benzo(a)pyrene	U	3.3								
Bis(2-chloroethoxy)methane	U	6.6								
Bis(2-ethylhexyl)phthalate	U	6.6								
Chrysene	U	3.3								
Dibenzofuran	U	3.3								
Di-n-butyl phthalate	U	6.6								
Fluoranthene	U	3.3								
Fluorene	U	3.3								
Naphthalene	U	3.3								
Nitrobenzene	U	6.6								
N-Nitrosodiphenylamine	U	6.6								
Pentachlorophenol	U	6.6								
Phenanthrene	U	3.3								
Phenol	U	6.6								
Pyrene	U	3.3								
Surr: 2,4,6-Tribromophenol	*132.6*	*0*	*167*	*0*	*79.4*	*36 - 126*				
Surr: 2-Fluorobiphenyl	*103.4*	*0*	*167*	*0*	*61.9*	*43 - 125*				
Surr: 2-Fluorophenol	*133.4*	*0*	*167*	*0*	*79.9*	*37 - 125*				
Surr: 4-Terphenyl-d14	*148.9*	*0*	*167*	*0*	*89.2*	*32 - 125*				
Surr: Nitrobenzene-d5	*176.6*	*0*	*167*	*0*	*106*	*37 - 125*				
Surr: Phenol-d6	*126.1*	*0*	*167*	*0*	*75.5*	*40 - 125*				

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
WorkOrder: HS16020012

QC BATCH REPORT

Batch ID: 101078 **Instrument: SV-7** **Method: SW8270**

LCS Sample ID: **LCS-101078** Units: **ug/Kg** Analysis Date: **01-Feb-2016 14:18**
Client ID: Run ID: **SV-7_268640** SeqNo: **3572288** PrepDate: **01-Feb-2016** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Diphenylhydrazine	128.2	6.6	167	0	76.8	50 - 135				
2,4-Dimethylphenol	136	6.6	167	0	81.4	45 - 120				
2,4-Dinitrotoluene	156.4	6.6	167	0	93.6	50 - 130				
2,6-Dinitrotoluene	149	6.6	167	0	89.2	50 - 125				
2-Chloronaphthalene	94.21	6.6	167	0	56.4	50 - 145				
2-Methylnaphthalene	128.1	3.3	167	0	76.7	50 - 120				
4,6-Dinitro-2-methylphenol	134.8	6.6	167	0	80.7	15 - 135				
4-Nitrophenol	194.5	13	167	0	116	40 - 147				
Acenaphthene	133.7	3.3	167	0	80.1	50 - 120				
Acenaphthylene	134.9	3.3	167	0	80.8	50 - 120				
Anthracene	128.9	3.3	167	0	77.2	50 - 123				
Benz(a)anthracene	143.3	3.3	167	0	85.8	50 - 131				
Benzo(a)pyrene	151.2	3.3	167	0	90.6	50 - 130				
Bis(2-chloroethoxy)methane	125.6	6.6	167	0	75.2	50 - 120				
Bis(2-ethylhexyl)phthalate	197	6.6	167	0	118	21 - 148				
Chrysene	144.5	3.3	167	0	86.6	50 - 130				
Dibenzofuran	147.5	3.3	167	0	88.3	50 - 125				
Di-n-butyl phthalate	180.2	6.6	167	0	108	50 - 140				
Fluoranthene	168.2	3.3	167	0	101	50 - 131				
Fluorene	169	3.3	167	0	101	50 - 125				
Naphthalene	142.9	3.3	167	0	85.6	50 - 125				
Nitrobenzene	151.9	6.6	167	0	91.0	50 - 125				
N-Nitrosodiphenylamine	147.2	6.6	167	0	88.1	50 - 130				
Pentachlorophenol	140.9	6.6	167	0	84.4	23 - 136				
Phenanthrene	143.4	3.3	167	0	85.9	50 - 125				
Phenol	121.9	6.6	167	0	73.0	45 - 130				
Pyrene	169.2	3.3	167	0	101	45 - 130				
Surr: 2,4,6-Tribromophenol	*136.7*	*0*	*167*	*0*	*81.9*	*36 - 126*				
Surr: 2-Fluorobiphenyl	*132.7*	*0*	*167*	*0*	*79.5*	*43 - 125*				
Surr: 2-Fluorophenol	*105.7*	*0*	*167*	*0*	*63.3*	*37 - 125*				
Surr: 4-Terphenyl-d14	*141.4*	*0*	*167*	*0*	*84.7*	*32 - 125*				
Surr: Nitrobenzene-d5	*156.4*	*0*	*167*	*0*	*93.7*	*37 - 125*				
Surr: Phenol-d6	*116.8*	*0*	*167*	*0*	*69.9*	*40 - 125*				

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
WorkOrder: HS16020012

QC BATCH REPORT

Batch ID: 101078 **Instrument: SV-7** **Method: SW8270**

MS Sample ID: **HS16020012-06MS** Units: **ug/Kg** Analysis Date: **01-Feb-2016 21:23**
Client ID: **SO-1620-CSEE1(0-5)-20160201** Run ID: **SV-7_268640** SeqNo: **3572298** PrepDate: **01-Feb-2016** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Diphenylhydrazine	121.3	6.6	166.6	0	72.8	50 - 135				
2,4-Dimethylphenol	122.1	6.6	166.6	0	73.3	45 - 120				
2,4-Dinitrotoluene	122.9	6.6	166.6	0	73.8	50 - 130				
2,6-Dinitrotoluene	142	6.6	166.6	0	85.3	50 - 125				
2-Chloronaphthalene	90.05	6.6	166.6	0	54.1	50 - 145				
2-Methylnaphthalene	124.7	3.3	166.6	0	74.9	50 - 120				
4,6-Dinitro-2-methylphenol	111.2	6.6	166.6	0	66.8	15 - 135				
4-Nitrophenol	145.5	13	166.6	0	87.3	40 - 147				
Acenaphthene	137.8	3.3	166.6	2.636	81.2	50 - 120				
Acenaphthylene	159.1	3.3	166.6	48.89	66.2	50 - 120				
Anthracene	173.5	3.3	166.6	32.3	84.8	50 - 123				
Benz(a)anthracene	145	3.3	166.6	51.92	55.9	50 - 131				
Benzo(a)pyrene	288.9	3.3	166.6	214.9	44.4	50 - 130				S
Bis(2-chloroethoxy)methane	147.4	6.6	166.6	0	88.5	50 - 120				
Bis(2-ethylhexyl)phthalate	153.9	6.6	166.6	6.04	88.7	21 - 148				
Chrysene	184.8	3.3	166.6	94.82	54.1	50 - 130				
Dibenzofuran	112	3.3	166.6	0	67.2	50 - 125				
Di-n-butyl phthalate	133.5	6.6	166.6	0	80.1	50 - 140				
Fluoranthene	137	3.3	166.6	26.08	66.6	50 - 131				
Fluorene	143.7	3.3	166.6	3.589	84.1	50 - 125				
Naphthalene	120.6	3.3	166.6	1.796	71.3	50 - 125				
Nitrobenzene	146.7	6.6	166.6	0	88.1	50 - 125				
N-Nitrosodiphenylamine	128.3	6.6	166.6	0	77.0	50 - 130				
Pentachlorophenol	107	6.6	166.6	0	64.2	23 - 136				
Phenanthrene	115.6	3.3	166.6	4.832	66.5	50 - 125				
Phenol	144.4	6.6	166.6	7.988	81.9	45 - 130				
Pyrene	160.3	3.3	166.6	40.02	72.2	45 - 130				
Surr: 2,4,6-Tribromophenol	*164.5*	*0*	*166.6*	*0*	*98.8*	*36 - 126*				
Surr: 2-Fluorobiphenyl	*111.6*	*0*	*166.6*	*0*	*67.0*	*43 - 125*				
Surr: 2-Fluorophenol	*90.91*	*0*	*166.6*	*0*	*54.6*	*37 - 125*				
Surr: 4-Terphenyl-d14	*148.7*	*0*	*166.6*	*0*	*89.3*	*32 - 125*				
Surr: Nitrobenzene-d5	*162*	*0*	*166.6*	*0*	*97.3*	*37 - 125*				
Surr: Phenol-d6	*145.6*	*0*	*166.6*	*0*	*87.4*	*40 - 125*				

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
WorkOrder: HS16020012

QC BATCH REPORT

Batch ID: 101078 **Instrument: SV-7** **Method: SW8270**

MSD Sample ID: **HS16020012-06MSD** Units: **ug/Kg** Analysis Date: **01-Feb-2016 21:42**
Client ID: **SO-1620-CSEE1(0-5)-20160201** Run ID: **SV-7_268640** SeqNo: **3572299** PrepDate: **01-Feb-2016** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual
1,2-Diphenylhydrazine	160.8	6.6	166.5	0	96.5	50 - 135	121.3	28	30	
2,4-Dimethylphenol	115.7	6.6	166.5	0	69.5	45 - 120	122.1	5.37	30	
2,4-Dinitrotoluene	110.3	6.6	166.5	0	66.2	50 - 130	122.9	10.8	30	
2,6-Dinitrotoluene	125.1	6.6	166.5	0	75.1	50 - 125	142	12.7	30	
2-Chloronaphthalene	98.41	6.6	166.5	0	59.1	50 - 145	90.05	8.87	30	
2-Methylnaphthalene	109.7	3.3	166.5	0	65.9	50 - 120	124.7	12.8	30	
4,6-Dinitro-2-methylphenol	134.5	6.6	166.5	0	80.8	15 - 135	111.2	18.9	30	
4-Nitrophenol	125.4	13	166.5	0	75.3	40 - 147	145.5	14.9	30	
Acenaphthene	121.3	3.3	166.5	2.636	71.2	50 - 120	137.8	12.8	30	
Acenaphthylene	173.6	3.3	166.5	48.89	74.9	50 - 120	159.1	8.69	30	
Anthracene	219.3	3.3	166.5	32.3	112	50 - 123	173.5	23.3	30	
Benz(a)anthracene	170.4	3.3	166.5	51.92	71.2	50 - 131	145	16.1	30	
Benzo(a)pyrene	393	3.3	166.5	214.9	107	50 - 130	288.9	30.5	30	RE
Bis(2-chloroethoxy)methane	136.3	6.6	166.5	0	81.8	50 - 120	147.4	7.82	30	
Bis(2-ethylhexyl)phthalate	172.1	6.6	166.5	6.04	99.7	21 - 148	153.9	11.2	30	
Chrysene	229.7	3.3	166.5	94.82	81.0	50 - 130	184.8	21.6	30	
Dibenzofuran	103	3.3	166.5	0	61.9	50 - 125	112	8.3	30	
Di-n-butyl phthalate	149.5	6.6	166.5	0	89.8	50 - 140	133.5	11.4	30	
Fluoranthene	215.2	3.3	166.5	26.08	114	50 - 131	137	44.4	30	R
Fluorene	110.5	3.3	166.5	3.589	64.2	50 - 125	143.7	26.1	30	
Naphthalene	135.2	3.3	166.5	1.796	80.1	50 - 125	120.6	11.4	30	
Nitrobenzene	127	6.6	166.5	0	76.3	50 - 125	146.7	14.4	30	
N-Nitrosodiphenylamine	145.6	6.6	166.5	0	87.4	50 - 130	128.3	12.6	30	
Pentachlorophenol	131.1	6.6	166.5	0	78.7	23 - 136	107	20.2	30	
Phenanthrene	144.4	3.3	166.5	4.832	83.8	50 - 125	115.6	22.2	30	
Phenol	160.2	6.6	166.5	7.988	91.4	45 - 130	144.4	10.3	30	
Pyrene	195.4	3.3	166.5	40.02	93.3	45 - 130	160.3	19.7	30	
Surr: 2,4,6-Tribromophenol	*149.8*	*0*	*166.5*	*0*	*90.0*	*36 - 126*	*164.5*	*9.35*	*30*	
Surr: 2-Fluorobiphenyl	*117.5*	*0*	*166.5*	*0*	*70.6*	*43 - 125*	*111.6*	*5.16*	*30*	
Surr: 2-Fluorophenol	*76.33*	*0*	*166.5*	*0*	*45.8*	*37 - 125*	*90.91*	*17.4*	*30*	
Surr: 4-Terphenyl-d14	*155*	*0*	*166.5*	*0*	*93.1*	*32 - 125*	*148.7*	*4.17*	*30*	
Surr: Nitrobenzene-d5	*147.4*	*0*	*166.5*	*0*	*88.5*	*37 - 125*	*162*	*9.44*	*30*	
Surr: Phenol-d6	*159.2*	*0*	*166.5*	*0*	*95.6*	*40 - 125*	*145.6*	*8.92*	*30*	

The following samples were anayzed in this batch: HS16020012-01 HS16020012-02 HS16020012-03 HS16020012-04 HS16020012-05 HS16020012-06

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
WorkOrder: HS16020012

QC BATCH REPORT

Batch ID: **R268647** **Instrument:** **Balance1** **Method:** **ASTM D2216**

DUP Sample ID: **HS16020012-06DUP** Units: **wt%** Analysis Date: **01-Feb-2016 10:41**
Client ID: **SO-1620-CSEE1(0-5)-20160201** Run ID: **Balance1_268647** SeqNo: **3572429** PrepDate: DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Percent Moisture	17.9	0.0100					18.4	2.75	20	

The following samples were anayzed in this batch: HS16020012-01 HS16020012-02 HS16020012-03 HS16020012-04 HS16020012-05 HS16020012-06

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
WorkOrder: **HS16020012**

QUALIFIERS, ACRONYMS, UNITS

Qualifier	Description
*	Value exceeds Regulatory Limit
a	Not accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte detected below quantitation limit
M	Manually integrated, see raw data for justification
n	Not offered for accreditation
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL/SDL

Acronym	Description
DCS	Detectability Check Study
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
MBLK	Method Blank
MDL	Method Detection Limit
MQL	Method Quantitation Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PDS	Post Digestion Spike
PQL	Practical Quantitaion Limit
SD	Serial Dilution
SDL	Sample Detection Limit
TRRP	Texas Risk Reduction Program

Unit Reported	Description
mg/Kg-dry	Milligrams per Kilogram- Dry weight corrected

CERTIFICATIONS,ACCREDITATIONS & LICENSES

Agency	Number	Expire Date
Arkansas	15-024-0	27-Mar-2016
California	2919	31-Jul-2016
Illinois	003622	09-May-2016
Kentucky	KY 2015-2016	30-Apr-2016
Louisiana	03087 2015/2016	30-Jun-2016
North Carolina	624 - 2016	31-Dec-2016
North Dakota	R-193 2015-2016	30-Apr-2016
Oklahoma	2015-047	31-Aug-2016
Texas	T104704231-15-15	30-Apr-2016

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
Work Order: HS16020012

SAMPLE TRACKING

Lab Samp ID	Client Sample ID	Action	Date	Person	New Location
HS16020012-01	SO-1620-CSDN1(0-5)-20160130	Login	2/1/2016 10:16:36 AM	PMG	11D
HS16020012-02	SO-1620-CSDN2(0-5)-20160130	Login	2/1/2016 10:16:36 AM	PMG	11D
HS16020012-03	SO-1620-CSEN1(0-5)-20160130	Login	2/1/2016 10:16:36 AM	PMG	11D
HS16020012-04	SO-1620-CSEW1(0-5)-20160130	Login	2/1/2016 10:16:36 AM	PMG	11D
HS16020012-05	SO-1620-CSES1(0-5)-20160130	Login	2/1/2016 10:16:36 AM	PMG	11D
HS16020012-06	SO-1620-CSEE1(0-5)-20160201	Login	2/1/2016 10:16:36 AM	PMG	11D

Sample Receipt Checklist

Client Name: PBW
Work Order: HS16020012

Date/Time Received: **01-Feb-2016 09:20**
Received by: **RPG**

Checklist completed by: *Paresh M. Giga* eSignature — 1-Feb-2016 Date

Reviewed by: *Dane J. Wacasey* eSignature — 1-Feb-2016 Date

Matrices: **Soil**

Carrier name: **Client**

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on shipping container/cooler?	Yes ☐	No ☐	Not Present ☑
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☐	No ☑	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
TX1005 solids received in hermetically sealed vials?	Yes ☐	No ☐	N/A ☑
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time?	Yes ☑	No ☐	
Container/Temp Blank temperature in compliance?	Yes ☑	No ☐	
Temperature(s)/Thermometer(s):	1.7c/1.9c U/C	IR4	
Cooler(s)/Kit(s):	5432		
Date/Time sample(s) sent to storage:	2/1/16 10:30		
Water - VOA vials have zero headspace?	Yes ☐	No ☐	No VOA vials submitted ☑
Water - pH acceptable upon receipt?	Yes ☐	No ☐	N/A ☑
pH adjusted?	Yes ☐	No ☑	N/A ☐
pH adjusted by:			

Login Notes: Sampling depth does not match for SO-1620-CSEW1(0-5)-20160130. Jar depth (0-1). Logged in per chain

Client Contacted: Date Contacted: Person Contacted:

Contacted By: 0 Regarding:

Comments:

Corrective Action:

ALS Environmental

Cincinnati, OH +1 513 733 5336 | Everett, WA +1 425 356 2600 | Fort Collins, CO +1 970 490 1511 | Holland, MI +1 616 399 6070

Chain of Custody Form

Page 1 of 1

COC ID: 135239

HS16020012

Pastor, Behling & Wheeler, LLC

1620-10-Rev1 HoustonTX-Wood

ALS Project Manager:

Customer Information		Project Information			
Purchase Order	UPRR	Project Name	1620-10-Rev1 HoustonTX-Wood	A	8270_LOW_S (5632532 SemiVolatiles)
Work Order		Project Number	1620-10-Rev1	B	ICP_S_Low (5636002 5652646 Metals - As, Pb)
Company Name	Pastor, Behling & Wheeler, LLC	Bill To Company	Union Pacific Railroad- A/P	C	MOIST_ASTM (5631931 Gen.Chem. MOIST%)
Send Report To	Eric Matzner	Invoice Attn	Accounts Payable	D	
Address	2201 Double Creek Drive Suite 4004	Address	1400 Douglas Street Stop 0750	E	
				F	
City/State/Zip	Round Rock, TX 78664	City/State/Zip	Omaha, NE 681790750	G	
Phone	(512) 671-3434	Phone		H	
Fax	(512) 671-3446	Fax		I	
e-Mail Address		e-Mail Address		J	

No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
1	SO-1620-CSDN1(0-5)-20160130	1/30/16	926	Soil	8	1	X	X	X								
2	SO-1620-CSDN2(0-5)-20160130	1/30/16	924	Soil	8	1	X	X	X								
3	SO-1620-CSEN1(0-5)-20160130	1/30/16	1445	Soil	8	1	X	X	X								
4	SO-1620-CSEW1(0-5)-20160130	1/30/16	1447	Soil	8	1	X	X	X								
5	SO-1620-CSES1(0-5)-20160130	1/30/16	1451	Soil	8	1	X	X	X								
6	SO-1620-CSEE1(0-5)-20160201	2/1/16	0825	Soil	8	1	X	X	X								
7																	
8																	
9																	
10																	

Sampler(s) Please Print & Sign: Kevin Dworsky

Shipment Method:

Required Turnaround Time: (Check Box) TAT 1 days Other

Results Due Date:

Relinquished by:	Date: 2-1-2016	Time: 0920	Received by:	Notes: UPRR Houston NW/PW	
Relinquished by:	Date:	Time:	Received by (Laboratory): R Cisa 02/01/16 09:20	Cooler ID: 5432	Cooler Temp.: 4°C
Logged by (Laboratory):	Date:	Time:	Checked by (Laboratory):		

QC Package: (Check One Box Below): QC Level TRRP LRC; Other:

Preservative Key: 1-HCl 2-HNO_3 3-H_2SO_4 4-NaOH 5-$Na_2S_2O_3$ 6-$NaHSO_4$ 7-Other 8-4°C 9-5035

Note:
1. Any changes must be made in writing once samples and COC Form have been submitted to ALS Environmental.
2. Unless otherwise agreed in a formal contract, services provided by ALS Environmental are expressly limited to the terms and conditions stated on the reverse.
3. The Chain of Custody is a legal document. All information must be completed accurately.

10450 Stancliff Rd. Suite 210
Houston, TX 77099
T: +1 281 530 5656
F: +1 281 530 5887
www.alsglobal.com

February 03, 2016

Eric Matzner
Pastor, Behling & Wheeler, LLC
2201 Double Creek Drive
Suite 4004
Round Rock, TX 78664

Work Order: **HS16020048**

Laboratory Results for: **1620-10-Rev1 HoustonTX-Wood**

Dear Eric,

ALS Environmental received 5 sample(s) on Feb 01, 2016 for the analysis presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested. Results are expressed as "as received" unless otherwise noted.

QC sample results for this data met EPA or laboratory specifications except as noted in the Case Narrative or as noted with qualifiers in the QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained by ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

If you have any questions regarding this report, please feel free to call me.

Sincerely,

Generated By: Dayna.Fisher
Dane J. Wacasey

Client:	Pastor, Behling & Wheeler, LLC	**TRRP Laboratory Data Package Cover Page**
Project:	1620-10-Rev1 HoustonTX-Wood	
WorkOrder:	**HS16020048**	

This data package consists of all or some of the following as applicable:

This signature page, the laboratory review checklist, and the following reportable data:

R1 Field chain-of-custody documentation;

R2 Sample identification cross-reference;

R3 Test reports (analytical data sheets) for each environmental sample that includes:

a) Items consistent with NELAC Chapter 5,
b) dilution factors,
c) preparation methods,
d) cleanup methods, and
e) if required for the project, tentatively identified compounds (TICs).

R4 Surrogate recovery data including:

a) Calculated recovery (%R), and
b) The laboratory's surrogate QC limits.

R5 Test reports/summary forms for blank samples;

R6 Test reports/summary forms for laboratory control samples (LCSs) including:

a) LCS spiking amounts,
b) Calculated %R for each analyte, and
c)The laboratory's LCS QC limits.

R7 Test reports for project matrix spike/matrix spike duplicates (MS/MSDs) including:

a) Samples associated with the MS/MSD clearly identified,
b) MS/MSD spiking amounts,
c) Concentration of each MS/MSD analyte measured in the parent and spiked samples,
d) Calculated %Rs and relative percent differences (RPDs), and
e) The laboratory's MS/MSD QC limits.

R8 Laboratory analytical duplicate (if applicable) recovery and precision:

a) the amount of analyte measured in the duplicate,
b) the calculated RPD, and
c) the laboratory's QC limits for analytical duplicates.

R9 List of method quantitation limits (MQLs) and detectability check sample results for each analyte for each method and matrix.

R10 Other problems or anomalies.
The Exception Report for each "No" or "Not Reviewed (NR)" item in Laboratory Review Checklist and for each analyte, matrix, and method for which the laboratory does not hold NELAC accreditation under the Texas Laboratory Accreditation Program.

Client:	Pastor, Behling & Wheeler, LLC
Project:	1620-10-Rev1 HoustonTX-Wood
WorkOrder:	**HS16020048**

TRRP Laboratory Data Package Cover Page

Release Statement: I am responsible for the release of this laboratory data package. This laboratory is NELAC accredited under the Texas Laboratory Accreditation Program for all the methods, analytes and matrices reported in this data package except as noted in the Exception Reports. The data have been reviewed and are technically compliant with the requirements of the methods used, except where noted by the laboratory in the attached exception reports. By my signature below, I affirm to the best of my knowledge, all problems/anomalies, observed by the laboratory have been identified by the laboratory in the Laboratory Review Checklist, and no information affecting the quality of the data has been knowingly withheld.

Check, if applicable: [NA] This laboratory meets an exception under 30 TAC §25.6 and was last inspected by [ ] TCEQ or [ ] _____ on (enter date of last inspection). Any findings affecting the data in this laboratory data package are noted in the Exception Reports herein. The official signing the cover page of the report in which these data are used is responsible for releasing this data package and is by signature affirming the above release statement is true.

Dane J. Wacasey

Laboratory Review Checklist: Reportable Data							
Laboratory Name: ALS Laboratory Group			LRC Date: 02/03/2016				
Project Name: 1620-10-Rev1 HoustonTX-Wood			Laboratory Job Number: HS16020048				
Reviewer Name: Dane Wacasey			Prep Batch Number(s): 101090, 101106, R268704				
#[1]	A[2]	Description	Yes	No	NA[3]	NR[4]	ER#[5]
R1	OI	**Chain-of-custody (C-O-C)**					
		Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?	X				
		Were all departures from standard conditions described in an exception report?	X				
R2	OI	**Sample and quality control (QC) identification**					
		Are all field sample ID numbers cross-referenced to the laboratory ID numbers?	X				
		Are all laboratory ID numbers cross-referenced to the corresponding QC data?	X				
R3	OI	**Test reports**					
		Were all samples prepared and analyzed within holding times?	X				
		Other than those results < MQL, were all other raw values bracketed by calibration standards?	X				
		Were calculations checked by a peer or supervisor?	X				
		Were all analyte identifications checked by a peer or supervisor?	X				
		Were sample detection limits reported for all analytes not detected?	X				
		Were all results for soil and sediment samples reported on a dry weight basis?	X				
		Were % moisture (or solids) reported for all soil and sediment samples?	X				
		Were bulk soils/solids samples for volatile analysis extracted with methanol per SW-846 Method 5035?			X		
		If required for the project, TICs reported?			X		
R4	O	**Surrogate recovery data**					
		Were surrogates added prior to extraction?	X				
		Were surrogate percent recoveries in all samples within the laboratory QC limits?	X				
R5	OI	**Test reports/summary forms for blank samples**					
		Were appropriate type(s) of blanks analyzed?	X				
		Were blanks analyzed at the appropriate frequency?	X				
		Were method blanks taken through the entire analytical process, including preparation and, if applicable, cleanup procedures?	X				
		Were blank concentrations < MQL?	X				
R6	OI	**Laboratory control samples (LCS):**					
		Were all COCs included in the LCS?	X				
		Was each LCS taken through the entire analytical procedure, including prep and cleanup steps?	X				
		Were LCSs analyzed at the required frequency?	X				
		Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?	X				
		Does the detectability data document the laboratory's capability to detect the COCs at the MDL used to calculate the SDLs?	X				
		Was the LCSD RPD within QC limits?	X				
R7	OI	**Matrix spike (MS) and matrix spike duplicate (MSD) data**					
		Were the project/method specified analytes included in the MS and MSD?	X				
		Were MS/MSD analyzed at the appropriate frequency?	X				
		Were MS (and MSD, if applicable) %Rs within the laboratory QC limits?		X			1
		Were MS/MSD RPDs within laboratory QC limits?	X				
R8	OI	**Analytical duplicate data**					
		Were appropriate analytical duplicates analyzed for each matrix?	X				
		Were analytical duplicates analyzed at the appropriate frequency?	X				
		Were RPDs or relative standard deviations within the laboratory QC limits?	X				
R9	OI	**Method quantitation limits (MQLs):**					
		Are the MQLs for each method analyte included in the laboratory data package?	X				
		Do the MQLs correspond to the concentration of the lowest non-zero calibration standard?	X				
		Are unadjusted MQLs and DCSs included in the laboratory data package?	X				
R10	OI	**Other problems/anomalies**					
		Are all known problems/anomalies/special conditions noted in this LRC and ER?	X				
		Were all necessary corrective actions performed for the reported data?	X				
		Was applicable and available technology used to lower the SDL and minimize the matrix interference affects on the sample results?	X				
		Is the laboratory NELAC-accredited under the Texas Laboratory Program for the analytes, matrices and methods associated with this laboratory data package?	X				

Laboratory Review Checklist: Reportable Data							
Laboratory Name: ALS Laboratory Group			LRC Date: 02/03/2016				
Project Name: 1620-10-Rev1 HoustonTX-Wood			Laboratory Job Number: HS16020048				
Reviewer Name: Dane Wacasey			Prep Batch Number(s): 101090, 101106, R268704				
#[1]	A[2]	Description	Yes	No	NA[3]	NR[4]	ER#[5]
S1	OI	**Initial calibration (ICAL)**					
		Were response factors and/or relative response factors for each analyte within QC limits?	X				
		Were percent RSDs or correlation coefficient criteria met?	X				
		Was the number of standards recommended in the method used for all analytes?	X				
		Were all points generated between the lowest and highest standard used to calculate the curve?	X				
		Are ICAL data available for all instruments used?	X				
		Has the initial calibration curve been verified using an appropriate second source standard?	X				
S2	OI	**Initial and continuing calibration verification (ICCV and CCV) and continuing calibration blank (CCB)**					
		Was the CCV analyzed at the method-required frequency?	X				
		Were percent differences for each analyte within the method-required QC limits?	X				
		Was the ICAL curve verified for each analyte?	X				
		Was the absolute value of the analyte concentration in the inorganic CCB < MDL?	X				
S3	O	**Mass spectral tuning:**					
		Was the appropriate compound for the method used for tuning?	X				
		Were ion abundance data within the method-required QC limits?	X				
S4	O	**Internal standards (IS):**					
		Were IS area counts and retention times within the method-required QC limits?		X			2
S5	OI	**Raw data** (NELAC section 1 appendix A glossary, and section 5.12 or ISO/IEC 17025 section					
		Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst?	X				
		Were data associated with manual integrations flagged on the raw data?	X				
S6	O	**Dual column confirmation**					
		Did dual column confirmation results meet the method-required QC?			X		
S7	O	**Tentatively identified compounds (TICs):**					
		If TICs were requested, were the mass spectra and TIC data subject to appropriate checks?			X		
S8	I	**Interference Check Sample (ICS) results:**					
		Were percent recoveries within method QC limits?	X				
S9	I	**Serial dilutions, post digestion spikes, and method of standard additions**					
		Were percent differences, recoveries, and the linearity within the QC limits specified in the method?	X				
S10	OI	**Method detection limit (MDL) studies**					
		Was a MDL study performed for each reported analyte?	X				
		Is the MDL either adjusted or supported by the analysis of DCSs?	X				
S11	OI	**Proficiency test reports:**					
		Was the laboratory's performance acceptable on the applicable proficiency tests or evaluation studies?	X				
S12	OI	**Standards documentation**					
		Are all standards used in the analyses NIST-traceable or obtained from other appropriate sources?	X				
S13	OI	**Compound/analyte identification procedures**					
		Are the procedures for compound/analyte identification documented?	X				
S14	OI	**Demonstration of analyst competency (DOC)**					
		Was DOC conducted consistent with NELAC Chapter 5C or ISO/IEC 4?	X				
		Is documentation of the analyst's competency up-to-date and on file?	X				
S15	OI	**Verification/validation documentation for methods** (NELAC Chap 5 or ISO/IEC 17025 Section 5)					
		Are all the methods used to generate the data documented, verified, and validated, where applicable?	X				
S16	OI	**Laboratory standard operating procedures (SOPs):**					
		Are laboratory SOPs current and on file for each method performed?	X				

Items identified by the letter "R" must be included in the laboratory data package submitted in the TRRP-required report(s). Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period.
O = Organic Analyses; I = Inorganic Analyses (and general chemistry, when applicable);
NA = Not Applicable;
NR = Not Reviewed;
R# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

Laboratory Review Checklist: Reportable Data	
Laboratory Name: ALS Laboratory Group	LRC Date: 02/03/2016
Project Name: 1620-10-Rev1 HoustonTX-Wood	Laboratory Job Number: HS16020048
Reviewer Name: Dane Wacasey	Prep Batch Number(s): 101090, 101106, R268704

ER#[5]	Description
1	Batch 101090, Metals by Method SW6020, Sample "SO-1620-CSCW1(0-5)-20160201": MSD recovery was above the control limits for Lead due to possible matrix interference. Batch 101106, Semivolatile Organics by Method SW8270, Sample HS16010999-15 MS and MSD were performed on an unrelated sample.
2	Batch 101106, Semivolatile Organics by Method SW8270, Samples SO-1620-CSCW1(0-5)-20160201, SO-1620-CSCN1(0-5)-20160201, SO-1620-CSCE1(0-5)-20160201: One or more of the GCMS semi-volatile internal standards were recovered at <50%. The sample was reanalyzed with similar results indicating sample matrix interference.

Items identified by the letter "R" must be included in the laboratory data package submitted in the TRRP-required report(s). Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period.
O = Organic Analyses; I = Inorganic Analyses (and general chemistry, when applicable);
NA = Not Applicable;
NR = Not Reviewed;
R# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
Work Order: HS16020048

SAMPLE SUMMARY

Lab Samp ID	Client Sample ID	Matrix	TagNo	Collection Date	Date Received	Hold
HS16020048-01	SO-1620-CSCW1(0-5)-20160201	Soil		01-Feb-2016 14:50	01-Feb-2016 17:50	☐
HS16020048-02	SO-1620-CSCN1(0-5)-20160201	Soil		01-Feb-2016 14:55	01-Feb-2016 17:50	☐
HS16020048-03	SO-1620-CSCS1(0-5)-20160201	Soil		01-Feb-2016 15:05	01-Feb-2016 17:50	☐
HS16020048-04	SO-1620-CSCE1(0-5)-20160201	Soil		01-Feb-2016 15:15	01-Feb-2016 17:50	☐
HS16020048-05	Trip Blank - 012716-27	Water		01-Feb-2016 00:00	01-Feb-2016 17:50	☑

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
Sample ID: SO-1620-CSCW1(0-5)-20160201
Collection Date: 01-Feb-2016 14:50

ANALYTICAL REPORT
WorkOrder:HS16020048
Lab ID:HS16020048-01
Matrix:Soil

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES		**Method:SW8270**			Prep:SW3541 / 02-Feb-2016		Analyst: ACN
1,2-Diphenylhydrazine	U		0.0013	0.0077	mg/Kg-dry	1	02-Feb-2016 15:58
2,4-Dimethylphenol	U		0.0039	0.0077	mg/Kg-dry	1	02-Feb-2016 15:58
2,4-Dinitrotoluene	U		0.0011	0.0077	mg/Kg-dry	1	02-Feb-2016 15:58
2,6-Dinitrotoluene	U		0.0039	0.0077	mg/Kg-dry	1	02-Feb-2016 15:58
2-Chloronaphthalene	U		0.0015	0.0077	mg/Kg-dry	1	02-Feb-2016 15:58
2-Methylnaphthalene	**0.0062**		**0.00058**	**0.0039**	**mg/Kg-dry**	1	02-Feb-2016 15:58
4,6-Dinitro-2-methylphenol	U		0.0025	0.0077	mg/Kg-dry	1	02-Feb-2016 15:58
4-Nitrophenol	U		0.0022	0.015	mg/Kg-dry	1	02-Feb-2016 15:58
Acenaphthene	**0.084**		**0.00058**	**0.0039**	**mg/Kg-dry**	1	02-Feb-2016 15:58
Acenaphthylene	**0.0050**		**0.0012**	**0.0039**	**mg/Kg-dry**	1	02-Feb-2016 15:58
Anthracene	**0.057**		**0.00058**	**0.0039**	**mg/Kg-dry**	1	02-Feb-2016 15:58
Benz(a)anthracene	**0.053**		**0.0019**	**0.0039**	**mg/Kg-dry**	1	02-Feb-2016 15:58
Benzo(a)pyrene	**0.081**		**0.0012**	**0.0039**	**mg/Kg-dry**	1	02-Feb-2016 15:58
Bis(2-chloroethoxy)methane	U		0.0011	0.0077	mg/Kg-dry	1	02-Feb-2016 15:58
Bis(2-ethylhexyl)phthalate	**0.0032**	J	**0.0020**	**0.0077**	**mg/Kg-dry**	1	02-Feb-2016 15:58
Chrysene	**0.051**		**0.00093**	**0.0039**	**mg/Kg-dry**	1	02-Feb-2016 15:58
Dibenzofuran	**0.012**		**0.00082**	**0.0039**	**mg/Kg-dry**	1	02-Feb-2016 15:58
Di-n-butyl phthalate	**0.0023**	J	**0.0014**	**0.0077**	**mg/Kg-dry**	1	02-Feb-2016 15:58
Fluoranthene	**0.21**		**0.0013**	**0.0039**	**mg/Kg-dry**	1	02-Feb-2016 15:58
Fluorene	**0.069**		**0.0013**	**0.0039**	**mg/Kg-dry**	1	02-Feb-2016 15:58
Naphthalene	**0.012**		**0.00070**	**0.0039**	**mg/Kg-dry**	1	02-Feb-2016 15:58
Nitrobenzene	U		0.0011	0.0077	mg/Kg-dry	1	02-Feb-2016 15:58
N-Nitrosodiphenylamine	U		0.00082	0.0077	mg/Kg-dry	1	02-Feb-2016 15:58
Pentachlorophenol	U		0.0039	0.0077	mg/Kg-dry	1	02-Feb-2016 15:58
Phenanthrene	**0.18**		**0.0018**	**0.0039**	**mg/Kg-dry**	1	02-Feb-2016 15:58
Phenol	**0.0040**	J	**0.0013**	**0.0077**	**mg/Kg-dry**	1	02-Feb-2016 15:58
Pyrene	**0.16**		**0.00070**	**0.0039**	**mg/Kg-dry**	1	02-Feb-2016 15:58
Surr: 2,4,6-Tribromophenol	*96.1*			*36-126*	*%REC*	*1*	*02-Feb-2016 15:58*
Surr: 2-Fluorobiphenyl	*78.9*			*43-125*	*%REC*	*1*	*02-Feb-2016 15:58*
Surr: 2-Fluorophenol	*65.6*			*37-125*	*%REC*	*1*	*02-Feb-2016 15:58*
Surr: 4-Terphenyl-d14	*84.4*			*32-125*	*%REC*	*1*	*02-Feb-2016 15:58*
Surr: Nitrobenzene-d5	*70.0*			*37-125*	*%REC*	*1*	*02-Feb-2016 15:58*
Surr: Phenol-d6	*61.0*			*40-125*	*%REC*	*1*	*02-Feb-2016 15:58*
METALS BY SW6020A		**Method:SW6020**			Prep:SW3050A / 01-Feb-2016		Analyst: JDE
Arsenic	**1.35**		**0.116**	**0.582**	**mg/Kg-dry**	1	02-Feb-2016 17:05
Lead	**14.6**		**0.0582**	**0.582**	**mg/Kg-dry**	1	02-Feb-2016 17:05
MOISTURE - ASTM D2216		**Method:ASTM D2216**					Analyst: DFF
Percent Moisture	**14.9**		**0.0100**	**0.0100**	**wt%**	1	02-Feb-2016 10:01

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
Sample ID: SO-1620-CSCN1(0-5)-20160201
Collection Date: 01-Feb-2016 14:55

ANALYTICAL REPORT
WorkOrder:HS16020048
Lab ID:HS16020048-02
Matrix:Soil

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES	**Method:SW8270**				Prep:SW3541 / 02-Feb-2016		Analyst: ACN
1,2-Diphenylhydrazine	U		0.0013	0.0078	mg/Kg-dry	1	02-Feb-2016 16:17
2,4-Dimethylphenol	U		0.0039	0.0078	mg/Kg-dry	1	02-Feb-2016 16:17
2,4-Dinitrotoluene	U		0.0011	0.0078	mg/Kg-dry	1	02-Feb-2016 16:17
2,6-Dinitrotoluene	U		0.0039	0.0078	mg/Kg-dry	1	02-Feb-2016 16:17
2-Chloronaphthalene	U		0.0015	0.0078	mg/Kg-dry	1	02-Feb-2016 16:17
2-Methylnaphthalene	**0.0035**	J	**0.00059**	**0.0039**	**mg/Kg-dry**	1	02-Feb-2016 16:17
4,6-Dinitro-2-methylphenol	U		0.0025	0.0078	mg/Kg-dry	1	02-Feb-2016 16:17
4-Nitrophenol	U		0.0022	0.016	mg/Kg-dry	1	02-Feb-2016 16:17
Acenaphthene	**0.19**		**0.00059**	**0.0039**	**mg/Kg-dry**	1	02-Feb-2016 16:17
Acenaphthylene	**0.0074**		**0.0012**	**0.0039**	**mg/Kg-dry**	1	02-Feb-2016 16:17
Anthracene	**0.13**		**0.00059**	**0.0039**	**mg/Kg-dry**	1	02-Feb-2016 16:17
Benz(a)anthracene	**0.18**		**0.0019**	**0.0039**	**mg/Kg-dry**	1	02-Feb-2016 16:17
Benzo(a)pyrene	**0.097**		**0.0012**	**0.0039**	**mg/Kg-dry**	1	02-Feb-2016 16:17
Bis(2-chloroethoxy)methane	U		0.0011	0.0078	mg/Kg-dry	1	02-Feb-2016 16:17
Bis(2-ethylhexyl)phthalate	U		0.0020	0.0078	mg/Kg-dry	1	02-Feb-2016 16:17
Chrysene	**0.19**		**0.00095**	**0.0039**	**mg/Kg-dry**	1	02-Feb-2016 16:17
Dibenzofuran	**0.022**		**0.00083**	**0.0039**	**mg/Kg-dry**	1	02-Feb-2016 16:17
Di-n-butyl phthalate	U		0.0014	0.0078	mg/Kg-dry	1	02-Feb-2016 16:17
Fluoranthene	**0.87**		**0.0065**	**0.020**	**mg/Kg-dry**	5	02-Feb-2016 16:55
Fluorene	**0.25**		**0.0013**	**0.0039**	**mg/Kg-dry**	1	02-Feb-2016 16:17
Naphthalene	**0.0045**		**0.00071**	**0.0039**	**mg/Kg-dry**	1	02-Feb-2016 16:17
Nitrobenzene	U		0.0011	0.0078	mg/Kg-dry	1	02-Feb-2016 16:17
N-Nitrosodiphenylamine	U		0.00083	0.0078	mg/Kg-dry	1	02-Feb-2016 16:17
Pentachlorophenol	U		0.0039	0.0078	mg/Kg-dry	1	02-Feb-2016 16:17
Phenanthrene	**0.68**		**0.0089**	**0.020**	**mg/Kg-dry**	5	02-Feb-2016 16:55
Phenol	U		0.0013	0.0078	mg/Kg-dry	1	02-Feb-2016 16:17
Pyrene	**0.69**		**0.0036**	**0.020**	**mg/Kg-dry**	5	02-Feb-2016 16:55
Surr: 2,4,6-Tribromophenol	*98.6*			*36-126*	*%REC*	*1*	*02-Feb-2016 16:17*
Surr: 2,4,6-Tribromophenol	*94.2*			*36-126*	*%REC*	*5*	*02-Feb-2016 16:55*
Surr: 2-Fluorobiphenyl	*79.8*			*43-125*	*%REC*	*1*	*02-Feb-2016 16:17*
Surr: 2-Fluorobiphenyl	*76.2*			*43-125*	*%REC*	*5*	*02-Feb-2016 16:55*
Surr: 2-Fluorophenol	*54.2*			*37-125*	*%REC*	*1*	*02-Feb-2016 16:17*
Surr: 2-Fluorophenol	*56.9*			*37-125*	*%REC*	*5*	*02-Feb-2016 16:55*
Surr: 4-Terphenyl-d14	*86.3*			*32-125*	*%REC*	*1*	*02-Feb-2016 16:17*
Surr: 4-Terphenyl-d14	*86.2*			*32-125*	*%REC*	*5*	*02-Feb-2016 16:55*
Surr: Nitrobenzene-d5	*71.2*			*37-125*	*%REC*	*1*	*02-Feb-2016 16:17*
Surr: Nitrobenzene-d5	*66.2*			*37-125*	*%REC*	*5*	*02-Feb-2016 16:55*
Surr: Phenol-d6	*59.4*			*40-125*	*%REC*	*1*	*02-Feb-2016 16:17*
Surr: Phenol-d6	*65.2*			*40-125*	*%REC*	*5*	*02-Feb-2016 16:55*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
Sample ID: SO-1620-CSCN1(0-5)-20160201
Collection Date: 01-Feb-2016 14:55

ANALYTICAL REPORT
WorkOrder:HS16020048
Lab ID:HS16020048-02
Matrix:Soil

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
METALS BY SW6020A	**Method:SW6020**				Prep:SW3050A / 01-Feb-2016		Analyst: JDE
Arsenic	**1.37**		**0.115**	**0.575**	**mg/Kg-dry**	1	02-Feb-2016 17:34
Lead	**9.99**		**0.0575**	**0.575**	**mg/Kg-dry**	1	02-Feb-2016 17:34
MOISTURE - ASTM D2216	**Method:ASTM D2216**						Analyst: DFF
Percent Moisture	**16.0**		**0.0100**	**0.0100**	**wt%**	1	02-Feb-2016 10:01

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
Sample ID: SO-1620-CSCS1(0-5)-20160201
Collection Date: 01-Feb-2016 15:05

ANALYTICAL REPORT
WorkOrder:HS16020048
Lab ID:HS16020048-03
Matrix:Soil

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES		**Method:SW8270**			Prep:SW3541 / 02-Feb-2016		Analyst: ACN
1,2-Diphenylhydrazine	U		0.0014	0.0082	mg/Kg-dry	1	02-Feb-2016 17:33
2,4-Dimethylphenol	U		0.0041	0.0082	mg/Kg-dry	1	02-Feb-2016 17:33
2,4-Dinitrotoluene	U		0.0011	0.0082	mg/Kg-dry	1	02-Feb-2016 17:33
2,6-Dinitrotoluene	U		0.0041	0.0082	mg/Kg-dry	1	02-Feb-2016 17:33
2-Chloronaphthalene	U		0.0016	0.0082	mg/Kg-dry	1	02-Feb-2016 17:33
2-Methylnaphthalene	**0.0014**	J	**0.00062**	**0.0041**	**mg/Kg-dry**	1	02-Feb-2016 17:33
4,6-Dinitro-2-methylphenol	U		0.0026	0.0082	mg/Kg-dry	1	02-Feb-2016 17:33
4-Nitrophenol	U		0.0024	0.016	mg/Kg-dry	1	02-Feb-2016 17:33
Acenaphthene	**0.0060**		**0.00062**	**0.0041**	**mg/Kg-dry**	1	02-Feb-2016 17:33
Acenaphthylene	U		0.0012	0.0041	mg/Kg-dry	1	02-Feb-2016 17:33
Anthracene	**0.0045**		**0.00062**	**0.0041**	**mg/Kg-dry**	1	02-Feb-2016 17:33
Benz(a)anthracene	**0.011**		**0.0020**	**0.0041**	**mg/Kg-dry**	1	02-Feb-2016 17:33
Benzo(a)pyrene	**0.0045**		**0.0012**	**0.0041**	**mg/Kg-dry**	1	02-Feb-2016 17:33
Bis(2-chloroethoxy)methane	U		0.0011	0.0082	mg/Kg-dry	1	02-Feb-2016 17:33
Bis(2-ethylhexyl)phthalate	**0.0025**	J	**0.0021**	**0.0082**	**mg/Kg-dry**	1	02-Feb-2016 17:33
Chrysene	**0.015**		**0.00099**	**0.0041**	**mg/Kg-dry**	1	02-Feb-2016 17:33
Dibenzofuran	**0.0021**	J	**0.00087**	**0.0041**	**mg/Kg-dry**	1	02-Feb-2016 17:33
Di-n-butyl phthalate	U		0.0015	0.0082	mg/Kg-dry	1	02-Feb-2016 17:33
Fluoranthene	**0.068**		**0.0014**	**0.0041**	**mg/Kg-dry**	1	02-Feb-2016 17:33
Fluorene	**0.0046**		**0.0014**	**0.0041**	**mg/Kg-dry**	1	02-Feb-2016 17:33
Naphthalene	**0.0095**		**0.00074**	**0.0041**	**mg/Kg-dry**	1	02-Feb-2016 17:33
Nitrobenzene	U		0.0011	0.0082	mg/Kg-dry	1	02-Feb-2016 17:33
N-Nitrosodiphenylamine	U		0.00087	0.0082	mg/Kg-dry	1	02-Feb-2016 17:33
Pentachlorophenol	U		0.0041	0.0082	mg/Kg-dry	1	02-Feb-2016 17:33
Phenanthrene	**0.021**		**0.0019**	**0.0041**	**mg/Kg-dry**	1	02-Feb-2016 17:33
Phenol	U		0.0014	0.0082	mg/Kg-dry	1	02-Feb-2016 17:33
Pyrene	**0.053**		**0.00074**	**0.0041**	**mg/Kg-dry**	1	02-Feb-2016 17:33
Surr: 2,4,6-Tribromophenol	*89.4*			*36-126*	*%REC*	*1*	*02-Feb-2016 17:33*
Surr: 2-Fluorobiphenyl	*73.7*			*43-125*	*%REC*	*1*	*02-Feb-2016 17:33*
Surr: 2-Fluorophenol	*50.9*			*37-125*	*%REC*	*1*	*02-Feb-2016 17:33*
Surr: 4-Terphenyl-d14	*84.6*			*32-125*	*%REC*	*1*	*02-Feb-2016 17:33*
Surr: Nitrobenzene-d5	*62.8*			*37-125*	*%REC*	*1*	*02-Feb-2016 17:33*
Surr: Phenol-d6	*53.1*			*40-125*	*%REC*	*1*	*02-Feb-2016 17:33*
METALS BY SW6020A		**Method:SW6020**			Prep:SW3050A / 01-Feb-2016		Analyst: JDE
Arsenic	**1.10**		**0.119**	**0.593**	**mg/Kg-dry**	1	02-Feb-2016 17:38
Lead	**5.62**		**0.0593**	**0.593**	**mg/Kg-dry**	1	02-Feb-2016 17:38
MOISTURE - ASTM D2216		**Method:ASTM D2216**					Analyst: DFF
Percent Moisture	**19.4**		**0.0100**	**0.0100**	**wt%**	1	02-Feb-2016 10:01

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
Sample ID: SO-1620-CSCE1(0-5)-20160201
Collection Date: 01-Feb-2016 15:15

ANALYTICAL REPORT
WorkOrder:HS16020048
Lab ID:HS16020048-04
Matrix:Soil

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES	**Method:SW8270**				Prep:SW3541 / 02-Feb-2016		Analyst: ACN
1,2-Diphenylhydrazine	U		0.0013	0.0076	mg/Kg-dry	1	02-Feb-2016 16:36
2,4-Dimethylphenol	U		0.0038	0.0076	mg/Kg-dry	1	02-Feb-2016 16:36
2,4-Dinitrotoluene	U		0.0010	0.0076	mg/Kg-dry	1	02-Feb-2016 16:36
2,6-Dinitrotoluene	U		0.0038	0.0076	mg/Kg-dry	1	02-Feb-2016 16:36
2-Chloronaphthalene	U		0.0015	0.0076	mg/Kg-dry	1	02-Feb-2016 16:36
2-Methylnaphthalene	**0.28**		**0.00057**	**0.0038**	**mg/Kg-dry**	1	02-Feb-2016 16:36
4,6-Dinitro-2-methylphenol	U		0.0024	0.0076	mg/Kg-dry	1	02-Feb-2016 16:36
4-Nitrophenol	U		0.0022	0.015	mg/Kg-dry	1	02-Feb-2016 16:36
Acenaphthene	**0.51**		**0.0023**	**0.015**	**mg/Kg-dry**	4	02-Feb-2016 17:14
Acenaphthylene	**0.084**		**0.0011**	**0.0038**	**mg/Kg-dry**	1	02-Feb-2016 16:36
Anthracene	**0.27**		**0.0023**	**0.015**	**mg/Kg-dry**	4	02-Feb-2016 17:14
Benz(a)anthracene	**0.31**		**0.0073**	**0.015**	**mg/Kg-dry**	4	02-Feb-2016 17:14
Benzo(a)pyrene	**0.31**		**0.0011**	**0.0038**	**mg/Kg-dry**	1	02-Feb-2016 16:36
Bis(2-chloroethoxy)methane	U		0.0010	0.0076	mg/Kg-dry	1	02-Feb-2016 16:36
Bis(2-ethylhexyl)phthalate	**0.026**		**0.0019**	**0.0076**	**mg/Kg-dry**	1	02-Feb-2016 16:36
Chrysene	**0.38**		**0.0037**	**0.015**	**mg/Kg-dry**	4	02-Feb-2016 17:14
Dibenzofuran	**0.23**		**0.00080**	**0.0038**	**mg/Kg-dry**	1	02-Feb-2016 16:36
Di-n-butyl phthalate	U		0.0014	0.0076	mg/Kg-dry	1	02-Feb-2016 16:36
Fluoranthene	**1.3**		**0.0050**	**0.015**	**mg/Kg-dry**	4	02-Feb-2016 17:14
Fluorene	**0.40**		**0.0050**	**0.015**	**mg/Kg-dry**	4	02-Feb-2016 17:14
Naphthalene	**0.014**		**0.00069**	**0.0038**	**mg/Kg-dry**	1	02-Feb-2016 16:36
Nitrobenzene	U		0.0010	0.0076	mg/Kg-dry	1	02-Feb-2016 16:36
N-Nitrosodiphenylamine	U		0.00080	0.0076	mg/Kg-dry	1	02-Feb-2016 16:36
Pentachlorophenol	**0.091**		**0.0038**	**0.0076**	**mg/Kg-dry**	1	02-Feb-2016 16:36
Phenanthrene	**0.99**		**0.0069**	**0.015**	**mg/Kg-dry**	4	02-Feb-2016 17:14
Phenol	**0.0064**	J	**0.0013**	**0.0076**	**mg/Kg-dry**	1	02-Feb-2016 16:36
Pyrene	**1.3**		**0.0027**	**0.015**	**mg/Kg-dry**	4	02-Feb-2016 17:14
Surr: 2,4,6-Tribromophenol	*89.7*			*36-126*	*%REC*	*1*	*02-Feb-2016 16:36*
Surr: 2,4,6-Tribromophenol	*71.1*			*36-126*	*%REC*	*4*	*02-Feb-2016 17:14*
Surr: 2-Fluorobiphenyl	*59.1*			*43-125*	*%REC*	*4*	*02-Feb-2016 17:14*
Surr: 2-Fluorobiphenyl	*74.4*			*43-125*	*%REC*	*1*	*02-Feb-2016 16:36*
Surr: 2-Fluorophenol	*50.9*			*37-125*	*%REC*	*1*	*02-Feb-2016 16:36*
Surr: 2-Fluorophenol	*46.5*			*37-125*	*%REC*	*4*	*02-Feb-2016 17:14*
Surr: 4-Terphenyl-d14	*67.4*			*32-125*	*%REC*	*4*	*02-Feb-2016 17:14*
Surr: 4-Terphenyl-d14	*90.1*			*32-125*	*%REC*	*1*	*02-Feb-2016 16:36*
Surr: Nitrobenzene-d5	*47.2*			*37-125*	*%REC*	*4*	*02-Feb-2016 17:14*
Surr: Nitrobenzene-d5	*67.9*			*37-125*	*%REC*	*1*	*02-Feb-2016 16:36*
Surr: Phenol-d6	*57.5*			*40-125*	*%REC*	*1*	*02-Feb-2016 16:36*
Surr: Phenol-d6	*43.3*			*40-125*	*%REC*	*4*	*02-Feb-2016 17:14*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
Sample ID: SO-1620-CSCE1(0-5)-20160201
Collection Date: 01-Feb-2016 15:15

ANALYTICAL REPORT
WorkOrder:HS16020048
Lab ID:HS16020048-04
Matrix:Soil

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
METALS BY SW6020A	**Method:SW6020**				Prep:SW3050A / 01-Feb-2016		Analyst: JDE
Arsenic	**1.56**		**0.106**	**0.532**	**mg/Kg-dry**	1	02-Feb-2016 17:43
Lead	**6.76**		**0.0532**	**0.532**	**mg/Kg-dry**	1	02-Feb-2016 17:43
MOISTURE - ASTM D2216	**Method:ASTM D2216**						Analyst: DFF
Percent Moisture	**13.0**		**0.0100**	**0.0100**	**wt%**	1	02-Feb-2016 10:01

Note: See Qualifiers Page for a list of qualifiers and their explanation.

WEIGHT LOG

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
WorkOrder: HS16020048

Batch ID: 101090 **Method:** METALS BY SW6020A **Prep:** 3050_I_LOW

SampID	Container	Sample Wt/Vol	Final Volume	Prep Factor
HS16020048-01	1	0.5049	50 (mL)	99.03
HS16020048-02	1	0.5179	50 (mL)	96.54
HS16020048-03	1	0.5227	50 (mL)	95.66
HS16020048-04	1	0.5399	50 (mL)	92.61

Batch ID: 101106 **Method:** LOW-LEVEL SEMIVOLATILES **Prep:** 3541_B_LOW

SampID	Container	Sample Wt/Vol	Final Volume	Prep Factor
HS16020048-01	1	30.2	1 (mL)	0.03311
HS16020048-02	1	30.17	1 (mL)	0.03315
HS16020048-03	1	30.08	1 (mL)	0.03324
HS16020048-04	1	30.14	1 (mL)	0.03318

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
WorkOrder: HS16020048

DATES REPORT

Sample ID	Client Samp ID	Collection Date	TCLP Date	Prep Date	Analysis Date	DF
Batch ID 101090	**Test Name :** METALS BY SW6020A			**Matrix:** Soil		
HS16020048-01	SO-1620-CSCW1(0-5)-20160201	01 Feb 2016 14:50		01 Feb 2016 20:20	02 Feb 2016 17:05	1
HS16020048-02	SO-1620-CSCN1(0-5)-20160201	01 Feb 2016 14:55		01 Feb 2016 20:20	02 Feb 2016 17:34	1
HS16020048-03	SO-1620-CSCS1(0-5)-20160201	01 Feb 2016 15:05		01 Feb 2016 20:20	02 Feb 2016 17:38	1
HS16020048-04	SO-1620-CSCE1(0-5)-20160201	01 Feb 2016 15:15		01 Feb 2016 20:20	02 Feb 2016 17:43	1
Batch ID 101106	**Test Name :** LOW-LEVEL SEMIVOLATILES			**Matrix:** Soil		
HS16020048-01	SO-1620-CSCW1(0-5)-20160201	01 Feb 2016 14:50		02 Feb 2016 09:12	02 Feb 2016 15:58	1
HS16020048-02	SO-1620-CSCN1(0-5)-20160201	01 Feb 2016 14:55		02 Feb 2016 09:12	02 Feb 2016 16:55	5
HS16020048-02	SO-1620-CSCN1(0-5)-20160201	01 Feb 2016 14:55		02 Feb 2016 09:12	02 Feb 2016 16:17	1
HS16020048-03	SO-1620-CSCS1(0-5)-20160201	01 Feb 2016 15:05		02 Feb 2016 09:12	02 Feb 2016 17:33	1
HS16020048-04	SO-1620-CSCE1(0-5)-20160201	01 Feb 2016 15:15		02 Feb 2016 09:12	02 Feb 2016 17:14	4
HS16020048-04	SO-1620-CSCE1(0-5)-20160201	01 Feb 2016 15:15		02 Feb 2016 09:12	02 Feb 2016 16:36	1
Batch ID R268704	**Test Name :** MOISTURE - ASTM D2216			**Matrix:** Soil		
HS16020048-01	SO-1620-CSCW1(0-5)-20160201	01 Feb 2016 14:50			02 Feb 2016 10:01	1
HS16020048-02	SO-1620-CSCN1(0-5)-20160201	01 Feb 2016 14:55			02 Feb 2016 10:01	1
HS16020048-03	SO-1620-CSCS1(0-5)-20160201	01 Feb 2016 15:05			02 Feb 2016 10:01	1
HS16020048-04	SO-1620-CSCE1(0-5)-20160201	01 Feb 2016 15:15			02 Feb 2016 10:01	1

WorkOrder: HS16020048
InstrumentID: ICPMS04
Test Code: ICP_S_Low
Test Number: SW6020
Test Name: Metals by SW6020A

METHOD DETECTION / REPORTING LIMITS

Matrix: Solid **Units:** mg/Kg

Type	Analyte	CAS	DCS Spike	DCS	MDL	PQL
A	Arsenic	7440-38-2	0.100	0.0974	0.100	0.500
A	Lead	7439-92-1	0.100	0.0927	0.0500	0.500

WorkOrder: HS16020048
InstrumentID: SV-7
Test Code: 8270_LOW_S
Test Number: SW8270
Test Name: Low-Level Semivolatiles

METHOD DETECTION / REPORTING LIMITS

Matrix: Solid **Units:** mg/Kg

Type	Analyte	CAS	DCS Spike	DCS	MDL	PQL
A	1,2-Diphenylhydrazine	122-66-7	0.0033	0.0029	0.0011	0.0066
A	2,4-Dimethylphenol	105-67-9	0.0033	0.00084	0.0033	0.0066
A	2,4-Dinitrotoluene	121-14-2	0.0033	0.0025	0.00090	0.0066
A	2,6-Dinitrotoluene	606-20-2	0.0033	0.0030	0.0033	0.0066
A	2-Chloronaphthalene	91-58-7	0.0033	0.0025	0.0013	0.0066
A	2-Methylnaphthalene	91-57-6	0.0033	0.0034	0.00050	0.0033
A	4,6-Dinitro-2-methylphenol	534-52-1	0.0033	0.0036	0.0021	0.0066
A	4-Nitrophenol	100-02-7	0.0033	0.0043	0.0019	0.013
A	Acenaphthene	83-32-9	0.0033	0.0029	0.00050	0.0033
A	Acenaphthene	83-32-9	0.0017	0.0015	0.00050	0.0033
A	Acenaphthylene	208-96-8	0.0017	0.0017	0.0010	0.0033
A	Acenaphthylene	208-96-8	0.0033	0.0023	0.0010	0.0033
A	Anthracene	120-12-7	0.0033	0.0031	0.00050	0.0033
A	Anthracene	120-12-7	0.0017	0.0017	0.00050	0.0033
A	Benz(a)anthracene	56-55-3	0.0017	0.0020	0.0016	0.0033
A	Benz(a)anthracene	56-55-3	0.0033	0.0032	0.0016	0.0033
A	Benzo(a)pyrene	50-32-8	0.0033	0.0032	0.0010	0.0033
A	Benzo(a)pyrene	50-32-8	0.0017	0.0018	0.0010	0.0033
A	Bis(2-chloroethoxy)methane	111-91-1	0.0033	0.0033	0.00090	0.0066
A	Bis(2-ethylhexyl)phthalate	117-81-7	0.0033	0.0060	0.0017	0.0066
A	Chrysene	218-01-9	0.0017	0.0017	0.00080	0.0033
A	Chrysene	218-01-9	0.0033	0.0044	0.00080	0.0033
A	Dibenzofuran	132-64-9	0.0033	0.0028	0.00070	0.0033
A	Di-n-butyl phthalate	84-74-2	0.0033	0.0038	0.0012	0.0066
A	Fluoranthene	206-44-0	0.0017	0.0019	0.0011	0.0033
A	Fluorene	86-73-7	0.0033	0.0027	0.0011	0.0033
A	Naphthalene	91-20-3	0.0017	0.0019	0.00060	0.0033
A	Naphthalene	91-20-3	0.0033	0.0034	0.00060	0.0033
A	Nitrobenzene	98-95-3	0.0033	0.0038	0.00090	0.0066
A	N-Nitrosodiphenylamine	86-30-6	0.0033	0.0037	0.00070	0.0066
A	Pentachlorophenol	87-86-5	0.0033	0.0023	0.0033	0.0066
A	Phenanthrene	85-01-8	0.0033	0.0031	0.0015	0.0033
A	Phenol	108-95-2	0.0033	0.0038	0.0011	0.0066
A	Pyrene	129-00-0	0.0033	0.0045	0.00060	0.0033
A	Pyrene	129-00-0	0.0017	0.0019	0.00060	0.0033
S	2,4,6-Tribromophenol	118-79-6	0	0	0	0
S	2-Fluorobiphenyl	321-60-8	0	0	0	0
S	2-Fluorophenol	367-12-4	0	0	0	0
S	4-Terphenyl-d14	1718-51-0	0	0	0	0
S	Nitrobenzene-d5	4165-60-0	0	0	0	0
S	Phenol-d6	13127-88-3	0	0	0	0

WorkOrder: HS16020048
InstrumentID: Balance1
Test Code: MOIST_ASTM
Test Number: ASTM D2216
Test Name: Moisture - ASTM D2216

METHOD DETECTION / REPORTING LIMITS

Matrix: Solid **Units:** wt%

Type	Analyte	CAS	DCS Spike	DCS	MDL	PQL
A	Percent Moisture	MOIST	0.0100	0.0100	0.0100	0.0100

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
WorkOrder: HS16020048

QC BATCH REPORT

Batch ID: 101090 **Instrument: ICPMS04** **Method: SW6020**

MBLK Sample ID: **MBLK-101090** Units: **mg/Kg** Analysis Date: **02-Feb-2016 16:57**
Client ID: Run ID: **ICPMS04_268661** SeqNo: **3573578** PrepDate: **01-Feb-2016** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	U	0.500								
Lead	U	0.500								

LCS Sample ID: **MLCS-101090** Units: **mg/Kg** Analysis Date: **02-Feb-2016 17:01**
Client ID: Run ID: **ICPMS04_268661** SeqNo: **3573579** PrepDate: **01-Feb-2016** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	9.642	0.500	10	0	96.4	80 - 120				
Lead	9.809	0.500	10	0	98.1	80 - 120				

MS Sample ID: **HS16020048-01MS** Units: **mg/Kg** Analysis Date: **02-Feb-2016 17:14**
Client ID: **SO-1620-CSCW1(0-5)-20160201** Run ID: **ICPMS04_268661** SeqNo: **3573582** PrepDate: **01-Feb-2016** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	10.56	0.499	9.97	1.148	94.4	75 - 125				
Lead	24.05	0.499	9.97	12.47	116	75 - 125				

MSD Sample ID: **HS16020048-01MSD** Units: **mg/Kg** Analysis Date: **02-Feb-2016 17:18**
Client ID: **SO-1620-CSCW1(0-5)-20160201** Run ID: **ICPMS04_268661** SeqNo: **3573583** PrepDate: **01-Feb-2016** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	9.943	0.458	9.163	1.148	96.0	75 - 125	10.56	5.99	20	
Lead	24.43	0.458	9.163	12.47	131	75 - 125	24.05	1.59	20	S

PDS Sample ID: **HS16020048-01BS** Units: **mg/Kg** Analysis Date: **02-Feb-2016 17:22**
Client ID: **SO-1620-CSCW1(0-5)-20160201** Run ID: **ICPMS04_268661** SeqNo: **3573584** PrepDate: **01-Feb-2016** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	10.5	0.495	9.903	1.148	94.4	75 - 125				
Lead	21.45	0.495	9.903	12.47	90.7	75 - 125				

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
WorkOrder: HS16020048

QC BATCH REPORT

Batch ID: 101090 **Instrument: ICPMS04** **Method: SW6020**

SD Sample ID: **HS16020048-01 DIL SX** Units: **mg/Kg** Analysis Date: **02-Feb-2016 17:09**
Client ID: **SO-1620-CSCW1(0-5)-20160201** Run ID: **ICPMS04_268661** SeqNo: **3573581** PrepDate: **01-Feb-2016** DF: **5**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%D	%D Limit	Qual
Arsenic	1.178	2.48					1.148	0	10	J
Lead	11.52	2.48					12.47	7.58	10	

The following samples were anayzed in this batch: HS16020048-01 HS16020048-02 HS16020048-03 HS16020048-04

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
WorkOrder: HS16020048

QC BATCH REPORT

Batch ID: 101106 **Instrument: SV-7** **Method: SW8270**

MBLK Sample ID: **MBLK-101106** Units: **ug/Kg** Analysis Date: **02-Feb-2016 12:43**
Client ID: Run ID: **SV-7_268708** SeqNo: **3573794** PrepDate: **02-Feb-2016** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Diphenylhydrazine	U	6.6								
2,4-Dimethylphenol	U	6.6								
2,4-Dinitrotoluene	U	6.6								
2,6-Dinitrotoluene	U	6.6								
2-Chloronaphthalene	U	6.6								
2-Methylnaphthalene	U	3.3								
4,6-Dinitro-2-methylphenol	U	6.6								
4-Nitrophenol	U	13								
Acenaphthene	U	3.3								
Acenaphthylene	U	3.3								
Anthracene	U	3.3								
Benz(a)anthracene	U	3.3								
Benzo(a)pyrene	U	3.3								
Bis(2-chloroethoxy)methane	U	6.6								
Bis(2-ethylhexyl)phthalate	U	6.6								
Chrysene	U	3.3								
Dibenzofuran	U	3.3								
Di-n-butyl phthalate	U	6.6								
Fluoranthene	U	3.3								
Fluorene	U	3.3								
Naphthalene	U	3.3								
Nitrobenzene	U	6.6								
N-Nitrosodiphenylamine	U	6.6								
Pentachlorophenol	U	6.6								
Phenanthrene	U	3.3								
Phenol	U	6.6								
Pyrene	U	3.3								
Surr: 2,4,6-Tribromophenol	*208.2*	*0*	*167*	*0*	*125*	*36 - 126*				
Surr: 2-Fluorobiphenyl	*158.9*	*0*	*167*	*0*	*95.2*	*43 - 125*				
Surr: 2-Fluorophenol	*148.4*	*0*	*167*	*0*	*88.9*	*37 - 125*				
Surr: 4-Terphenyl-d14	*173.9*	*0*	*167*	*0*	*104*	*32 - 125*				
Surr: Nitrobenzene-d5	*187.8*	*0*	*167*	*0*	*112*	*37 - 125*				
Surr: Phenol-d6	*151.8*	*0*	*167*	*0*	*90.9*	*40 - 125*				

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
WorkOrder: HS16020048

QC BATCH REPORT

Batch ID: 101106 **Instrument: SV-7** **Method: SW8270**

LCS Sample ID: **LCS-101106** Units: **ug/Kg** Analysis Date: **02-Feb-2016 14:01**
Client ID: Run ID: **SV-7_268708** SeqNo: **3573795** PrepDate: **02-Feb-2016** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Diphenylhydrazine	126.2	6.6	167	0	75.6	50 - 135				
2,4-Dimethylphenol	140.4	6.6	167	0	84.1	45 - 120				
2,4-Dinitrotoluene	128.3	6.6	167	0	76.8	50 - 130				
2,6-Dinitrotoluene	143.6	6.6	167	0	86.0	50 - 125				
2-Chloronaphthalene	122.7	6.6	167	0	73.5	50 - 145				
2-Methylnaphthalene	139.7	3.3	167	0	83.6	50 - 120				
4,6-Dinitro-2-methylphenol	127.9	6.6	167	0	76.6	15 - 135				
4-Nitrophenol	189.9	13	167	0	114	40 - 147				
Acenaphthene	125.5	3.3	167	0	75.1	50 - 120				
Acenaphthylene	118.8	3.3	167	0	71.1	50 - 120				
Anthracene	117.2	3.3	167	0	70.2	50 - 123				
Benz(a)anthracene	141.6	3.3	167	0	84.8	50 - 131				
Benzo(a)pyrene	142.8	3.3	167	0	85.5	50 - 130				
Bis(2-chloroethoxy)methane	155.7	6.6	167	0	93.2	50 - 120				
Bis(2-ethylhexyl)phthalate	145.6	6.6	167	0	87.2	21 - 148				
Chrysene	127.1	3.3	167	0	76.1	50 - 130				
Dibenzofuran	116.2	3.3	167	0	69.6	50 - 125				
Di-n-butyl phthalate	127.6	6.6	167	0	76.4	50 - 140				
Fluoranthene	141.5	3.3	167	0	84.7	50 - 131				
Fluorene	116.3	3.3	167	0	69.6	50 - 125				
Naphthalene	128.5	3.3	167	0	77.0	50 - 125				
Nitrobenzene	165.9	6.6	167	0	99.3	50 - 125				
N-Nitrosodiphenylamine	122.6	6.6	167	0	73.4	50 - 130				
Pentachlorophenol	93.61	6.6	167	0	56.1	23 - 136				
Phenanthrene	112.6	3.3	167	0	67.5	50 - 125				
Phenol	127	6.6	167	0	76.0	45 - 130				
Pyrene	143.5	3.3	167	0	85.9	45 - 130				
Surr: 2,4,6-Tribromophenol	*176.2*	*0*	*167*	*0*	*105*	*36 - 126*				
Surr: 2-Fluorobiphenyl	*118.9*	*0*	*167*	*0*	*71.2*	*43 - 125*				
Surr: 2-Fluorophenol	*121.2*	*0*	*167*	*0*	*72.6*	*37 - 125*				
Surr: 4-Terphenyl-d14	*154.5*	*0*	*167*	*0*	*92.5*	*32 - 125*				
Surr: Nitrobenzene-d5	*175.8*	*0*	*167*	*0*	*105*	*37 - 125*				
Surr: Phenol-d6	*152.7*	*0*	*167*	*0*	*91.4*	*40 - 125*				

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
WorkOrder: HS16020048

QC BATCH REPORT

Batch ID: 101106 **Instrument: SV-7** **Method: SW8270**

MS Sample ID: **HS16010999-15MS** Units: **ug/Kg** Analysis Date: **02-Feb-2016 14:43**
Client ID: Run ID: **SV-7_268708** SeqNo: **3573797** PrepDate: **02-Feb-2016** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Diphenylhydrazine	138.5	6.6	166.5	5.089	80.1	50 - 135				
2,4-Dimethylphenol	152	6.6	166.5	0	91.3	45 - 120				
2,4-Dinitrotoluene	146.1	6.6	166.5	0	87.8	50 - 130				
2,6-Dinitrotoluene	146.3	6.6	166.5	0	87.9	50 - 125				
2-Chloronaphthalene	130.9	6.6	166.5	0	78.6	50 - 145				
2-Methylnaphthalene	135.2	3.3	166.5	2.045	80.0	50 - 120				
4,6-Dinitro-2-methylphenol	159.7	6.6	166.5	0	95.9	15 - 135				
4-Nitrophenol	187.1	13	166.5	0	112	40 - 147				
Acenaphthene	137.2	3.3	166.5	0	82.4	50 - 120				
Acenaphthylene	121.5	3.3	166.5	0	72.9	50 - 120				
Anthracene	145.1	3.3	166.5	4.444	84.5	50 - 123				
Benz(a)anthracene	156.7	3.3	166.5	4.843	91.2	50 - 131				
Benzo(a)pyrene	158.4	3.3	166.5	5.153	92.0	50 - 130				
Bis(2-chloroethoxy)methane	148.2	6.6	166.5	0	89.0	50 - 120				
Bis(2-ethylhexyl)phthalate	160.9	6.6	166.5	2.057	95.4	21 - 148				
Chrysene	147.9	3.3	166.5	43.59	62.6	50 - 130				
Dibenzofuran	133	3.3	166.5	0.9796	79.3	50 - 125				
Di-n-butyl phthalate	153.5	6.6	166.5	1.448	91.3	50 - 140				
Fluoranthene	181.2	3.3	166.5	12.75	101	50 - 131				
Fluorene	131.1	3.3	166.5	0	78.8	50 - 125				
Naphthalene	133.5	3.3	166.5	5.227	77.0	50 - 125				
Nitrobenzene	158.4	6.6	166.5	0	95.1	50 - 125				
N-Nitrosodiphenylamine	135	6.6	166.5	0	81.1	50 - 130				
Pentachlorophenol	116	6.6	166.5	0	69.6	23 - 136				
Phenanthrene	146.6	3.3	166.5	96.78	29.9	50 - 125				S
Phenol	145.1	6.6	166.5	5.683	83.8	45 - 130				
Pyrene	148	3.3	166.5	6.557	84.9	45 - 130				
Surr: 2,4,6-Tribromophenol	*193*	*0*	*166.5*	*0*	*116*	*36 - 126*				
Surr: 2-Fluorobiphenyl	*125.7*	*0*	*166.5*	*0*	*75.5*	*43 - 125*				
Surr: 2-Fluorophenol	*153*	*0*	*166.5*	*0*	*91.9*	*37 - 125*				
Surr: 4-Terphenyl-d14	*147.5*	*0*	*166.5*	*0*	*88.6*	*32 - 125*				
Surr: Nitrobenzene-d5	*167.1*	*0*	*166.5*	*0*	*100*	*37 - 125*				
Surr: Phenol-d6	*182.7*	*0*	*166.5*	*0*	*110*	*40 - 125*				

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
WorkOrder: HS16020048

QC BATCH REPORT

Batch ID: 101106 **Instrument: SV-7** **Method: SW8270**

MSD Sample ID: **HS16010999-15MSD** Units: **ug/Kg** Analysis Date: **02-Feb-2016 15:03**
Client ID: Run ID: **SV-7_268708** SeqNo: **3573798** PrepDate: **02-Feb-2016** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual
1,2-Diphenylhydrazine	131	6.6	166.6	5.089	75.6	50 - 135	138.5	5.59	30	
2,4-Dimethylphenol	124.7	6.6	166.6	0	74.9	45 - 120	152	19.7	30	
2,4-Dinitrotoluene	124.3	6.6	166.6	0	74.6	50 - 130	146.1	16.1	30	
2,6-Dinitrotoluene	137	6.6	166.6	0	82.2	50 - 125	146.3	6.61	30	
2-Chloronaphthalene	124.2	6.6	166.6	0	74.6	50 - 145	130.9	5.28	30	
2-Methylnaphthalene	138.1	3.3	166.6	2.045	81.7	50 - 120	135.2	2.16	30	
4,6-Dinitro-2-methylphenol	158	6.6	166.6	0	94.8	15 - 135	159.7	1.1	30	
4-Nitrophenol	186	13	166.6	0	112	40 - 147	187.1	0.615	30	
Acenaphthene	126.7	3.3	166.6	0	76.1	50 - 120	137.2	7.95	30	
Acenaphthylene	117.3	3.3	166.6	0	70.4	50 - 120	121.5	3.46	30	
Anthracene	138.3	3.3	166.6	4.444	80.4	50 - 123	145.1	4.82	30	
Benz(a)anthracene	150.9	3.3	166.6	4.843	87.7	50 - 131	156.7	3.8	30	
Benzo(a)pyrene	150.6	3.3	166.6	5.153	87.4	50 - 130	158.4	5	30	
Bis(2-chloroethoxy)methane	134.3	6.6	166.6	0	80.6	50 - 120	148.2	9.87	30	
Bis(2-ethylhexyl)phthalate	151.4	6.6	166.6	2.057	89.7	21 - 148	160.9	6.12	30	
Chrysene	139.3	3.3	166.6	43.59	57.5	50 - 130	147.9	5.95	30	
Dibenzofuran	113.2	3.3	166.6	0.9796	67.4	50 - 125	133	16.1	30	
Di-n-butyl phthalate	142.7	6.6	166.6	1.448	84.8	50 - 140	153.5	7.32	30	
Fluoranthene	160.7	3.3	166.6	12.75	88.8	50 - 131	181.2	12	30	
Fluorene	116.7	3.3	166.6	0	70.0	50 - 125	131.1	11.7	30	
Naphthalene	128.4	3.3	166.6	5.227	74.0	50 - 125	133.5	3.87	30	
Nitrobenzene	144.5	6.6	166.6	0	86.8	50 - 125	158.4	9.14	30	
N-Nitrosodiphenylamine	130.4	6.6	166.6	0	78.3	50 - 130	135	3.48	30	
Pentachlorophenol	120.2	6.6	166.6	0	72.2	23 - 136	116	3.57	30	
Phenanthrene	134.6	3.3	166.6	96.78	22.7	50 - 125	146.6	8.57	30	S
Phenol	128.2	6.6	166.6	5.683	73.6	45 - 130	145.1	12.4	30	
Pyrene	144.3	3.3	166.6	6.557	82.7	45 - 130	148	2.52	30	
Surr: 2,4,6-Tribromophenol	*176.1*	*0*	*166.6*	*0*	*106*	*36 - 126*	*193*	*9.15*	*30*	
Surr: 2-Fluorobiphenyl	*119.9*	*0*	*166.6*	*0*	*72.0*	*43 - 125*	*125.7*	*4.73*	*30*	
Surr: 2-Fluorophenol	*129.3*	*0*	*166.6*	*0*	*77.7*	*37 - 125*	*153*	*16.8*	*30*	
Surr: 4-Terphenyl-d14	*144.9*	*0*	*166.6*	*0*	*87.0*	*32 - 125*	*147.5*	*1.78*	*30*	
Surr: Nitrobenzene-d5	*150.5*	*0*	*166.6*	*0*	*90.3*	*37 - 125*	*167.1*	*10.5*	*30*	
Surr: Phenol-d6	*152*	*0*	*166.6*	*0*	*91.3*	*40 - 125*	*182.7*	*18.3*	*30*	

The following samples were anayzed in this batch: HS16020048-01 HS16020048-02 HS16020048-03 HS16020048-04

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
WorkOrder: HS16020048

QC BATCH REPORT

Batch ID: R268704 **Instrument: Balance1** **Method: ASTM D2216**

DUP Sample ID: **HS16020050-04DUP** Units: **wt%** Analysis Date: **02-Feb-2016 10:01**
Client ID: Run ID: **Balance1_268704** SeqNo: **3573731** PrepDate: DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Percent Moisture	19.1	0.0100					19.4	1.56	20	

The following samples were anayzed in this batch: HS16020048-01 HS16020048-02 HS16020048-03 HS16020048-04

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
WorkOrder: **HS16020048**

QUALIFIERS, ACRONYMS, UNITS

Qualifier	Description
*	Value exceeds Regulatory Limit
a	Not accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte detected below quantitation limit
M	Manually integrated, see raw data for justification
n	Not offered for accreditation
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL/SDL

Acronym	Description
DCS	Detectability Check Study
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
MBLK	Method Blank
MDL	Method Detection Limit
MQL	Method Quantitation Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PDS	Post Digestion Spike
PQL	Practical Quantitaion Limit
SD	Serial Dilution
SDL	Sample Detection Limit
TRRP	Texas Risk Reduction Program

Unit Reported	Description
mg/Kg-dry	Milligrams per Kilogram- Dry weight corrected

CERTIFICATIONS,ACCREDITATIONS & LICENSES

Agency	Number	Expire Date
Arkansas	15-024-0	27-Mar-2016
California	2919	31-Jul-2016
Illinois	003622	09-May-2016
Kentucky	KY 2015-2016	30-Apr-2016
Louisiana	03087 2015/2016	30-Jun-2016
North Carolina	624 - 2016	31-Dec-2016
North Dakota	R-193 2015-2016	30-Apr-2016
Oklahoma	2015-047	31-Aug-2016
Texas	T104704231-15-15	30-Apr-2016

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
Work Order: HS16020048

SAMPLE TRACKING

Lab Samp ID	Client Sample ID	Action	Date	Person	New Location
HS16020048-01	SO-1620-CSCW1(0-5)-20160201	Login	2/1/2016 6:18:19 PM	PMG	11D
HS16020048-02	SO-1620-CSCN1(0-5)-20160201	Login	2/1/2016 6:18:19 PM	PMG	11D
HS16020048-03	SO-1620-CSCS1(0-5)-20160201	Login	2/1/2016 6:18:19 PM	PMG	11D
HS16020048-04	SO-1620-CSCE1(0-5)-20160201	Login	2/1/2016 6:18:19 PM	PMG	11D

Sample Receipt Checklist

Client Name: PBW
Work Order: HS16020048

Date/Time Received: **01-Feb-2016 17:50**
Received by: **PMG**

Checklist completed by: *Paresh M. Giga* eSignature — 1-Feb-2016 Date

Reviewed by: *Dane J. Wacasey* eSignature — 2-Feb-2016 Date

Matrices: **Soil**

Carrier name: **Client**

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on shipping container/cooler?	Yes ☐	No ☐	Not Present ☑
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☑	No ☐	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
TX1005 solids received in hermetically sealed vials?	Yes ☐	No ☐	N/A ☑
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time?	Yes ☑	No ☐	
Container/Temp Blank temperature in compliance?	Yes ☑	No ☐	
Temperature(s)/Thermometer(s):	3.0c/3.5c U/C	IR5	
Cooler(s)/Kit(s):	2209		
Date/Time sample(s) sent to storage:	2/1/16 18:30		
Water - VOA vials have zero headspace?	Yes ☐	No ☐	No VOA vials submitted ☑
Water - pH acceptable upon receipt?	Yes ☐	No ☐	N/A ☑
pH adjusted?	Yes ☐	No ☑	N/A ☐
pH adjusted by:			

Login Notes: Trip Blank logged in on hold. No VOC analysis associated.

Client Contacted: Date Contacted: Person Contacted:

Contacted By: 0 Regarding:

Comments:

Corrective Action:

ALS Environmental

Cincinnati, OH +1 513 733 5336
Everett, WA +1 425 356 2600
Fort Collins, CO +1 970 490 1511
Holland, MI +1 616 399 6070

Chain of Custody Form

Page 1 of 1

COC ID: 141482

HS16020048

Pastor, Behling & Wheeler, LLC

1620-10-Rev1 HoustonTX-Wood

ALS Project Manager:

Customer Information		Project Information	
Purchase Order	UPRR	Project Name	1620-10-Rev1 HoustonTX-Wood
Work Order		Project Number	1620-10-Rev1
Company Name	Pastor, Behling & Wheeler, LLC	Bill To Company	Union Pacific Railroad- A/P
Send Report To	Eric Matzner	Invoice Attn	Accounts Payable
Address	2201 Double Creek Drive Suite 4004	Address	1400 Douglas Street Stop 0750
City/State/Zip	Round Rock, TX 78664	City/State/Zip	Omaha, NE 681790750
Phone	(512) 671-3434	Phone	
Fax	(512) 671-3446	Fax	
e-Mail Address		e-Mail Address	

A	8270_LOW_S (5632532 SemiVolatiles)
B	ICP_S_Low (5636002 5652646 Metals - As, Pb)
C	MOIST_ASTM (5631931 Gen.Chem. MOIST%)
D	
E	
F	
G	
H	
I	
J	

No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
1	SO-1620-BSD1(5)-20160201	2-1-2016	1100	Soil	8	1											
2	SO-1620-BSD2(5)-20160201	2-1-2016	1115	Soil	8	1											
3	SO-1620-BSE1(5)-20160201	2-1-2016	1330	Soil	8	1											
4	SO-1620-BSE2(5)-20160201	2-1-2016	1340	Soil	8	1											
5	SO-1620-CSCW1(0-5)-20160201	2-1-2016	1450	Soil	8	1											
6	SO-1620-CSCN1(0-5)-20160201	2-1-2016	1455	Soil	8	1											
7	SO-1620-CSCS1(0-5)-20160201	2-1-2016	1505	Soil	8	1											
8	SO-1620-CSCE1(0-5)-20160201	2-1-2016	1515	Soil	8	1											
9																	
10																	

Standard Turn Around

RUSH 24-hr. TAT

Sampler(s) Please Print & Sign: Stephen Grahmann Stephen Grahmann

Shipment Method:

Required Turnaround Time: (Check Box) TAT 1 days Other:

Results Due Date:

Relinquished by: Stephen Graham	Date: 2-1-2016	Time: 1750	Received by:	
Relinquished by:	Date:	Time:	Received by (Laboratory):	
Logged by (Laboratory):	Date:	Time:	Checked by (Laboratory): 2.1.16. 17:50.	

Notes: [UPRR Houston MWPW]

Cooler ID	Cooler Temp.
2209	3.0

QC Package: (Check One Box Below)

QC Level: TRRP LRC

Other:

Preservative Key: 1-HCl 2-HNO_3 3-H_2SO_4 4-NaOH 5-$Na_2S_2O_3$ 6-$NaHSO_4$ 7-Other 8-4°C 9-5035

Note:
1. Any changes must be made in writing once samples and COC Form have been submitted to ALS Environmental.
2. Unless otherwise agreed in a formal contract, services provided by ALS Environmental are expressly limited to the terms and conditions stated on the reverse.
3. The Chain of Custody is a legal document. All information must be completed accurately.

10450 Stancliff Rd. Suite 210
Houston, TX 77099
T: +1 281 530 5656
F: +1 281 530 5887
www.alsglobal.com

February 10, 2016

Eric Matzner
Pastor, Behling & Wheeler, LLC
2201 Double Creek Drive
Suite 4004
Round Rock, TX 78664

Work Order: **HS16020050**

Laboratory Results for: **1620-10-Rev1 HoustonTX-Wood**

Dear Eric,

ALS Environmental received 4 sample(s) on Feb 01, 2016 for the analysis presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested. Results are expressed as "as received" unless otherwise noted.

QC sample results for this data met EPA or laboratory specifications except as noted in the Case Narrative or as noted with qualifiers in the QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained by ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

If you have any questions regarding this report, please feel free to call me.

Sincerely,

Generated By: Jumoke.Lawal
Dane J. Wacasey

Client:	Pastor, Behling & Wheeler, LLC	**TRRP Laboratory Data Package Cover Page**
Project:	1620-10-Rev1 HoustonTX-Wood	
WorkOrder:	**HS16020050**	

This data package consists of all or some of the following as applicable:

This signature page, the laboratory review checklist, and the following reportable data:

R1 Field chain-of-custody documentation;

R2 Sample identification cross-reference;

R3 Test reports (analytical data sheets) for each environmental sample that includes:

a) Items consistent with NELAC Chapter 5,
b) dilution factors,
c) preparation methods,
d) cleanup methods, and
e) if required for the project, tentatively identified compounds (TICs).

R4 Surrogate recovery data including:

a) Calculated recovery (%R), and
b) The laboratory's surrogate QC limits.

R5 Test reports/summary forms for blank samples;

R6 Test reports/summary forms for laboratory control samples (LCSs) including:

a) LCS spiking amounts,
b) Calculated %R for each analyte, and
c)The laboratory's LCS QC limits.

R7 Test reports for project matrix spike/matrix spike duplicates (MS/MSDs) including:

a) Samples associated with the MS/MSD clearly identified,
b) MS/MSD spiking amounts,
c) Concentration of each MS/MSD analyte measured in the parent and spiked samples,
d) Calculated %Rs and relative percent differences (RPDs), and
e) The laboratory's MS/MSD QC limits.

R8 Laboratory analytical duplicate (if applicable) recovery and precision:

a) the amount of analyte measured in the duplicate,
b) the calculated RPD, and
c) the laboratory's QC limits for analytical duplicates.

R9 List of method quantitation limits (MQLs) and detectability check sample results for each analyte for each method and matrix.

R10 Other problems or anomalies.
The Exception Report for each "No" or "Not Reviewed (NR)" item in Laboratory Review Checklist and for each analyte, matrix, and method for which the laboratory does not hold NELAC accreditation under the Texas Laboratory Accreditation Program.

Client:	Pastor, Behling & Wheeler, LLC
Project:	1620-10-Rev1 HoustonTX-Wood
WorkOrder:	**HS16020050**

TRRP Laboratory Data Package Cover Page

Release Statement: I am responsible for the release of this laboratory data package. This laboratory is NELAC accredited under the Texas Laboratory Accreditation Program for all the methods, analytes and matrices reported in this data package except as noted in the Exception Reports. The data have been reviewed and are technically compliant with the requirements of the methods used, except where noted by the laboratory in the attached exception reports. By my signature below, I affirm to the best of my knowledge, all problems/anomalies, observed by the laboratory have been identified by the laboratory in the Laboratory Review Checklist, and no information affecting the quality of the data has been knowingly withheld.

Check, if applicable: [NA] This laboratory meets an exception under 30 TAC §25.6 and was last inspected by [ ] TCEQ or [ ] _____ on (enter date of last inspection). Any findings affecting the data in this laboratory data package are noted in the Exception Reports herein. The official signing the cover page of the report in which these data are used is responsible for releasing this data package and is by signature affirming the above release statement is true.

Dane J. Wacasey

Laboratory Review Checklist: Reportable Data								
Laboratory Name: ALS Laboratory Group			LRC Date: 02/10/2016					
Project Name: 1620-10-Rev1 HoustonTX-Wood			Laboratory Job Number: HS16020050					
Reviewer Name: Dane Wacasey			Prep Batch Number(s): 101167,101173,R268704					
#[1]	**A[2]**	**Description**	**Yes**	**No**	**NA[3]**	**NR[4]**	**ER#[5]**
R1	OI	**Chain-of-custody (C-O-C)**					
		Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?	X				
		Were all departures from standard conditions described in an exception report?	X				
R2	OI	**Sample and quality control (QC) identification**					
		Are all field sample ID numbers cross-referenced to the laboratory ID numbers?	X				
		Are all laboratory ID numbers cross-referenced to the corresponding QC data?	X				
R3	OI	**Test reports**					
		Were all samples prepared and analyzed within holding times?	X				
		Other than those results < MQL, were all other raw values bracketed by calibration standards?	X				
		Were calculations checked by a peer or supervisor?	X				
		Were all analyte identifications checked by a peer or supervisor?	X				
		Were sample detection limits reported for all analytes not detected?	X				
		Were all results for soil and sediment samples reported on a dry weight basis?	X				
		Were % moisture (or solids) reported for all soil and sediment samples?	X				
		Were bulk soils/solids samples for volatile analysis extracted with methanol per SW-846 Method 5035?			X		
		If required for the project, TICs reported?			X		
R4	O	**Surrogate recovery data**					
		Were surrogates added prior to extraction?	X				
		Were surrogate percent recoveries in all samples within the laboratory QC limits?		X			1
R5	OI	**Test reports/summary forms for blank samples**					
		Were appropriate type(s) of blanks analyzed?	X				
		Were blanks analyzed at the appropriate frequency?	X				
		Were method blanks taken through the entire analytical process, including preparation and, if applicable, cleanup procedures?	X				
		Were blank concentrations < MQL?	X				
R6	OI	**Laboratory control samples (LCS):**					
		Were all COCs included in the LCS?	X				
		Was each LCS taken through the entire analytical procedure, including prep and cleanup steps?	X				
		Were LCSs analyzed at the required frequency?	X				
		Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?	X				
		Does the detectability data document the laboratory's capability to detect the COCs at the MDL used to calculate the SDLs?	X				
		Was the LCSD RPD within QC limits?	X				
R7	OI	**Matrix spike (MS) and matrix spike duplicate (MSD) data**					
		Were the project/method specified analytes included in the MS and MSD?	X				
		Were MS/MSD analyzed at the appropriate frequency?	X				
		Were MS (and MSD, if applicable) %Rs within the laboratory QC limits?		X			2
		Were MS/MSD RPDs within laboratory QC limits?		X			3
R8	OI	**Analytical duplicate data**					
		Were appropriate analytical duplicates analyzed for each matrix?	X				
		Were analytical duplicates analyzed at the appropriate frequency?	X				
		Were RPDs or relative standard deviations within the laboratory QC limits?	X				
R9	OI	**Method quantitation limits (MQLs):**					
		Are the MQLs for each method analyte included in the laboratory data package?	X				
		Do the MQLs correspond to the concentration of the lowest non-zero calibration standard?	X				
		Are unadjusted MQLs and DCSs included in the laboratory data package?	X				
R10	OI	**Other problems/anomalies**					
		Are all known problems/anomalies/special conditions noted in this LRC and ER?	X				
		Were all necessary corrective actions performed for the reported data?	X				
		Was applicable and available technology used to lower the SDL and minimize the matrix interference affects on the sample results?	X				
		Is the laboratory NELAC-accredited under the Texas Laboratory Program for the analytes, matrices and methods associated with this laboratory data package?	X				

Laboratory Review Checklist: Reportable Data							
Laboratory Name: ALS Laboratory Group			LRC Date: 02/10/2016				
Project Name: 1620-10-Rev1 HoustonTX-Wood			Laboratory Job Number: HS16020050				
Reviewer Name: Dane Wacasey			Prep Batch Number(s): 101167,101173,R268704				
#[1]	A[2]	Description	Yes	No	NA[3]	NR[4]	ER#[5]
S1	OI	**Initial calibration (ICAL)**					
		Were response factors and/or relative response factors for each analyte within QC limits?	X				
		Were percent RSDs or correlation coefficient criteria met?	X				
		Was the number of standards recommended in the method used for all analytes?	X				
		Were all points generated between the lowest and highest standard used to calculate the curve?	X				
		Are ICAL data available for all instruments used?	X				
		Has the initial calibration curve been verified using an appropriate second source standard?	X				
S2	OI	**Initial and continuing calibration verification (ICCV and CCV) and continuing calibration blank (CCB)**					
		Was the CCV analyzed at the method-required frequency?	X				
		Were percent differences for each analyte within the method-required QC limits?	X				
		Was the ICAL curve verified for each analyte?	X				
		Was the absolute value of the analyte concentration in the inorganic CCB < MDL?		X			4
S3	O	**Mass spectral tuning:**					
		Was the appropriate compound for the method used for tuning?	X				
		Were ion abundance data within the method-required QC limits?	X				
S4	O	**Internal standards (IS):**					
		Were IS area counts and retention times within the method-required QC limits?	X				
S5	OI	**Raw data** (NELAC section 1 appendix A glossary, and section 5.12 or ISO/IEC 17025 section					
		Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst?	X				
		Were data associated with manual integrations flagged on the raw data?	X				
S6	O	**Dual column confirmation**					
		Did dual column confirmation results meet the method-required QC?			X		
S7	O	**Tentatively identified compounds (TICs):**					
		If TICs were requested, were the mass spectra and TIC data subject to appropriate checks?			X		
S8	I	**Interference Check Sample (ICS) results:**					
		Were percent recoveries within method QC limits?	X				
S9	I	**Serial dilutions, post digestion spikes, and method of standard additions**					
		Were percent differences, recoveries, and the linearity within the QC limits specified in the method?	X				
S10	OI	**Method detection limit (MDL) studies**					
		Was a MDL study performed for each reported analyte?	X				
		Is the MDL either adjusted or supported by the analysis of DCSs?	X				
S11	OI	**Proficiency test reports:**					
		Was the laboratory's performance acceptable on the applicable proficiency tests or evaluation studies?	X				
S12	OI	**Standards documentation**					
		Are all standards used in the analyses NIST-traceable or obtained from other appropriate sources?	X				
S13	OI	**Compound/analyte identification procedures**					
		Are the procedures for compound/analyte identification documented?	X				
S14	OI	**Demonstration of analyst competency (DOC)**					
		Was DOC conducted consistent with NELAC Chapter 5C or ISO/IEC 4?	X				
		Is documentation of the analyst's competency up-to-date and on file?	X				
S15	OI	**Verification/validation documentation for methods** (NELAC Chap 5 or ISO/IEC 17025 Section 5)					
		Are all the methods used to generate the data documented, verified, and validated, where applicable?	X				
S16	OI	**Laboratory standard operating procedures (SOPs):**					
		Are laboratory SOPs current and on file for each method performed?	X				

Items identified by the letter "R" must be included in the laboratory data package submitted in the TRRP-required report(s). Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period.
O = Organic Analyses; I = Inorganic Analyses (and general chemistry, when applicable);
NA = Not Applicable;
NR = Not Reviewed;
R# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

Laboratory Review Checklist: Reportable Data	
Laboratory Name: ALS Laboratory Group	LRC Date: 02/10/2016
Project Name: 1620-10-Rev1 HoustonTX-Wood	Laboratory Job Number: HS16020050
Reviewer Name: Dane Wacasey	Prep Batch Number(s): 101167,101173,R268704

ER#[5]	Description
1	Semivolatile Organics Method SW8270, sample SO-1620-BSD1(5)-20160201; The surrogate recoveries could not be determined due to dilution below the calibration range. Semivolatile Organics Method SW8270, sample SO-1620-BSE1(5)-20160201, surrogates 4-Terphenyl-d14 and Phenol-d6 recovered outside the control limits due to sample matrix interference.
2	Batch 101173, Semivolatile Organics Method SW8270, sample HS16020149-03, MS and MSD were performed on unrelated sample.
3	Batch 101173, Semivolatile Organics Method SW8270, sample HS16020149-03, MSD RPD is for an unrelated sample.
4	See Run Log and CCB Exceptions Report.

Items identified by the letter "R" must be included in the laboratory data package submitted in the TRRP-required report(s). Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period.
O = Organic Analyses; I = Inorganic Analyses (and general chemistry, when applicable);
NA = Not Applicable;
NR = Not Reviewed;
R# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

FORM 13 - ANALYSIS RUN LOG

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
WorkOrder: HS16020050
Start Date: 04-Feb-2016 End Date: 04-Feb-2016

Run ID:ICPMS03_268795
Instrument:ICPMS03
Method:SW6020

Sample No.	D/F	Time	FileID	Analytes
ICV	1	04-Feb-2016 15:40	009ICV1.D#	AS PB
LLICV2	1	04-Feb-2016 15:44	010SMPL.D#	AS PB
LLICV5	1	04-Feb-2016 15:48	011SMPL.D#	AS PB
ICB	1	04-Feb-2016 15:53	012_ICB.D#	AS PB
ICSA	1	04-Feb-2016 15:59	013SMPL.D#	AS PB
ICSAB	1	04-Feb-2016 16:03	014SMPL.D#	AS PB
CCV 1	1	04-Feb-2016 16:47	024CCV1.D#	AS PB
CCB 1	1	04-Feb-2016 17:05	028SMPL.D#	AS PB
ICCV 2	1	04-Feb-2016 17:39	036SMPL.D#	AS PB
LLCCV2	1	04-Feb-2016 17:44	037SMPL.D#	AS PB
LLCCV5	1	04-Feb-2016 17:48	038SMPL.D#	AS PB
ICCB 2	1	04-Feb-2016 17:52	039_CCB.D#	AS PB
CCV 3	1	04-Feb-2016 17:57	040CCV1.D#	AS PB
CCB 3	1	04-Feb-2016 18:01	041_CCB.D#	AS PB
CCV 4	1	04-Feb-2016 18:40	050CCV1.D#	AS PB
CCB 4	1	04-Feb-2016 18:44	051_CCB.D#	AS PB
CCV 5	1	04-Feb-2016 19:27	061CCV1.D#	AS PB
CCB 5	1	04-Feb-2016 19:31	062_CCB.D#	AS PB
MBLKB-101167	1	04-Feb-2016 19:36	063SMPL.D#	AS PB
MLCSB-101167	1	04-Feb-2016 19:40	064SMPL.D#	AS PB
ZZZZZZSD	5	04-Feb-2016 19:57	068SMPL.D#	AS PB
ZZZZZZMS	1	04-Feb-2016 20:02	069SMPL.D#	AS PB
ZZZZZZMSD	1	04-Feb-2016 20:06	070SMPL.D#	AS PB
ZZZZZZPDS	1	04-Feb-2016 20:10	071SMPL.D#	AS PB
CCV 6	1	04-Feb-2016 20:14	072CCV1.D#	AS PB
CCB 6	1	04-Feb-2016 20:19	073_CCB.D#	AS PB
SO-1620-BSD1(5)-20160201	1	04-Feb-2016 20:53	081SMPL.D#	AS PB
CCV 7	1	04-Feb-2016 21:02	083CCV1.D#	AS PB
CCB 7	1	04-Feb-2016 21:06	084SMPL.D#	AS PB
ICCV 8	1	04-Feb-2016 21:40	092SMPL.D#	AS PB
LLCCV2	1	04-Feb-2016 21:45	093SMPL.D#	AS PB
LLCCV5	1	04-Feb-2016 21:49	094SMPL.D#	AS PB
ICCB 8	1	04-Feb-2016 21:53	095_CCB.D#	AS PB

FORM 13 - ANALYSIS RUN LOG

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
WorkOrder: HS16020050
Start Date: 04-Feb-2016 End Date: 04-Feb-2016

Run ID:ICPMS03_268795
Instrument:ICPMS03
Method:SW6020

Sample No.	D/F	Time	FileID	Analytes
CCV 9	1	04-Feb-2016 21:58	096CCV1.D#	AS PB
CCB 9	1	04-Feb-2016 22:02	097_CCB.D#	AS PB
SO-1620-BSD2(5)-20160201	1	04-Feb-2016 22:06	098SMPL.D#	AS PB
SO-1620-BSE1(5)-20160201	1	04-Feb-2016 22:10	099SMPL.D#	AS PB
SO-1620-BSE2(5)-20160201	1	04-Feb-2016 22:15	100SMPL.D#	AS PB
CCV 10	1	04-Feb-2016 22:45	107CCV1.D#	AS PB
CCB 10	1	04-Feb-2016 22:49	108_CCB.D#	AS PB
LLCCV5	1	04-Feb-2016 22:54	109SMPL.D#	AS PB
LLCCV2	1	04-Feb-2016 22:58	110SMPL.D#	AS PB
ICSA	1	04-Feb-2016 23:02	111SMPL.D#	AS PB
ICSAB	1	04-Feb-2016 23:06	112SMPL.D#	AS PB

CCB EXCEPTIONS REPORT

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
WorkOrder: HS16020050

Run ID:ICPMS03_268795
Instrument:ICPMS03
Method:SW6020

CCB 9	Date: 04-Feb-2016 22:02	Seq: 3576066	D/F: 1	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	
Arsenic	0.4067	0.4	5	

CCB 10	Date: 04-Feb-2016 22:49	Seq: 3576077	D/F: 1	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	
Arsenic	0.4195	0.4	5	

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
Work Order: HS16020050

SAMPLE SUMMARY

Lab Samp ID	Client Sample ID	Matrix	TagNo	Collection Date	Date Received	Hold
HS16020050-01	SO-1620-BSD1(5)-20160201	Soil		01-Feb-2016 11:00	01-Feb-2016 17:50	☐
HS16020050-02	SO-1620-BSD2(5)-20160201	Soil		01-Feb-2016 11:15	01-Feb-2016 17:50	☐
HS16020050-03	SO-1620-BSE1(5)-20160201	Soil		01-Feb-2016 13:30	01-Feb-2016 17:50	☐
HS16020050-04	SO-1620-BSE2(5)-20160201	Soil		01-Feb-2016 13:40	01-Feb-2016 17:50	☐

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
Sample ID: SO-1620-BSD1(5)-20160201
Collection Date: 01-Feb-2016 11:00

ANALYTICAL REPORT
WorkOrder:HS16020050
Lab ID:HS16020050-01
Matrix:Soil

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES	**Method:SW8270**				Prep:SW3541 / 04-Feb-2016		Analyst: ACN
1,2-Diphenylhydrazine	U		0.0013	0.0078	mg/Kg-dry	1	05-Feb-2016 18:10
2,4-Dimethylphenol	U		0.0039	0.0078	mg/Kg-dry	1	05-Feb-2016 18:10
2,4-Dinitrotoluene	U		0.0011	0.0078	mg/Kg-dry	1	05-Feb-2016 18:10
2,6-Dinitrotoluene	U		0.0039	0.0078	mg/Kg-dry	1	05-Feb-2016 18:10
2-Chloronaphthalene	U		0.0015	0.0078	mg/Kg-dry	1	05-Feb-2016 18:10
2-Methylnaphthalene	**1.4**		**0.059**	**0.39**	**mg/Kg-dry**	100	08-Feb-2016 23:05
4,6-Dinitro-2-methylphenol	U		0.0025	0.0078	mg/Kg-dry	1	05-Feb-2016 18:10
4-Nitrophenol	U		0.0022	0.016	mg/Kg-dry	1	05-Feb-2016 18:10
Acenaphthene	**7.7**		**0.059**	**0.39**	**mg/Kg-dry**	100	08-Feb-2016 23:05
Acenaphthylene	**0.064**		**0.0012**	**0.0039**	**mg/Kg-dry**	1	05-Feb-2016 18:10
Anthracene	**8.4**		**0.059**	**0.39**	**mg/Kg-dry**	100	08-Feb-2016 23:05
Benz(a)anthracene	**1.8**		**0.19**	**0.39**	**mg/Kg-dry**	100	08-Feb-2016 23:05
Benzo(a)pyrene	**0.37**		**0.0012**	**0.0039**	**mg/Kg-dry**	1	05-Feb-2016 18:10
Bis(2-chloroethoxy)methane	U		0.0011	0.0078	mg/Kg-dry	1	05-Feb-2016 18:10
Bis(2-ethylhexyl)phthalate	**0.021**		**0.0020**	**0.0078**	**mg/Kg-dry**	1	05-Feb-2016 18:10
Chrysene	**2.0**		**0.094**	**0.39**	**mg/Kg-dry**	100	08-Feb-2016 23:05
Dibenzofuran	**5.6**		**0.083**	**0.39**	**mg/Kg-dry**	100	08-Feb-2016 23:05
Di-n-butyl phthalate	U		0.0014	0.0078	mg/Kg-dry	1	05-Feb-2016 18:10
Fluoranthene	**9.7**		**0.13**	**0.39**	**mg/Kg-dry**	100	08-Feb-2016 23:05
Fluorene	**9.2**		**0.13**	**0.39**	**mg/Kg-dry**	100	08-Feb-2016 23:05
Naphthalene	**7.1**		**0.071**	**0.39**	**mg/Kg-dry**	100	08-Feb-2016 23:05
Nitrobenzene	U		0.0011	0.0078	mg/Kg-dry	1	05-Feb-2016 18:10
N-Nitrosodiphenylamine	U		0.00083	0.0078	mg/Kg-dry	1	05-Feb-2016 18:10
Pentachlorophenol	U		0.0039	0.0078	mg/Kg-dry	1	05-Feb-2016 18:10
Phenanthrene	**20**		**0.18**	**0.39**	**mg/Kg-dry**	100	08-Feb-2016 23:05
Phenol	**0.0074**	J	**0.0013**	**0.0078**	**mg/Kg-dry**	1	05-Feb-2016 18:10
Pyrene	**8.0**		**0.071**	**0.39**	**mg/Kg-dry**	100	08-Feb-2016 23:05
Surr: 2,4,6-Tribromophenol	*70.8*			*36-126*	*%REC*	*1*	*05-Feb-2016 18:10*
Surr: 2,4,6-Tribromophenol	*0*	*S*		*36-126*	*%REC*	*100*	*08-Feb-2016 23:05*
Surr: 2-Fluorobiphenyl	*53.5*			*43-125*	*%REC*	*1*	*05-Feb-2016 18:10*
Surr: 2-Fluorobiphenyl	*0*	*S*		*43-125*	*%REC*	*100*	*08-Feb-2016 23:05*
Surr: 2-Fluorophenol	*51.5*			*37-125*	*%REC*	*1*	*05-Feb-2016 18:10*
Surr: 2-Fluorophenol	*0*	*S*		*37-125*	*%REC*	*100*	*08-Feb-2016 23:05*
Surr: 4-Terphenyl-d14	*89.0*			*32-125*	*%REC*	*1*	*05-Feb-2016 18:10*
Surr: 4-Terphenyl-d14	*0*	*S*		*32-125*	*%REC*	*100*	*08-Feb-2016 23:05*
Surr: Nitrobenzene-d5	*122*			*37-125*	*%REC*	*1*	*05-Feb-2016 18:10*
Surr: Nitrobenzene-d5	*0*	*S*		*37-125*	*%REC*	*100*	*08-Feb-2016 23:05*
Surr: Phenol-d6	*65.5*			*40-125*	*%REC*	*1*	*05-Feb-2016 18:10*
Surr: Phenol-d6	*0*	*S*		*40-125*	*%REC*	*100*	*08-Feb-2016 23:05*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Pastor, Behling & Wheeler, LLC
ANALYTICAL REPORT
Project: 1620-10-Rev1 HoustonTX-Wood
WorkOrder:HS16020050
Sample ID: SO-1620-BSD1(5)-20160201
Lab ID:HS16020050-01
Collection Date: 01-Feb-2016 11:00
Matrix:Soil

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
METALS BY SW6020A	**Method:SW6020**				Prep:SW3050A / 04-Feb-2016		Analyst: JDE
Arsenic	**0.860**		**0.110**	**0.549**	**mg/Kg-dry**	1	04-Feb-2016 20:53
Lead	**6.85**		**0.0549**	**0.549**	**mg/Kg-dry**	1	04-Feb-2016 20:53
MOISTURE - ASTM D2216	**Method:ASTM D2216**						Analyst: DFF
Percent Moisture	**15.4**		**0.0100**	**0.0100**	**wt%**	1	02-Feb-2016 10:01

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
Sample ID: SO-1620-BSD2(5)-20160201
Collection Date: 01-Feb-2016 11:15

ANALYTICAL REPORT
WorkOrder:HS16020050
Lab ID:HS16020050-02
Matrix:Soil

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES	**Method:SW8270**				Prep:SW3541 / 04-Feb-2016		Analyst: ACN
1,2-Diphenylhydrazine	U		0.0014	0.0081	mg/Kg-dry	1	05-Feb-2016 18:29
2,4-Dimethylphenol	U		0.0041	0.0081	mg/Kg-dry	1	05-Feb-2016 18:29
2,4-Dinitrotoluene	U		0.0011	0.0081	mg/Kg-dry	1	05-Feb-2016 18:29
2,6-Dinitrotoluene	U		0.0041	0.0081	mg/Kg-dry	1	05-Feb-2016 18:29
2-Chloronaphthalene	U		0.0016	0.0081	mg/Kg-dry	1	05-Feb-2016 18:29
2-Methylnaphthalene	**0.010**		**0.00062**	**0.0041**	**mg/Kg-dry**	1	05-Feb-2016 18:29
4,6-Dinitro-2-methylphenol	U		0.0026	0.0081	mg/Kg-dry	1	05-Feb-2016 18:29
4-Nitrophenol	**0.042**		**0.0023**	**0.016**	**mg/Kg-dry**	1	05-Feb-2016 18:29
Acenaphthene	**0.022**		**0.00062**	**0.0041**	**mg/Kg-dry**	1	05-Feb-2016 18:29
Acenaphthylene	**0.17**		**0.0012**	**0.0041**	**mg/Kg-dry**	1	05-Feb-2016 18:29
Anthracene	**0.084**		**0.00062**	**0.0041**	**mg/Kg-dry**	1	05-Feb-2016 18:29
Benz(a)anthracene	**0.28**		**0.0020**	**0.0041**	**mg/Kg-dry**	1	05-Feb-2016 18:29
Benzo(a)pyrene	**1.0**		**0.0062**	**0.020**	**mg/Kg-dry**	5	08-Feb-2016 23:24
Bis(2-chloroethoxy)methane	U		0.0011	0.0081	mg/Kg-dry	1	05-Feb-2016 18:29
Bis(2-ethylhexyl)phthalate	**0.011**		**0.0021**	**0.0081**	**mg/Kg-dry**	1	05-Feb-2016 18:29
Chrysene	**0.64**		**0.0049**	**0.020**	**mg/Kg-dry**	5	08-Feb-2016 23:24
Dibenzofuran	**0.022**		**0.00086**	**0.0041**	**mg/Kg-dry**	1	05-Feb-2016 18:29
Di-n-butyl phthalate	**0.0030**	J	**0.0015**	**0.0081**	**mg/Kg-dry**	1	05-Feb-2016 18:29
Fluoranthene	**0.47**		**0.0068**	**0.020**	**mg/Kg-dry**	5	08-Feb-2016 23:24
Fluorene	**0.028**		**0.0014**	**0.0041**	**mg/Kg-dry**	1	05-Feb-2016 18:29
Naphthalene	**0.037**		**0.00074**	**0.0041**	**mg/Kg-dry**	1	05-Feb-2016 18:29
Nitrobenzene	U		0.0011	0.0081	mg/Kg-dry	1	05-Feb-2016 18:29
N-Nitrosodiphenylamine	U		0.00086	0.0081	mg/Kg-dry	1	05-Feb-2016 18:29
Pentachlorophenol	U		0.0041	0.0081	mg/Kg-dry	1	05-Feb-2016 18:29
Phenanthrene	**0.087**		**0.0018**	**0.0041**	**mg/Kg-dry**	1	05-Feb-2016 18:29
Phenol	**0.0041**	J	**0.0014**	**0.0081**	**mg/Kg-dry**	1	05-Feb-2016 18:29
Pyrene	**0.19**		**0.00074**	**0.0041**	**mg/Kg-dry**	1	05-Feb-2016 18:29
Surr: 2,4,6-Tribromophenol	*125*			*36-126*	*%REC*	*1*	*05-Feb-2016 18:29*
Surr: 2,4,6-Tribromophenol	*64.4*			*36-126*	*%REC*	*5*	*08-Feb-2016 23:24*
Surr: 2-Fluorobiphenyl	*97.7*			*43-125*	*%REC*	*1*	*05-Feb-2016 18:29*
Surr: 2-Fluorobiphenyl	*54.8*			*43-125*	*%REC*	*5*	*08-Feb-2016 23:24*
Surr: 2-Fluorophenol	*63.5*			*37-125*	*%REC*	*1*	*05-Feb-2016 18:29*
Surr: 2-Fluorophenol	*67.5*			*37-125*	*%REC*	*5*	*08-Feb-2016 23:24*
Surr: 4-Terphenyl-d14	*107*			*32-125*	*%REC*	*1*	*05-Feb-2016 18:29*
Surr: 4-Terphenyl-d14	*124*			*32-125*	*%REC*	*5*	*08-Feb-2016 23:24*
Surr: Nitrobenzene-d5	*104*			*37-125*	*%REC*	*1*	*05-Feb-2016 18:29*
Surr: Nitrobenzene-d5	*91.6*			*37-125*	*%REC*	*5*	*08-Feb-2016 23:24*
Surr: Phenol-d6	*55.7*			*40-125*	*%REC*	*5*	*08-Feb-2016 23:24*
Surr: Phenol-d6	*98.8*			*40-125*	*%REC*	*1*	*05-Feb-2016 18:29*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
Sample ID: SO-1620-BSD2(5)-20160201
Collection Date: 01-Feb-2016 11:15

ANALYTICAL REPORT
WorkOrder:HS16020050
Lab ID:HS16020050-02
Matrix:Soil

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
METALS BY SW6020A	**Method:SW6020**				Prep:SW3050A / 04-Feb-2016		Analyst: JDE
Arsenic	**1.44**		**0.117**	**0.584**	**mg/Kg-dry**	1	04-Feb-2016 22:06
Lead	**5.40**		**0.0584**	**0.584**	**mg/Kg-dry**	1	04-Feb-2016 22:06
MOISTURE - ASTM D2216	**Method:ASTM D2216**						Analyst: DFF
Percent Moisture	**19.1**		**0.0100**	**0.0100**	**wt%**	1	02-Feb-2016 10:01

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
Sample ID: SO-1620-BSE1(5)-20160201
Collection Date: 01-Feb-2016 13:30

ANALYTICAL REPORT
WorkOrder:HS16020050
Lab ID:HS16020050-03
Matrix:Soil

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES	**Method:SW8270**				Prep:SW3541 / 04-Feb-2016		Analyst: ACN
1,2-Diphenylhydrazine	U		0.0014	0.0082	mg/Kg-dry	1	05-Feb-2016 18:49
2,4-Dimethylphenol	U		0.0041	0.0082	mg/Kg-dry	1	05-Feb-2016 18:49
2,4-Dinitrotoluene	U		0.0011	0.0082	mg/Kg-dry	1	05-Feb-2016 18:49
2,6-Dinitrotoluene	U		0.0041	0.0082	mg/Kg-dry	1	05-Feb-2016 18:49
2-Chloronaphthalene	U		0.0016	0.0082	mg/Kg-dry	1	05-Feb-2016 18:49
2-Methylnaphthalene	**0.0089**		**0.00062**	**0.0041**	**mg/Kg-dry**	1	05-Feb-2016 18:49
4,6-Dinitro-2-methylphenol	U		0.0026	0.0082	mg/Kg-dry	1	05-Feb-2016 18:49
4-Nitrophenol	U		0.0023	0.016	mg/Kg-dry	1	05-Feb-2016 18:49
Acenaphthene	**0.90**		**0.015**	**0.10**	**mg/Kg-dry**	25	09-Feb-2016 00:03
Acenaphthylene	**0.077**		**0.0012**	**0.0041**	**mg/Kg-dry**	1	05-Feb-2016 18:49
Anthracene	**1.6**		**0.015**	**0.10**	**mg/Kg-dry**	25	09-Feb-2016 00:03
Benz(a)anthracene	**1.2**		**0.049**	**0.10**	**mg/Kg-dry**	25	09-Feb-2016 00:03
Benzo(a)pyrene	**0.71**		**0.031**	**0.10**	**mg/Kg-dry**	25	09-Feb-2016 00:03
Bis(2-chloroethoxy)methane	U		0.0011	0.0082	mg/Kg-dry	1	05-Feb-2016 18:49
Bis(2-ethylhexyl)phthalate	U		0.0021	0.0082	mg/Kg-dry	1	05-Feb-2016 18:49
Chrysene	**1.6**		**0.025**	**0.10**	**mg/Kg-dry**	25	09-Feb-2016 00:03
Dibenzofuran	**0.17**		**0.00087**	**0.0041**	**mg/Kg-dry**	1	05-Feb-2016 18:49
Di-n-butyl phthalate	U		0.0015	0.0082	mg/Kg-dry	1	05-Feb-2016 18:49
Fluoranthene	**5.3**		**0.034**	**0.10**	**mg/Kg-dry**	25	09-Feb-2016 00:03
Fluorene	**0.35**		**0.0014**	**0.0041**	**mg/Kg-dry**	1	05-Feb-2016 18:49
Naphthalene	**0.012**		**0.00074**	**0.0041**	**mg/Kg-dry**	1	05-Feb-2016 18:49
Nitrobenzene	U		0.0011	0.0082	mg/Kg-dry	1	05-Feb-2016 18:49
N-Nitrosodiphenylamine	U		0.00087	0.0082	mg/Kg-dry	1	05-Feb-2016 18:49
Pentachlorophenol	U		0.0041	0.0082	mg/Kg-dry	1	05-Feb-2016 18:49
Phenanthrene	**3.4**		**0.046**	**0.10**	**mg/Kg-dry**	25	09-Feb-2016 00:03
Phenol	**0.0035**	J	**0.0014**	**0.0082**	**mg/Kg-dry**	1	05-Feb-2016 18:49
Pyrene	**5.1**		**0.019**	**0.10**	**mg/Kg-dry**	25	09-Feb-2016 00:03
Surr: 2,4,6-Tribromophenol	*60.1*			*36-126*	*%REC*	*1*	*05-Feb-2016 18:49*
Surr: 2,4,6-Tribromophenol	*52.4*			*36-126*	*%REC*	*25*	*09-Feb-2016 00:03*
Surr: 2-Fluorobiphenyl	*82.6*			*43-125*	*%REC*	*25*	*09-Feb-2016 00:03*
Surr: 2-Fluorobiphenyl	*61.7*			*43-125*	*%REC*	*1*	*05-Feb-2016 18:49*
Surr: 2-Fluorophenol	*75.0*			*37-125*	*%REC*	*1*	*05-Feb-2016 18:49*
Surr: 2-Fluorophenol	*45.7*			*37-125*	*%REC*	*25*	*09-Feb-2016 00:03*
Surr: 4-Terphenyl-d14	*98.7*			*32-125*	*%REC*	*25*	*09-Feb-2016 00:03*
Surr: 4-Terphenyl-d14	*156*	*S*		*32-125*	*%REC*	*1*	*05-Feb-2016 18:49*
Surr: Nitrobenzene-d5	*70.2*			*37-125*	*%REC*	*1*	*05-Feb-2016 18:49*
Surr: Nitrobenzene-d5	*102*			*37-125*	*%REC*	*25*	*09-Feb-2016 00:03*
Surr: Phenol-d6	*25.3*	*S*		*40-125*	*%REC*	*25*	*09-Feb-2016 00:03*
Surr: Phenol-d6	*83.2*			*40-125*	*%REC*	*1*	*05-Feb-2016 18:49*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
Sample ID: SO-1620-BSE1(5)-20160201
Collection Date: 01-Feb-2016 13:30

ANALYTICAL REPORT
WorkOrder:HS16020050
Lab ID:HS16020050-03
Matrix:Soil

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
METALS BY SW6020A	**Method:SW6020**				Prep:SW3050A / 04-Feb-2016		Analyst: JDE
Arsenic	**1.40**		**0.116**	**0.582**	**mg/Kg-dry**	1	04-Feb-2016 22:10
Lead	**8.32**		**0.0582**	**0.582**	**mg/Kg-dry**	1	04-Feb-2016 22:10
MOISTURE - ASTM D2216	**Method:ASTM D2216**						Analyst: DFF
Percent Moisture	**19.2**		**0.0100**	**0.0100**	**wt%**	1	02-Feb-2016 10:01

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
Sample ID: SO-1620-BSE2(5)-20160201
Collection Date: 01-Feb-2016 13:40

ANALYTICAL REPORT
WorkOrder:HS16020050
Lab ID:HS16020050-04
Matrix:Soil

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES		**Method:SW8270**			Prep:SW3541 / 04-Feb-2016		Analyst: ACN
1,2-Diphenylhydrazine	U		0.0014	0.0082	mg/Kg-dry	1	05-Feb-2016 17:51
2,4-Dimethylphenol	U		0.0041	0.0082	mg/Kg-dry	1	05-Feb-2016 17:51
2,4-Dinitrotoluene	U		0.0011	0.0082	mg/Kg-dry	1	05-Feb-2016 17:51
2,6-Dinitrotoluene	U		0.0041	0.0082	mg/Kg-dry	1	05-Feb-2016 17:51
2-Chloronaphthalene	U		0.0016	0.0082	mg/Kg-dry	1	05-Feb-2016 17:51
2-Methylnaphthalene	U		0.00062	0.0041	mg/Kg-dry	1	05-Feb-2016 17:51
4,6-Dinitro-2-methylphenol	U		0.0026	0.0082	mg/Kg-dry	1	05-Feb-2016 17:51
4-Nitrophenol	U		0.0024	0.016	mg/Kg-dry	1	05-Feb-2016 17:51
Acenaphthene	U		0.00062	0.0041	mg/Kg-dry	1	05-Feb-2016 17:51
Acenaphthylene	U		0.0012	0.0041	mg/Kg-dry	1	05-Feb-2016 17:51
Anthracene	U		0.00062	0.0041	mg/Kg-dry	1	05-Feb-2016 17:51
Benz(a)anthracene	**0.0026**	J	**0.0020**	**0.0041**	**mg/Kg-dry**	1	05-Feb-2016 17:51
Benzo(a)pyrene	**0.0047**		**0.0012**	**0.0041**	**mg/Kg-dry**	1	05-Feb-2016 17:51
Bis(2-chloroethoxy)methane	U		0.0011	0.0082	mg/Kg-dry	1	05-Feb-2016 17:51
Bis(2-ethylhexyl)phthalate	U		0.0021	0.0082	mg/Kg-dry	1	05-Feb-2016 17:51
Chrysene	**0.0039**	J	**0.00099**	**0.0041**	**mg/Kg-dry**	1	05-Feb-2016 17:51
Dibenzofuran	U		0.00087	0.0041	mg/Kg-dry	1	05-Feb-2016 17:51
Di-n-butyl phthalate	U		0.0015	0.0082	mg/Kg-dry	1	05-Feb-2016 17:51
Fluoranthene	**0.0099**		**0.0014**	**0.0041**	**mg/Kg-dry**	1	05-Feb-2016 17:51
Fluorene	U		0.0014	0.0041	mg/Kg-dry	1	05-Feb-2016 17:51
Naphthalene	U		0.00074	0.0041	mg/Kg-dry	1	05-Feb-2016 17:51
Nitrobenzene	U		0.0011	0.0082	mg/Kg-dry	1	05-Feb-2016 17:51
N-Nitrosodiphenylamine	U		0.00087	0.0082	mg/Kg-dry	1	05-Feb-2016 17:51
Pentachlorophenol	U		0.0041	0.0082	mg/Kg-dry	1	05-Feb-2016 17:51
Phenanthrene	**0.0059**		**0.0019**	**0.0041**	**mg/Kg-dry**	1	05-Feb-2016 17:51
Phenol	U		0.0014	0.0082	mg/Kg-dry	1	05-Feb-2016 17:51
Pyrene	**0.0050**		**0.00074**	**0.0041**	**mg/Kg-dry**	1	05-Feb-2016 17:51
Surr: 2,4,6-Tribromophenol	*119*			*36-126*	*%REC*	*1*	*05-Feb-2016 17:51*
Surr: 2-Fluorobiphenyl	*68.0*			*43-125*	*%REC*	*1*	*05-Feb-2016 17:51*
Surr: 2-Fluorophenol	*82.5*			*37-125*	*%REC*	*1*	*05-Feb-2016 17:51*
Surr: 4-Terphenyl-d14	*90.8*			*32-125*	*%REC*	*1*	*05-Feb-2016 17:51*
Surr: Nitrobenzene-d5	*89.0*			*37-125*	*%REC*	*1*	*05-Feb-2016 17:51*
Surr: Phenol-d6	*99.0*			*40-125*	*%REC*	*1*	*05-Feb-2016 17:51*
METALS BY SW6020A		**Method:SW6020**			Prep:SW3050A / 04-Feb-2016		Analyst: JDE
Arsenic	**0.868**		**0.116**	**0.580**	**mg/Kg-dry**	1	04-Feb-2016 22:15
Lead	**6.48**		**0.0580**	**0.580**	**mg/Kg-dry**	1	04-Feb-2016 22:15
MOISTURE - ASTM D2216		**Method:ASTM D2216**					Analyst: DFF
Percent Moisture	**19.4**		**0.0100**	**0.0100**	**wt%**	1	02-Feb-2016 10:01

Note: See Qualifiers Page for a list of qualifiers and their explanation.

WEIGHT LOG

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
WorkOrder: HS16020050

Batch ID: 101167 **Method:** METALS BY SW6020A **Prep:** 3050_I_LOW

SampID	Container	Sample Wt/Vol	Final Volume	Prep Factor
HS16020050-01	1	0.5385	50 (mL)	92.85
HS16020050-02	1	0.5288	50 (mL)	94.55
HS16020050-03	1	0.5312	50 (mL)	94.13
HS16020050-04	1	0.5346	50 (mL)	93.53

Batch ID: 101173 **Method:** LOW-LEVEL SEMIVOLATILES **Prep:** 3541_B_LOW

SampID	Container	Sample Wt/Vol	Final Volume	Prep Factor
HS16020050-01	1	30.05	1 (mL)	0.03328
HS16020050-02	1	30.09	1 (mL)	0.03323
HS16020050-03	1	30.04	1 (mL)	0.03329
HS16020050-04	1	30.07	1 (mL)	0.03326

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
WorkOrder: HS16020050

DATES REPORT

Sample ID	Client Samp ID	Collection Date	TCLP Date	Prep Date	Analysis Date	DF
Batch ID 101167	**Test Name :** METALS BY SW6020A			**Matrix:** Soil		
HS16020050-01	SO-1620-BSD1(5)-20160201	01 Feb 2016 11:00		04 Feb 2016 10:21	04 Feb 2016 20:53	1
HS16020050-02	SO-1620-BSD2(5)-20160201	01 Feb 2016 11:15		04 Feb 2016 10:21	04 Feb 2016 22:06	1
HS16020050-03	SO-1620-BSE1(5)-20160201	01 Feb 2016 13:30		04 Feb 2016 10:21	04 Feb 2016 22:10	1
HS16020050-04	SO-1620-BSE2(5)-20160201	01 Feb 2016 13:40		04 Feb 2016 10:21	04 Feb 2016 22:15	1
Batch ID 101173	**Test Name :** LOW-LEVEL SEMIVOLATILES			**Matrix:** Soil		
HS16020050-01	SO-1620-BSD1(5)-20160201	01 Feb 2016 11:00		04 Feb 2016 08:41	08 Feb 2016 23:05	100
HS16020050-01	SO-1620-BSD1(5)-20160201	01 Feb 2016 11:00		04 Feb 2016 08:41	05 Feb 2016 18:10	1
HS16020050-02	SO-1620-BSD2(5)-20160201	01 Feb 2016 11:15		04 Feb 2016 08:41	08 Feb 2016 23:24	5
HS16020050-02	SO-1620-BSD2(5)-20160201	01 Feb 2016 11:15		04 Feb 2016 08:41	05 Feb 2016 18:29	1
HS16020050-03	SO-1620-BSE1(5)-20160201	01 Feb 2016 13:30		04 Feb 2016 08:41	09 Feb 2016 00:03	25
HS16020050-03	SO-1620-BSE1(5)-20160201	01 Feb 2016 13:30		04 Feb 2016 08:41	05 Feb 2016 18:49	1
HS16020050-04	SO-1620-BSE2(5)-20160201	01 Feb 2016 13:40		04 Feb 2016 08:41	05 Feb 2016 17:51	1
Batch ID R268704	**Test Name :** MOISTURE - ASTM D2216			**Matrix:** Soil		
HS16020050-01	SO-1620-BSD1(5)-20160201	01 Feb 2016 11:00			02 Feb 2016 10:01	1
HS16020050-02	SO-1620-BSD2(5)-20160201	01 Feb 2016 11:15			02 Feb 2016 10:01	1
HS16020050-03	SO-1620-BSE1(5)-20160201	01 Feb 2016 13:30			02 Feb 2016 10:01	1
HS16020050-04	SO-1620-BSE2(5)-20160201	01 Feb 2016 13:40			02 Feb 2016 10:01	1

WorkOrder: HS16020050
InstrumentID: ICPMS03
Test Code: ICP_S_Low
Test Number: SW6020
Test Name: Metals by SW6020A

METHOD DETECTION / REPORTING LIMITS

Matrix: Solid **Units:** mg/Kg

Type	Analyte	CAS	DCS Spike	DCS	MDL	PQL
A	Arsenic	7440-38-2	0.100	0.134	0.100	0.500
A	Lead	7439-92-1	0.100	0.101	0.0500	0.500

WorkOrder: HS16020050
InstrumentID: SV-7
Test Code: 8270_LOW_S
Test Number: SW8270
Test Name: Low-Level Semivolatiles

METHOD DETECTION / REPORTING LIMITS

Matrix: Solid **Units:** mg/Kg

Type	Analyte	CAS	DCS Spike	DCS	MDL	PQL
A	1,2-Diphenylhydrazine	122-66-7	0.0033	0.0029	0.0011	0.0066
A	2,4-Dimethylphenol	105-67-9	0.0033	0.00084	0.0033	0.0066
A	2,4-Dinitrotoluene	121-14-2	0.0033	0.0025	0.00090	0.0066
A	2,6-Dinitrotoluene	606-20-2	0.0033	0.0030	0.0033	0.0066
A	2-Chloronaphthalene	91-58-7	0.0033	0.0025	0.0013	0.0066
A	2-Methylnaphthalene	91-57-6	0.0033	0.0034	0.00050	0.0033
A	4,6-Dinitro-2-methylphenol	534-52-1	0.0033	0.0036	0.0021	0.0066
A	4-Nitrophenol	100-02-7	0.0033	0.0043	0.0019	0.013
A	Acenaphthene	83-32-9	0.0033	0.0029	0.00050	0.0033
A	Acenaphthene	83-32-9	0.0017	0.0015	0.00050	0.0033
A	Acenaphthylene	208-96-8	0.0017	0.0017	0.0010	0.0033
A	Acenaphthylene	208-96-8	0.0033	0.0023	0.0010	0.0033
A	Anthracene	120-12-7	0.0017	0.0017	0.00050	0.0033
A	Anthracene	120-12-7	0.0033	0.0031	0.00050	0.0033
A	Benz(a)anthracene	56-55-3	0.0033	0.0032	0.0016	0.0033
A	Benz(a)anthracene	56-55-3	0.0017	0.0020	0.0016	0.0033
A	Benzo(a)pyrene	50-32-8	0.0017	0.0018	0.0010	0.0033
A	Benzo(a)pyrene	50-32-8	0.0033	0.0032	0.0010	0.0033
A	Bis(2-chloroethoxy)methane	111-91-1	0.0033	0.0033	0.00090	0.0066
A	Bis(2-ethylhexyl)phthalate	117-81-7	0.0033	0.0060	0.0017	0.0066
A	Chrysene	218-01-9	0.0033	0.0044	0.00080	0.0033
A	Chrysene	218-01-9	0.0017	0.0017	0.00080	0.0033
A	Dibenzofuran	132-64-9	0.0033	0.0028	0.00070	0.0033
A	Di-n-butyl phthalate	84-74-2	0.0033	0.0038	0.0012	0.0066
A	Fluoranthene	206-44-0	0.0017	0.0019	0.0011	0.0033
A	Fluoranthene	206-44-0	0.0033	0.0038	0.0011	0.0033
A	Fluorene	86-73-7	0.0033	0.0027	0.0011	0.0033
A	Fluorene	86-73-7	0.0017	0.0015	0.0011	0.0033
A	Naphthalene	91-20-3	0.0033	0.0034	0.00060	0.0033
A	Nitrobenzene	98-95-3	0.0033	0.0038	0.00090	0.0066
A	N-Nitrosodiphenylamine	86-30-6	0.0033	0.0037	0.00070	0.0066
A	Pentachlorophenol	87-86-5	0.0033	0.0023	0.0033	0.0066
A	Phenanthrene	85-01-8	0.0033	0.0031	0.0015	0.0033
A	Phenol	108-95-2	0.0033	0.0038	0.0011	0.0066
A	Pyrene	129-00-0	0.0033	0.0045	0.00060	0.0033
A	Pyrene	129-00-0	0.0017	0.0019	0.00060	0.0033
S	2,4,6-Tribromophenol	118-79-6	0	0	0	0
S	2-Fluorobiphenyl	321-60-8	0	0	0	0
S	2-Fluorophenol	367-12-4	0	0	0	0
S	4-Terphenyl-d14	1718-51-0	0	0	0	0
S	Nitrobenzene-d5	4165-60-0	0	0	0	0

WorkOrder: HS16020050
InstrumentID: SV-7
Test Code: 8270_LOW_S
Test Number: SW8270
Test Name: Low-Level Semivolatiles

METHOD DETECTION / REPORTING LIMITS

Matrix: Solid **Units:** mg/Kg

Type	Analyte	CAS	DCS Spike	DCS	MDL	PQL
S	Phenol-d6	13127-88-3	0	0	0	0

WorkOrder: HS16020050
InstrumentID: Balance1
Test Code: MOIST_ASTM
Test Number: ASTM D2216
Test Name: Moisture - ASTM D2216

METHOD DETECTION / REPORTING LIMITS

Matrix: Solid **Units:** wt%

Type	Analyte	CAS	DCS Spike	DCS	MDL	PQL
A	Percent Moisture	MOIST	0.0100	0.0100	0.0100	0.0100

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
WorkOrder: HS16020050

QC BATCH REPORT

Batch ID: 101167 **Instrument: ICPMS03** **Method: SW6020**

MBLK Sample ID: **MBLKB-101167** Units: **mg/Kg** Analysis Date: **04-Feb-2016 19:36**
Client ID: Run ID: **ICPMS03_268795** SeqNo: **3576033** PrepDate: **04-Feb-2016** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	U	0.568								
Lead	U	0.568								

LCS Sample ID: **MLCSB-101167** Units: **mg/Kg** Analysis Date: **04-Feb-2016 19:40**
Client ID: Run ID: **ICPMS03_268795** SeqNo: **3576034** PrepDate: **04-Feb-2016** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	9.854	0.565	11.31	0	87.2	80 - 120				
Lead	10.11	0.565	11.31	0	89.4	80 - 120				

MS Sample ID: **HS16011169-03MS** Units: **mg/Kg** Analysis Date: **04-Feb-2016 20:02**
Client ID: Run ID: **ICPMS03_268795** SeqNo: **3576039** PrepDate: **04-Feb-2016** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	11.43	0.463	9.263	3.059	90.4	75 - 125				
Lead	26.76	0.463	9.263	14.71	130	75 - 125				S

MSD Sample ID: **HS16011169-03MSD** Units: **mg/Kg** Analysis Date: **04-Feb-2016 20:06**
Client ID: Run ID: **ICPMS03_268795** SeqNo: **3576040** PrepDate: **04-Feb-2016** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	12.89	0.465	9.295	3.059	106	75 - 125	11.43	12	20	
Lead	25.46	0.465	9.295	14.71	116	75 - 125	26.76	4.98	20	

PDS Sample ID: **HS16011169-03BS** Units: **mg/Kg** Analysis Date: **04-Feb-2016 20:10**
Client ID: Run ID: **ICPMS03_268795** SeqNo: **3576041** PrepDate: **04-Feb-2016** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	11.14	0.472	9.443	3.059	85.6	75 - 125				
Lead	22.7	0.472	9.443	14.71	84.6	75 - 125				

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
WorkOrder: HS16020050

QC BATCH REPORT

Batch ID: 101167 **Instrument: ICPMS03** **Method: SW6020**

SD Sample ID: **HS16011169-03 DIL SX** Units: **mg/Kg** Analysis Date: **04-Feb-2016 19:57**
Client ID: Run ID: **ICPMS03_268795** SeqNo: **3576038** PrepDate: **04-Feb-2016** DF: **5**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%D	%D Limit	Qual
Arsenic	3.073	2.36					3.059	0.432	10	
Lead	15.16	2.36					14.71	3.02	10	

The following samples were anayzed in this batch: HS16020050-01 HS16020050-02 HS16020050-03 HS16020050-04

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
WorkOrder: HS16020050

QC BATCH REPORT

Batch ID: 101173 **Instrument: SV-7** **Method: SW8270**

MBLK Sample ID: **MBLK-101173** Units: **ug/Kg** Analysis Date: **04-Feb-2016 15:47**
Client ID: Run ID: **SV-7_268826** SeqNo: **3578108** PrepDate: **04-Feb-2016** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Diphenylhydrazine	U	6.6								
2,4-Dimethylphenol	U	6.6								
2,4-Dinitrotoluene	U	6.6								
2,6-Dinitrotoluene	U	6.6								
2-Chloronaphthalene	U	6.6								
2-Methylnaphthalene	U	3.3								
4,6-Dinitro-2-methylphenol	U	6.6								
4-Nitrophenol	U	13								
Acenaphthene	U	3.3								
Acenaphthylene	U	3.3								
Anthracene	U	3.3								
Benz(a)anthracene	U	3.3								
Benzo(a)pyrene	U	3.3								
Bis(2-chloroethoxy)methane	U	6.6								
Bis(2-ethylhexyl)phthalate	U	6.6								
Chrysene	U	3.3								
Dibenzofuran	U	3.3								
Di-n-butyl phthalate	U	6.6								
Fluoranthene	U	3.3								
Fluorene	U	3.3								
Naphthalene	U	3.3								
Nitrobenzene	U	6.6								
N-Nitrosodiphenylamine	U	6.6								
Pentachlorophenol	U	6.6								
Phenanthrene	U	3.3								
Phenol	U	6.6								
Pyrene	U	3.3								
Surr: 2,4,6-Tribromophenol	*138.4*	*0*	*167*	*0*	*82.9*	*36 - 126*				
Surr: 2-Fluorobiphenyl	*148.5*	*0*	*167*	*0*	*88.9*	*43 - 125*				
Surr: 2-Fluorophenol	*156.9*	*0*	*167*	*0*	*94.0*	*37 - 125*				
Surr: 4-Terphenyl-d14	*181.5*	*0*	*167*	*0*	*109*	*32 - 125*				
Surr: Nitrobenzene-d5	*158.4*	*0*	*167*	*0*	*94.9*	*37 - 125*				
Surr: Phenol-d6	*172.4*	*0*	*167*	*0*	*103*	*40 - 125*				

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
WorkOrder: HS16020050

QC BATCH REPORT

Batch ID: 101173 **Instrument: SV-7** **Method: SW8270**

LCS Sample ID: **LCS-101173** Units: **ug/Kg** Analysis Date: **04-Feb-2016 16:06**
Client ID: Run ID: **SV-7_268826** SeqNo: **3578109** PrepDate: **04-Feb-2016** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Diphenylhydrazine	205.1	6.6	167	0	123	50 - 135				
2,4-Dimethylphenol	127.3	6.6	167	0	76.3	45 - 120				
2,4-Dinitrotoluene	141.4	6.6	167	0	84.7	50 - 130				
2,6-Dinitrotoluene	148	6.6	167	0	88.6	50 - 125				
2-Chloronaphthalene	162	6.6	167	0	97.0	50 - 145				
2-Methylnaphthalene	163.4	3.3	167	0	97.9	50 - 120				
4,6-Dinitro-2-methylphenol	140.9	6.6	167	0	84.4	15 - 135				
4-Nitrophenol	178.8	13	167	0	107	40 - 147				
Acenaphthene	130.8	3.3	167	0	78.3	50 - 120				
Acenaphthylene	125	3.3	167	0	74.8	50 - 120				
Anthracene	147.5	3.3	167	0	88.3	50 - 123				
Benz(a)anthracene	147.1	3.3	167	0	88.1	50 - 131				
Benzo(a)pyrene	136	3.3	167	0	81.4	50 - 130				
Bis(2-chloroethoxy)methane	156	6.6	167	0	93.4	50 - 120				
Bis(2-ethylhexyl)phthalate	140	6.6	167	0	83.8	21 - 148				
Chrysene	146.8	3.3	167	0	87.9	50 - 130				
Dibenzofuran	132.4	3.3	167	0	79.3	50 - 125				
Di-n-butyl phthalate	186.1	6.6	167	0	111	50 - 140				
Fluoranthene	157.7	3.3	167	0	94.5	50 - 131				
Fluorene	157.2	3.3	167	0	94.1	50 - 125				
Naphthalene	138.8	3.3	167	0	83.1	50 - 125				
Nitrobenzene	159.7	6.6	167	0	95.7	50 - 125				
N-Nitrosodiphenylamine	173	6.6	167	0	104	50 - 130				
Pentachlorophenol	120.6	6.6	167	0	72.2	23 - 136				
Phenanthrene	144.6	3.3	167	0	86.6	50 - 125				
Phenol	150.4	6.6	167	0	90.0	45 - 130				
Pyrene	128.8	3.3	167	0	77.1	45 - 130				
Surr: 2,4,6-Tribromophenol	*183.4*	*0*	*167*	*0*	*110*	*36 - 126*				
Surr: 2-Fluorobiphenyl	*160.8*	*0*	*167*	*0*	*96.3*	*43 - 125*				
Surr: 2-Fluorophenol	*127.8*	*0*	*167*	*0*	*76.5*	*37 - 125*				
Surr: 4-Terphenyl-d14	*139.5*	*0*	*167*	*0*	*83.5*	*32 - 125*				
Surr: Nitrobenzene-d5	*182.2*	*0*	*167*	*0*	*109*	*37 - 125*				
Surr: Phenol-d6	*138.9*	*0*	*167*	*0*	*83.2*	*40 - 125*				

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
WorkOrder: HS16020050

QC BATCH REPORT

Batch ID: 101173 **Instrument: SV-7** **Method: SW8270**

MS Sample ID: **HS16020149-03MS** Units: **ug/Kg** Analysis Date: **05-Feb-2016 01:22**
Client ID: Run ID: **SV-7_268826** SeqNo: **3578111** PrepDate: **04-Feb-2016** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Diphenylhydrazine	336.3	66	166.7	485.8	-89.7	50 - 135				S
2,4-Dimethylphenol	94.2	66	166.7	0	56.5	45 - 120				
2,4-Dinitrotoluene	686.4	66	166.7	0	412	50 - 130				S
2,6-Dinitrotoluene	156.8	66	166.7	0	94.0	50 - 125				
2-Chloronaphthalene	189	66	166.7	0	113	50 - 145				
2-Methylnaphthalene	10200	33	166.7	17840	-4580	50 - 120				SEO
4,6-Dinitro-2-methylphenol	U	66	166.7	0	0	15 - 135				S
4-Nitrophenol	139.2	130	166.7	0	83.5	40 - 147				
Acenaphthene	38220	33	166.7	35390	1690	50 - 120				SEO
Acenaphthylene	1823	33	166.7	2292	-281	50 - 120				SO
Anthracene	22770	33	166.7	20850	1150	50 - 123				SEO
Benz(a)anthracene	18300	33	166.7	16730	939	50 - 131				SEO
Benzo(a)pyrene	6055	33	166.7	9688	-2180	50 - 130				SEO
Bis(2-chloroethoxy)methane	199.5	66	166.7	0	120	50 - 120				
Bis(2-ethylhexyl)phthalate	131.1	66	166.7	0	78.6	21 - 148				
Chrysene	13830	33	166.7	21430	-4560	50 - 130				SEO
Dibenzofuran	21610	33	166.7	19880	1040	50 - 125				SEO
Di-n-butyl phthalate	231.1	66	166.7	124.8	63.8	50 - 140				
Fluoranthene	51890	33	166.7	42580	5590	50 - 131				SEO
Fluorene	31750	33	166.7	29970	1070	50 - 125				SEO
Naphthalene	6819	33	166.7	9556	-1640	50 - 125				SEO
Nitrobenzene	272.1	66	166.7	0	163	50 - 125				S
N-Nitrosodiphenylamine	797.5	66	166.7	0	478	50 - 130				S
Pentachlorophenol	36.87	66	166.7	963.1	-556	23 - 136				JSO
Phenanthrene	41030	33	166.7	35440	3350	50 - 125				SEO
Phenol	235.6	66	166.7	0	141	45 - 130				S
Pyrene	38360	33	166.7	33570	2870	45 - 130				SEO
Surr: 2,4,6-Tribromophenol	*155.1*	*0*	*166.7*	*0*	*93.0*	*36 - 126*				
Surr: 2-Fluorobiphenyl	*178.8*	*0*	*166.7*	*0*	*107*	*43 - 125*				
Surr: 2-Fluorophenol	*69.22*	*0*	*166.7*	*0*	*41.5*	*37 - 125*				
Surr: 4-Terphenyl-d14	*304.4*	*0*	*166.7*	*0*	*183*	*32 - 125*				S
Surr: Nitrobenzene-d5	*240.6*	*0*	*166.7*	*0*	*144*	*37 - 125*				S
Surr: Phenol-d6	*186*	*0*	*166.7*	*0*	*112*	*40 - 125*				

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
WorkOrder: HS16020050

QC BATCH REPORT

Batch ID: 101173 **Instrument: SV-7** **Method: SW8270**

MSD Sample ID: **HS16020149-03MSD** Units: **ug/Kg** Analysis Date: **05-Feb-2016 01:41**
Client ID: Run ID: **SV-7_268826** SeqNo: **3578112** PrepDate: **04-Feb-2016** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual
1,2-Diphenylhydrazine	441.7	66	166.8	485.8	-26.4	50 - 135	336.3	27.1	30	S
2,4-Dimethylphenol	176.5	66	166.8	0	106	45 - 120	94.2	60.8	30	R
2,4-Dinitrotoluene	518.9	66	166.8	0	311	50 - 130	686.4	27.8	30	S
2,6-Dinitrotoluene	202.2	66	166.8	0	121	50 - 125	156.8	25.3	30	
2-Chloronaphthalene	108.8	66	166.8	0	65.2	50 - 145	189	53.8	30	R
2-Methylnaphthalene	8865	33	166.8	17840	-5380	50 - 120	10200	14	30	SEO
4,6-Dinitro-2-methylphenol	U	66	166.8	0	0	15 - 135	0	0	30	S
4-Nitrophenol	241.4	130	166.8	0	145	40 - 147	139.2	53.7	30	R
Acenaphthene	31070	33	166.8	35390	-2590	50 - 120	38220	20.6	30	SEO
Acenaphthylene	1582	33	166.8	2292	-426	50 - 120	1823	14.1	30	SO
Anthracene	17710	33	166.8	20850	-1880	50 - 123	22770	25	30	SEO
Benz(a)anthracene	18040	33	166.8	16730	786	50 - 131	18300	1.4	30	SEO
Benzo(a)pyrene	7382	33	166.8	9688	-1380	50 - 130	6055	19.7	30	SEO
Bis(2-chloroethoxy)methane	182.4	66	166.8	0	109	50 - 120	199.5	8.97	30	
Bis(2-ethylhexyl)phthalate	156.3	66	166.8	0	93.7	21 - 148	131.1	17.5	30	
Chrysene	16130	33	166.8	21430	-3170	50 - 130	13830	15.4	30	SEO
Dibenzofuran	16740	33	166.8	19880	-1880	50 - 125	21610	25.4	30	SEO
Di-n-butyl phthalate	264.8	66	166.8	124.8	83.9	50 - 140	231.1	13.6	30	
Fluoranthene	46640	33	166.8	42580	2440	50 - 131	51890	10.7	30	SEO
Fluorene	27970	33	166.8	29970	-1200	50 - 125	31750	12.7	30	SEO
Naphthalene	6995	33	166.8	9556	-1530	50 - 125	6819	2.55	30	SEO
Nitrobenzene	296	66	166.8	0	177	50 - 125	272.1	8.41	30	S
N-Nitrosodiphenylamine	1036	66	166.8	0	621	50 - 130	797.5	26	30	S
Pentachlorophenol	U	66	166.8	963.1	-577	23 - 136	36.87	0	30	SO
Phenanthrene	34740	33	166.8	35440	-420	50 - 125	41030	16.6	30	SEO
Phenol	289.9	66	166.8	0	174	45 - 130	235.6	20.7	30	S
Pyrene	33680	33	166.8	33570	64.5	45 - 130	38360	13	30	EO
Surr: 2,4,6-Tribromophenol	*149.1*	*0*	*166.8*	*0*	*89.4*	*36 - 126*	*155.1*	*3.95*	*30*	
Surr: 2-Fluorobiphenyl	*125.8*	*0*	*166.8*	*0*	*75.4*	*43 - 125*	*178.8*	*34.8*	*30*	R
Surr: 2-Fluorophenol	*133.4*	*0*	*166.8*	*0*	*80.0*	*37 - 125*	*69.22*	*63.4*	*30*	R
Surr: 4-Terphenyl-d14	*273.4*	*0*	*166.8*	*0*	*164*	*32 - 125*	*304.4*	*10.7*	*30*	S
Surr: Nitrobenzene-d5	*194*	*0*	*166.8*	*0*	*116*	*37 - 125*	*240.6*	*21.4*	*30*	
Surr: Phenol-d6	*218.1*	*0*	*166.8*	*0*	*131*	*40 - 125*	*186*	*15.9*	*30*	S

The following samples were anayzed in this batch: HS16020050-01 HS16020050-02 HS16020050-03 HS16020050-04

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
WorkOrder: HS16020050

QC BATCH REPORT

Batch ID: **R268704** **Instrument:** **Balance1** **Method:** **ASTM D2216**

DUP Sample ID: **HS16020050-04DUP** Units: **wt%** Analysis Date: **02-Feb-2016 10:01**
Client ID: **SO-1620-BSE2(5)-20160201** Run ID: **Balance1_268704** SeqNo: **3573731** PrepDate: DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Percent Moisture	19.1	0.0100					19.4	1.56	20	

The following samples were anayzed in this batch: HS16020050-01 HS16020050-02 HS16020050-03 HS16020050-04

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
WorkOrder: **HS16020050**

QUALIFIERS, ACRONYMS, UNITS

Qualifier	Description
*	Value exceeds Regulatory Limit
a	Not accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte detected below quantitation limit
M	Manually integrated, see raw data for justification
n	Not offered for accreditation
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL/SDL

Acronym	Description
DCS	Detectability Check Study
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
MBLK	Method Blank
MDL	Method Detection Limit
MQL	Method Quantitation Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PDS	Post Digestion Spike
PQL	Practical Quantitaion Limit
SD	Serial Dilution
SDL	Sample Detection Limit
TRRP	Texas Risk Reduction Program

Unit Reported	Description
mg/Kg-dry	Milligrams per Kilogram- Dry weight corrected

CERTIFICATIONS,ACCREDITATIONS & LICENSES

Agency	Number	Expire Date
Arkansas	15-024-0	27-Mar-2016
California	2919	31-Jul-2016
Illinois	003622	09-May-2016
Kentucky	KY 2015-2016	30-Apr-2016
Louisiana	03087 2015/2016	30-Jun-2016
North Carolina	624 - 2016	31-Dec-2016
North Dakota	R-193 2015-2016	30-Apr-2016
Oklahoma	2015-047	31-Aug-2016
Texas	T104704231-15-15	30-Apr-2016

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
Work Order: HS16020050

SAMPLE TRACKING

Lab Samp ID	Client Sample ID	Action	Date	Person	New Location
HS16020050-01	SO-1620-BSD1(5)-20160201	Login	2/1/2016 6:52:24 PM	PMG	11D
HS16020050-02	SO-1620-BSD2(5)-20160201	Login	2/1/2016 6:52:24 PM	PMG	11D
HS16020050-03	SO-1620-BSE1(5)-20160201	Login	2/1/2016 6:52:24 PM	PMG	11D
HS16020050-04	SO-1620-BSE2(5)-20160201	Login	2/1/2016 6:52:24 PM	PMG	11D

ALS Group USA, Corp Date: 10-Feb-16

Sample Receipt Checklist

Client Name: PBW Date/Time Received: **01-Feb-2016 17:50**

Work Order: HS16020050 Received by: **PMG**

Checklist completed by: *Paresh M. Giga* eSignature 1-Feb-2016 Date

Reviewed by: *Dane J. Wacasey* eSignature 2-Feb-2016 Date

Matrices: **Soil** Carrier name: **Client**

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on shipping container/cooler?	Yes ☐	No ☐	Not Present ☑
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☑	No ☐	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
TX1005 solids received in hermetically sealed vials?	Yes ☐	No ☐	N/A ☑
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time?	Yes ☑	No ☐	
Container/Temp Blank temperature in compliance?	Yes ☑	No ☐	
Temperature(s)/Thermometer(s):	3.0c/3.5c U/C	IR5	
Cooler(s)/Kit(s):	2209		
Date/Time sample(s) sent to storage:	2/1/16 18:30		
Water - VOA vials have zero headspace?	Yes ☐	No ☐	No VOA vials submitted ☑
Water - pH acceptable upon receipt?	Yes ☐	No ☐	N/A ☑
pH adjusted?	Yes ☐	No ☑	N/A ☐
pH adjusted by:			

Login Notes: Logged in Standard TAT samples on a separate W/O per DJW

Client Contacted: Date Contacted: Person Contacted:

Contacted By: 0 Regarding:

Comments:

Corrective Action:

ALS Environmental

Cincinnati, OH +1 513 733 5336 | Everett, WA +1 425 356 2600 | Fort Collins, CO +1 970 490 1511 | Holland, MI +1 616 399 6070

Chain of Custody For

Page 1 of 1

COC ID: 14148

HS16020050

Pastor, Behling & Wheeler, LLC

1620-10-Rev1 HoustonTX-Wood

Customer Information		Project Information		ALS Project Manager:
Purchase Order	UPRR	Project Name	1620-10-Rev1 HoustonTX-Wood	
Work Order		Project Number	1620-10-Rev1	
Company Name	Pastor, Behling & Wheeler, LLC	Bill To Company	Union Pacific Railroad- A/P	
Send Report To	Eric Matzner	Invoice Attn	Accounts Payable	
Address	2201 Double Creek Drive Suite 4004	Address	1400 Douglas Street Stop 0750	
City/State/Zip	Round Rock, TX 78664	City/State/Zip	Omaha, NE 681790750	
Phone	(512) 671-3434	Phone		
Fax	(512) 671-3446	Fax		
e-Mail Address		e-Mail Address		

A	8270_LOW_S (5632532 SemiVolatiles)
B	ICP_S_Low (5636002 5652646 Metals - As, Pb)
C	MOIST_ASTM (5631931 Gen.Chem. MOIST%)
D	
E	
F	
G	
H	
I	
J	

No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
1	SO-1620-BSD1(5)-20160201	2-1-2016	1100	Soil	8	1											
2	SO-1620-BSD2(5)-20160201	2-1-2016	1115	Soil	8	1											
3	SO-1620-BSE1(5)-20160201	2-1-2016	1330	Soil	8	1											
4	SO-1620-BSE2(5)-20160201	2-1-2016	1340	Soil	8	1											
5	SO-1620-CSCW1(0-5)-20160201	2-1-2016	1450	Soil	8	1											
6	SO-1620-CSCN1(0-5)-20160201	2-1-2016	1455	Soil	8	1											
7	SO-1620-CSCS1(0-5)-20160201	2-1-2016	1505	Soil	8	1											
8	SO-1620-CSCE1(0-5)-20160201	2-1-2016	1515	Soil	8	1											
9																	
10																	

Standard Turn Around

RUSH 24-hr. TAT

Sampler(s) Please Print & Sign: Stephen Grahmann Stephen Grahmann

Shipment Method:

Required Turnaround Time: (Check Box) TAT 1 days Other:

Results Due Date:

Relinquished by: Stephen Grahmann	Date: 2-1-2016	Time: 1750	Received by:	
Relinquished by:	Date:	Time:	Received by (Laboratory):	
Logged by (Laboratory):	Date:	Time:	Checked by (Laboratory): 2.1.16. 17:50.	

Notes: [UPRR Houston MWPW]

Cooler ID	Cooler Temp.
2209	3.6° C

QC Package: (Check One Box Below)

QC Level: TRRP LRC

Other:

Preservative Key: 1-HCl 2-HNO_3 3-H_2SO_4 4-NaOH 5-$Na_2S_2O_3$ 6-$NaHSO_4$ 7-Other 8-4°C 9-5035

Note: 1. Any changes must be made in writing once samples and COC Form have been submitted to ALS Environmental.
2. Unless otherwise agreed in a formal contract, services provided by ALS Environmental are expressly limited to the terms and conditions stated on the reverse.
3. The Chain of Custody is a legal document. All information must be completed accurately.

10450 Stancliff Rd. Suite 210
Houston, TX 77099
T: +1 281 530 5656
F: +1 281 530 5887
www.alsglobal.com

February 03, 2016

Eric Matzner
Pastor, Behling & Wheeler, LLC
2201 Double Creek Drive
Suite 4004
Round Rock, TX 78664

Work Order: **HS16020093**

Laboratory Results for: **1620-10-Rev1 HoustonTX-Wood**

Dear Eric,

ALS Environmental received 6 sample(s) on Feb 02, 2016 for the analysis presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested. Results are expressed as "as received" unless otherwise noted.

QC sample results for this data met EPA or laboratory specifications except as noted in the Case Narrative or as noted with qualifiers in the QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained by ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

If you have any questions regarding this report, please feel free to call me.

Sincerely,

Generated By: Jumoke.Lawal
Dane J. Wacasey

Client:	Pastor, Behling & Wheeler, LLC	**TRRP Laboratory Data Package Cover Page**
Project:	1620-10-Rev1 HoustonTX-Wood	
WorkOrder:	**HS16020093**	

This data package consists of all or some of the following as applicable:

This signature page, the laboratory review checklist, and the following reportable data:

R1 Field chain-of-custody documentation;

R2 Sample identification cross-reference;

R3 Test reports (analytical data sheets) for each environmental sample that includes:

a) Items consistent with NELAC Chapter 5,
b) dilution factors,
c) preparation methods,
d) cleanup methods, and
e) if required for the project, tentatively identified compounds (TICs).

R4 Surrogate recovery data including:

a) Calculated recovery (%R), and
b) The laboratory's surrogate QC limits.

R5 Test reports/summary forms for blank samples;

R6 Test reports/summary forms for laboratory control samples (LCSs) including:

a) LCS spiking amounts,
b) Calculated %R for each analyte, and
c)The laboratory's LCS QC limits.

R7 Test reports for project matrix spike/matrix spike duplicates (MS/MSDs) including:

a) Samples associated with the MS/MSD clearly identified,
b) MS/MSD spiking amounts,
c) Concentration of each MS/MSD analyte measured in the parent and spiked samples,
d) Calculated %Rs and relative percent differences (RPDs), and
e) The laboratory's MS/MSD QC limits.

R8 Laboratory analytical duplicate (if applicable) recovery and precision:

a) the amount of analyte measured in the duplicate,
b) the calculated RPD, and
c) the laboratory's QC limits for analytical duplicates.

R9 List of method quantitation limits (MQLs) and detectability check sample results for each analyte for each method and matrix.

R10 Other problems or anomalies.
The Exception Report for each "No" or "Not Reviewed (NR)" item in Laboratory Review Checklist and for each analyte, matrix, and method for which the laboratory does not hold NELAC accreditation under the Texas Laboratory Accreditation Program.

Client:	Pastor, Behling & Wheeler, LLC
Project:	1620-10-Rev1 HoustonTX-Wood
WorkOrder:	**HS16020093**

TRRP Laboratory Data Package Cover Page

Release Statement: I am responsible for the release of this laboratory data package. This laboratory is NELAC accredited under the Texas Laboratory Accreditation Program for all the methods, analytes and matrices reported in this data package except as noted in the Exception Reports. The data have been reviewed and are technically compliant with the requirements of the methods used, except where noted by the laboratory in the attached exception reports. By my signature below, I affirm to the best of my knowledge, all problems/anomalies, observed by the laboratory have been identified by the laboratory in the Laboratory Review Checklist, and no information affecting the quality of the data has been knowingly withheld.

Check, if applicable: [NA] This laboratory meets an exception under 30 TAC §25.6 and was last inspected by [ ] TCEQ or [ ] _____ on (enter date of last inspection). Any findings affecting the data in this laboratory data package are noted in the Exception Reports herein. The official signing the cover page of the report in which these data are used is responsible for releasing this data package and is by signature affirming the above release statement is true.

Dane J. Wacasey

Laboratory Review Checklist: Reportable Data								
Laboratory Name: ALS Laboratory Group			LRC Date: 02/03/2016					
Project Name: 1620-10-Rev1 HoustonTX-Wood			Laboratory Job Number: HS16020093					
Reviewer Name: Dane Wacasey			Prep Batch Number(s): 101105,101122,R268707					
#[1]	**A[2]**	**Description**	**Yes**	**No**	**NA[3]**	**NR[4]**	**ER#[5]**
R1	OI	**Chain-of-custody (C-O-C)**					
		Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?	X				
		Were all departures from standard conditions described in an exception report?	X				
R2	OI	**Sample and quality control (QC) identification**					
		Are all field sample ID numbers cross-referenced to the laboratory ID numbers?	X				
		Are all laboratory ID numbers cross-referenced to the corresponding QC data?	X				
R3	OI	**Test reports**					
		Were all samples prepared and analyzed within holding times?	X				
		Other than those results < MQL, were all other raw values bracketed by calibration standards?	X				
		Were calculations checked by a peer or supervisor?	X				
		Were all analyte identifications checked by a peer or supervisor?	X				
		Were sample detection limits reported for all analytes not detected?	X				
		Were all results for soil and sediment samples reported on a dry weight basis?	X				
		Were % moisture (or solids) reported for all soil and sediment samples?	X				
		Were bulk soils/solids samples for volatile analysis extracted with methanol per SW-846 Method 5035?			X		
		If required for the project, TICs reported?			X		
R4	O	**Surrogate recovery data**					
		Were surrogates added prior to extraction?	X				
		Were surrogate percent recoveries in all samples within the laboratory QC limits?		X			1
R5	OI	**Test reports/summary forms for blank samples**					
		Were appropriate type(s) of blanks analyzed?	X				
		Were blanks analyzed at the appropriate frequency?	X				
		Were method blanks taken through the entire analytical process, including preparation and, if applicable, cleanup procedures?	X				
		Were blank concentrations < MQL?	X				
R6	OI	**Laboratory control samples (LCS):**					
		Were all COCs included in the LCS?	X				
		Was each LCS taken through the entire analytical procedure, including prep and cleanup steps?	X				
		Were LCSs analyzed at the required frequency?	X				
		Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?	X				
		Does the detectability data document the laboratory's capability to detect the COCs at the MDL used to calculate the SDLs?	X				
		Was the LCSD RPD within QC limits?	X				
R7	OI	**Matrix spike (MS) and matrix spike duplicate (MSD) data**					
		Were the project/method specified analytes included in the MS and MSD?	X				
		Were MS/MSD analyzed at the appropriate frequency?	X				
		Were MS (and MSD, if applicable) %Rs within the laboratory QC limits?		X			2
		Were MS/MSD RPDs within laboratory QC limits?		X			3
R8	OI	**Analytical duplicate data**					
		Were appropriate analytical duplicates analyzed for each matrix?	X				
		Were analytical duplicates analyzed at the appropriate frequency?	X				
		Were RPDs or relative standard deviations within the laboratory QC limits?	X				
R9	OI	**Method quantitation limits (MQLs):**					
		Are the MQLs for each method analyte included in the laboratory data package?	X				
		Do the MQLs correspond to the concentration of the lowest non-zero calibration standard?	X				
		Are unadjusted MQLs and DCSs included in the laboratory data package?	X				
R10	OI	**Other problems/anomalies**					
		Are all known problems/anomalies/special conditions noted in this LRC and ER?	X				
		Were all necessary corrective actions performed for the reported data?	X				
		Was applicable and available technology used to lower the SDL and minimize the matrix interference affects on the sample results?	X				
		Is the laboratory NELAC-accredited under the Texas Laboratory Program for the analytes, matrices and methods associated with this laboratory data package?	X				

Laboratory Review Checklist: Reportable Data							
Laboratory Name: ALS Laboratory Group			LRC Date: 02/03/2016				
Project Name: 1620-10-Rev1 HoustonTX-Wood			Laboratory Job Number: HS16020093				
Reviewer Name: Dane Wacasey			Prep Batch Number(s): 101105,101122,R268707				
#[1]	A[2]	Description	Yes	No	NA[3]	NR[4]	ER#[5]
S1	OI	**Initial calibration (ICAL)**					
		Were response factors and/or relative response factors for each analyte within QC limits?	X				
		Were percent RSDs or correlation coefficient criteria met?	X				
		Was the number of standards recommended in the method used for all analytes?	X				
		Were all points generated between the lowest and highest standard used to calculate the curve?	X				
		Are ICAL data available for all instruments used?	X				
		Has the initial calibration curve been verified using an appropriate second source standard?	X				
S2	OI	**Initial and continuing calibration verification (ICCV and CCV) and continuing calibration blank (CCB)**					
		Was the CCV analyzed at the method-required frequency?	X				
		Were percent differences for each analyte within the method-required QC limits?	X				
		Was the ICAL curve verified for each analyte?	X				
		Was the absolute value of the analyte concentration in the inorganic CCB < MDL?	X				
S3	O	**Mass spectral tuning:**					
		Was the appropriate compound for the method used for tuning?	X				
		Were ion abundance data within the method-required QC limits?	X				
S4	O	**Internal standards (IS):**					
		Were IS area counts and retention times within the method-required QC limits?		X			4
S5	OI	**Raw data** (NELAC section 1 appendix A glossary, and section 5.12 or ISO/IEC 17025 section					
		Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst?	X				
		Were data associated with manual integrations flagged on the raw data?	X				
S6	O	**Dual column confirmation**					
		Did dual column confirmation results meet the method-required QC?			X		
S7	O	**Tentatively identified compounds (TICs):**					
		If TICs were requested, were the mass spectra and TIC data subject to appropriate checks?			X		
S8	I	**Interference Check Sample (ICS) results:**					
		Were percent recoveries within method QC limits?	X				
S9	I	**Serial dilutions, post digestion spikes, and method of standard additions**					
		Were percent differences, recoveries, and the linearity within the QC limits specified in the method?	X				
S10	OI	**Method detection limit (MDL) studies**					
		Was a MDL study performed for each reported analyte?	X				
		Is the MDL either adjusted or supported by the analysis of DCSs?	X				
S11	OI	**Proficiency test reports:**					
		Was the laboratory's performance acceptable on the applicable proficiency tests or evaluation studies?	X				
S12	OI	**Standards documentation**					
		Are all standards used in the analyses NIST-traceable or obtained from other appropriate sources?	X				
S13	OI	**Compound/analyte identification procedures**					
		Are the procedures for compound/analyte identification documented?	X				
S14	OI	**Demonstration of analyst competency (DOC)**					
		Was DOC conducted consistent with NELAC Chapter 5C or ISO/IEC 4?	X				
		Is documentation of the analyst's competency up-to-date and on file?	X				
S15	OI	**Verification/validation documentation for methods** (NELAC Chap 5 or ISO/IEC 17025 Section 5)					
		Are all the methods used to generate the data documented, verified, and validated, where applicable?	X				
S16	OI	**Laboratory standard operating procedures (SOPs):**					
		Are laboratory SOPs current and on file for each method performed?	X				

Items identified by the letter "R" must be included in the laboratory data package submitted in the TRRP-required report(s). Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period.
O = Organic Analyses; I = Inorganic Analyses (and general chemistry, when applicable);
NA = Not Applicable;
NR = Not Reviewed;
R# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

Laboratory Review Checklist: Reportable Data	
Laboratory Name: ALS Laboratory Group	LRC Date: 02/03/2016
Project Name: 1620-10-Rev1 HoustonTX-Wood	Laboratory Job Number: HS16020093
Reviewer Name: Dane Wacasey	Prep Batch Number(s): 101105,101122,R268707

ER#[5]	Description
1	Semivolatile Organics Method SW8270, sample SO-1620-CSBS1(0-5)-20160202: One or more of the method 8270 surrogates were recovered outside of the control limits. This was due to a dilution required for sample analysis.
2	Batch 101122, Semivolatile Organics Method SW8270, sample SO-1620-CSBS1(0-5)-20160202, MS and or MSD recovered outside the control limits for multiple target compounds in the sample due to sample matrix interference
3	Batch 101122, Semivolatile Organics Method SW8270, sample SO-1620-CSBS1(0-5)-20160202, MS/MSD RPD recovered above the RPD limits for some target compounds due to non-homogeneity of the soil matrix.
4	Semivolatile Organics Method SW8270, samples SO-1620-CSBS1(0-5)-20160202, SO-1620-CSBS2(0-5)-20160202, SO-1620-CSBN2(0-5)-20160202 and SO-1620-CSBN1(0-5)-20160202; One or more of the GCMS semi-volatile internal standards were recovered at <50%. The samples were reanalyzed with similar results indicating sample matrix interference.

Items identified by the letter "R" must be included in the laboratory data package submitted in the TRRP-required report(s). Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period.
O = Organic Analyses; I = Inorganic Analyses (and general chemistry, when applicable);
NA = Not Applicable;
NR = Not Reviewed;
R# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
Work Order: HS16020093

SAMPLE SUMMARY

Lab Samp ID	Client Sample ID	Matrix	TagNo	Collection Date	Date Received	Hold
HS16020093-01	SO-1620-CSBS1(0-5)-20160202	Soil		02-Feb-2016 14:00	02-Feb-2016 15:48	☐
HS16020093-02	SO-1620-CSBS2(0-5)-20160202	Soil		02-Feb-2016 14:03	02-Feb-2016 15:48	☐
HS16020093-03	SO-1620-CSBE1(0-5)-20160202	Soil		02-Feb-2016 14:08	02-Feb-2016 15:48	☐
HS16020093-04	SO-1620-CSBN2(0-5)-20160202	Soil		02-Feb-2016 14:12	02-Feb-2016 15:48	☐
HS16020093-05	SO-1620-CSBN1(0-5)-20160202	Soil		02-Feb-2016 14:15	02-Feb-2016 15:48	☐
HS16020093-06	Trip Blank 012716-34	Water		02-Feb-2016 00:00	02-Feb-2016 15:48	☑

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
Sample ID: SO-1620-CSBS1(0-5)-20160202
Collection Date: 02-Feb-2016 14:00

ANALYTICAL REPORT
WorkOrder:HS16020093
Lab ID:HS16020093-01
Matrix:Soil

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES	**Method:SW8270**				Prep:SW3541 / 02-Feb-2016		Analyst: ACN
1,2-Diphenylhydrazine	U		0.013	0.075	mg/Kg-dry	1	03-Feb-2016 13:06
2,4-Dimethylphenol	U		0.038	0.075	mg/Kg-dry	1	03-Feb-2016 13:06
2,4-Dinitrotoluene	U		0.010	0.075	mg/Kg-dry	1	03-Feb-2016 13:06
2,6-Dinitrotoluene	U		0.038	0.075	mg/Kg-dry	1	03-Feb-2016 13:06
2-Chloronaphthalene	U		0.015	0.075	mg/Kg-dry	1	03-Feb-2016 13:06
2-Methylnaphthalene	**2.1**		**0.0057**	**0.038**	**mg/Kg-dry**	1	03-Feb-2016 13:06
4,6-Dinitro-2-methylphenol	U		0.024	0.075	mg/Kg-dry	1	03-Feb-2016 13:06
4-Nitrophenol	U		0.022	0.15	mg/Kg-dry	1	03-Feb-2016 13:06
Acenaphthene	**7.0**		**0.028**	**0.19**	**mg/Kg-dry**	5	03-Feb-2016 15:28
Acenaphthylene	**0.11**		**0.011**	**0.038**	**mg/Kg-dry**	1	03-Feb-2016 13:06
Anthracene	**12**		**0.028**	**0.19**	**mg/Kg-dry**	5	03-Feb-2016 15:28
Benz(a)anthracene	**12**		**0.091**	**0.19**	**mg/Kg-dry**	5	03-Feb-2016 15:28
Benzo(a)pyrene	**5.9**		**0.057**	**0.19**	**mg/Kg-dry**	5	03-Feb-2016 15:28
Bis(2-chloroethoxy)methane	U		0.010	0.075	mg/Kg-dry	1	03-Feb-2016 13:06
Bis(2-ethylhexyl)phthalate	U		0.019	0.075	mg/Kg-dry	1	03-Feb-2016 13:06
Chrysene	**14**		**0.046**	**0.19**	**mg/Kg-dry**	5	03-Feb-2016 15:28
Dibenzofuran	**5.9**		**0.040**	**0.19**	**mg/Kg-dry**	5	03-Feb-2016 15:28
Di-n-butyl phthalate	U		0.014	0.075	mg/Kg-dry	1	03-Feb-2016 13:06
Fluoranthene	**72**		**0.31**	**0.94**	**mg/Kg-dry**	25	03-Feb-2016 15:49
Fluorene	**12**		**0.063**	**0.19**	**mg/Kg-dry**	5	03-Feb-2016 15:28
Naphthalene	**3.7**		**0.0068**	**0.038**	**mg/Kg-dry**	1	03-Feb-2016 13:06
Nitrobenzene	U		0.010	0.075	mg/Kg-dry	1	03-Feb-2016 13:06
N-Nitrosodiphenylamine	U		0.0080	0.075	mg/Kg-dry	1	03-Feb-2016 13:06
Pentachlorophenol	U		0.038	0.075	mg/Kg-dry	1	03-Feb-2016 13:06
Phenanthrene	**72**		**0.43**	**0.94**	**mg/Kg-dry**	25	03-Feb-2016 15:49
Phenol	U		0.013	0.075	mg/Kg-dry	1	03-Feb-2016 13:06
Pyrene	**45**		**0.17**	**0.94**	**mg/Kg-dry**	25	03-Feb-2016 15:49
Surr: 2,4,6-Tribromophenol	*75.4*			*36-126*	*%REC*	*1*	*03-Feb-2016 13:06*
Surr: 2,4,6-Tribromophenol	*51.8*			*36-126*	*%REC*	*5*	*03-Feb-2016 15:28*
Surr: 2,4,6-Tribromophenol	*0*	*S*		*36-126*	*%REC*	*25*	*03-Feb-2016 15:49*
Surr: 2-Fluorobiphenyl	*101*			*43-125*	*%REC*	*1*	*03-Feb-2016 13:06*
Surr: 2-Fluorobiphenyl	*90.8*			*43-125*	*%REC*	*5*	*03-Feb-2016 15:28*
Surr: 2-Fluorobiphenyl	*0*	*S*		*43-125*	*%REC*	*25*	*03-Feb-2016 15:49*
Surr: 2-Fluorophenol	*53.0*			*37-125*	*%REC*	*1*	*03-Feb-2016 13:06*
Surr: 2-Fluorophenol	*84.5*			*37-125*	*%REC*	*5*	*03-Feb-2016 15:28*
Surr: 2-Fluorophenol	*0*	*S*		*37-125*	*%REC*	*25*	*03-Feb-2016 15:49*
Surr: 4-Terphenyl-d14	*107*			*32-125*	*%REC*	*1*	*03-Feb-2016 13:06*
Surr: 4-Terphenyl-d14	*127*	*S*		*32-125*	*%REC*	*5*	*03-Feb-2016 15:28*
Surr: 4-Terphenyl-d14	*0*	*S*		*32-125*	*%REC*	*25*	*03-Feb-2016 15:49*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
Sample ID: SO-1620-CSBS1(0-5)-20160202
Collection Date: 02-Feb-2016 14:00

ANALYTICAL REPORT
WorkOrder:HS16020093
Lab ID:HS16020093-01
Matrix:Soil

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES		**Method:SW8270**			Prep:SW3541 / 02-Feb-2016		Analyst: ACN
Surr: Nitrobenzene-d5	*77.1*			*37-125*	*%REC*	*1*	*03-Feb-2016 13:06*
Surr: Nitrobenzene-d5	*75.1*			*37-125*	*%REC*	*5*	*03-Feb-2016 15:28*
Surr: Nitrobenzene-d5	*0*	*S*		*37-125*	*%REC*	*25*	*03-Feb-2016 15:49*
Surr: Phenol-d6	*52.6*			*40-125*	*%REC*	*1*	*03-Feb-2016 13:06*
Surr: Phenol-d6	*62.7*			*40-125*	*%REC*	*5*	*03-Feb-2016 15:28*
Surr: Phenol-d6	*0*	*S*		*40-125*	*%REC*	*25*	*03-Feb-2016 15:49*
METALS BY SW6020A		**Method:SW6020**			Prep:SW3050A / 02-Feb-2016		Analyst: JDE
Arsenic	**0.609**		**0.111**	**0.553**	**mg/Kg-dry**	1	03-Feb-2016 12:58
Lead	**6.45**		**0.0553**	**0.553**	**mg/Kg-dry**	1	03-Feb-2016 12:58
MOISTURE - ASTM D2216		**Method:ASTM D2216**					Analyst: DFF
Percent Moisture	**12.7**		**0.0100**	**0.0100**	**wt%**	1	02-Feb-2016 16:05

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
Sample ID: SO-1620-CSBS2(0-5)-20160202
Collection Date: 02-Feb-2016 14:03

ANALYTICAL REPORT
WorkOrder:HS16020093
Lab ID:HS16020093-02
Matrix:Soil

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES		**Method:SW8270**			Prep:SW3541 / 02-Feb-2016		Analyst: ACN
1,2-Diphenylhydrazine	U		0.0012	0.0075	mg/Kg-dry	1	03-Feb-2016 14:07
2,4-Dimethylphenol	U		0.0037	0.0075	mg/Kg-dry	1	03-Feb-2016 14:07
2,4-Dinitrotoluene	U		0.0010	0.0075	mg/Kg-dry	1	03-Feb-2016 14:07
2,6-Dinitrotoluene	U		0.0037	0.0075	mg/Kg-dry	1	03-Feb-2016 14:07
2-Chloronaphthalene	U		0.0015	0.0075	mg/Kg-dry	1	03-Feb-2016 14:07
2-Methylnaphthalene	**0.0080**		**0.00057**	**0.0037**	**mg/Kg-dry**	1	03-Feb-2016 14:07
4,6-Dinitro-2-methylphenol	U		0.0024	0.0075	mg/Kg-dry	1	03-Feb-2016 14:07
4-Nitrophenol	U		0.0022	0.015	mg/Kg-dry	1	03-Feb-2016 14:07
Acenaphthene	**0.016**		**0.00057**	**0.0037**	**mg/Kg-dry**	1	03-Feb-2016 14:07
Acenaphthylene	U		0.0011	0.0037	mg/Kg-dry	1	03-Feb-2016 14:07
Anthracene	**0.018**		**0.00057**	**0.0037**	**mg/Kg-dry**	1	03-Feb-2016 14:07
Benz(a)anthracene	**0.018**		**0.0018**	**0.0037**	**mg/Kg-dry**	1	03-Feb-2016 14:07
Benzo(a)pyrene	**0.015**		**0.0011**	**0.0037**	**mg/Kg-dry**	1	03-Feb-2016 14:07
Bis(2-chloroethoxy)methane	U		0.0010	0.0075	mg/Kg-dry	1	03-Feb-2016 14:07
Bis(2-ethylhexyl)phthalate	U		0.0019	0.0075	mg/Kg-dry	1	03-Feb-2016 14:07
Chrysene	**0.021**		**0.00091**	**0.0037**	**mg/Kg-dry**	1	03-Feb-2016 14:07
Dibenzofuran	**0.0049**		**0.00079**	**0.0037**	**mg/Kg-dry**	1	03-Feb-2016 14:07
Di-n-butyl phthalate	U		0.0014	0.0075	mg/Kg-dry	1	03-Feb-2016 14:07
Fluoranthene	**0.038**		**0.0012**	**0.0037**	**mg/Kg-dry**	1	03-Feb-2016 14:07
Fluorene	**0.015**		**0.0012**	**0.0037**	**mg/Kg-dry**	1	03-Feb-2016 14:07
Naphthalene	**0.0070**		**0.00068**	**0.0037**	**mg/Kg-dry**	1	03-Feb-2016 14:07
Nitrobenzene	U		0.0010	0.0075	mg/Kg-dry	1	03-Feb-2016 14:07
N-Nitrosodiphenylamine	U		0.00079	0.0075	mg/Kg-dry	1	03-Feb-2016 14:07
Pentachlorophenol	U		0.0037	0.0075	mg/Kg-dry	1	03-Feb-2016 14:07
Phenanthrene	**0.030**		**0.0017**	**0.0037**	**mg/Kg-dry**	1	03-Feb-2016 14:07
Phenol	U		0.0012	0.0075	mg/Kg-dry	1	03-Feb-2016 14:07
Pyrene	**0.039**		**0.00068**	**0.0037**	**mg/Kg-dry**	1	03-Feb-2016 14:07
Surr: 2,4,6-Tribromophenol	*74.3*			*36-126*	*%REC*	*1*	*03-Feb-2016 14:07*
Surr: 2-Fluorobiphenyl	*83.8*			*43-125*	*%REC*	*1*	*03-Feb-2016 14:07*
Surr: 2-Fluorophenol	*70.1*			*37-125*	*%REC*	*1*	*03-Feb-2016 14:07*
Surr: 4-Terphenyl-d14	*82.2*			*32-125*	*%REC*	*1*	*03-Feb-2016 14:07*
Surr: Nitrobenzene-d5	*85.8*			*37-125*	*%REC*	*1*	*03-Feb-2016 14:07*
Surr: Phenol-d6	*93.6*			*40-125*	*%REC*	*1*	*03-Feb-2016 14:07*
METALS BY SW6020A		**Method:SW6020**			Prep:SW3050A / 02-Feb-2016		Analyst: JDE
Arsenic	**1.33**		**0.107**	**0.537**	**mg/Kg-dry**	1	03-Feb-2016 13:02
Lead	**18.0**		**0.0537**	**0.537**	**mg/Kg-dry**	1	03-Feb-2016 13:02
MOISTURE - ASTM D2216		**Method:ASTM D2216**					Analyst: DFF
Percent Moisture	**12.3**		**0.0100**	**0.0100**	**wt%**	1	02-Feb-2016 16:05

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
Sample ID: SO-1620-CSBE1(0-5)-20160202
Collection Date: 02-Feb-2016 14:08

ANALYTICAL REPORT
WorkOrder:HS16020093
Lab ID:HS16020093-03
Matrix:Soil

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES	**Method:SW8270**				Prep:SW3541 / 02-Feb-2016		Analyst: ACN
1,2-Diphenylhydrazine	U		0.013	0.080	mg/Kg-dry	1	03-Feb-2016 14:27
2,4-Dimethylphenol	U		0.040	0.080	mg/Kg-dry	1	03-Feb-2016 14:27
2,4-Dinitrotoluene	U		0.011	0.080	mg/Kg-dry	1	03-Feb-2016 14:27
2,6-Dinitrotoluene	U		0.040	0.080	mg/Kg-dry	1	03-Feb-2016 14:27
2-Chloronaphthalene	U		0.016	0.080	mg/Kg-dry	1	03-Feb-2016 14:27
2-Methylnaphthalene	**0.59**		**0.0060**	**0.040**	**mg/Kg-dry**	1	03-Feb-2016 14:27
4,6-Dinitro-2-methylphenol	U		0.025	0.080	mg/Kg-dry	1	03-Feb-2016 14:27
4-Nitrophenol	U		0.023	0.16	mg/Kg-dry	1	03-Feb-2016 14:27
Acenaphthene	**2.6**		**0.0060**	**0.040**	**mg/Kg-dry**	1	03-Feb-2016 14:27
Acenaphthylene	**0.12**		**0.012**	**0.040**	**mg/Kg-dry**	1	03-Feb-2016 14:27
Anthracene	**1.3**		**0.0060**	**0.040**	**mg/Kg-dry**	1	03-Feb-2016 14:27
Benz(a)anthracene	**1.5**		**0.019**	**0.040**	**mg/Kg-dry**	1	03-Feb-2016 14:27
Benzo(a)pyrene	**0.94**		**0.012**	**0.040**	**mg/Kg-dry**	1	03-Feb-2016 14:27
Bis(2-chloroethoxy)methane	U		0.011	0.080	mg/Kg-dry	1	03-Feb-2016 14:27
Bis(2-ethylhexyl)phthalate	U		0.021	0.080	mg/Kg-dry	1	03-Feb-2016 14:27
Chrysene	**2.0**		**0.0097**	**0.040**	**mg/Kg-dry**	1	03-Feb-2016 14:27
Dibenzofuran	**1.1**		**0.0085**	**0.040**	**mg/Kg-dry**	1	03-Feb-2016 14:27
Di-n-butyl phthalate	U		0.014	0.080	mg/Kg-dry	1	03-Feb-2016 14:27
Fluoranthene	**10**		**0.066**	**0.20**	**mg/Kg-dry**	5	03-Feb-2016 16:09
Fluorene	**1.9**		**0.013**	**0.040**	**mg/Kg-dry**	1	03-Feb-2016 14:27
Naphthalene	**0.37**		**0.0072**	**0.040**	**mg/Kg-dry**	1	03-Feb-2016 14:27
Nitrobenzene	U		0.011	0.080	mg/Kg-dry	1	03-Feb-2016 14:27
N-Nitrosodiphenylamine	U		0.0085	0.080	mg/Kg-dry	1	03-Feb-2016 14:27
Pentachlorophenol	U		0.040	0.080	mg/Kg-dry	1	03-Feb-2016 14:27
Phenanthrene	**3.9**		**0.018**	**0.040**	**mg/Kg-dry**	1	03-Feb-2016 14:27
Phenol	U		0.013	0.080	mg/Kg-dry	1	03-Feb-2016 14:27
Pyrene	**11**		**0.036**	**0.20**	**mg/Kg-dry**	5	03-Feb-2016 16:09
Surr: 2,4,6-Tribromophenol	*57.6*			*36-126*	*%REC*	*5*	*03-Feb-2016 16:09*
Surr: 2,4,6-Tribromophenol	*51.3*			*36-126*	*%REC*	*1*	*03-Feb-2016 14:27*
Surr: 2-Fluorobiphenyl	*84.9*			*43-125*	*%REC*	*5*	*03-Feb-2016 16:09*
Surr: 2-Fluorobiphenyl	*77.4*			*43-125*	*%REC*	*1*	*03-Feb-2016 14:27*
Surr: 2-Fluorophenol	*58.3*			*37-125*	*%REC*	*1*	*03-Feb-2016 14:27*
Surr: 2-Fluorophenol	*83.8*			*37-125*	*%REC*	*5*	*03-Feb-2016 16:09*
Surr: 4-Terphenyl-d14	*109*			*32-125*	*%REC*	*5*	*03-Feb-2016 16:09*
Surr: 4-Terphenyl-d14	*91.3*			*32-125*	*%REC*	*1*	*03-Feb-2016 14:27*
Surr: Nitrobenzene-d5	*72.4*			*37-125*	*%REC*	*5*	*03-Feb-2016 16:09*
Surr: Nitrobenzene-d5	*79.9*			*37-125*	*%REC*	*1*	*03-Feb-2016 14:27*
Surr: Phenol-d6	*94.4*			*40-125*	*%REC*	*1*	*03-Feb-2016 14:27*
Surr: Phenol-d6	*88.6*			*40-125*	*%REC*	*5*	*03-Feb-2016 16:09*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
Sample ID: SO-1620-CSBE1(0-5)-20160202
Collection Date: 02-Feb-2016 14:08

ANALYTICAL REPORT
WorkOrder:HS16020093
Lab ID:HS16020093-03
Matrix:Soil

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
METALS BY SW6020A	**Method:SW6020**				Prep:SW3050A / 02-Feb-2016		Analyst: JDE
Arsenic	**2.65**		**0.115**	**0.573**	**mg/Kg-dry**	1	03-Feb-2016 13:06
Lead	**11.3**		**0.0573**	**0.573**	**mg/Kg-dry**	1	03-Feb-2016 13:06
MOISTURE - ASTM D2216	**Method:ASTM D2216**						Analyst: DFF
Percent Moisture	**17.5**		**0.0100**	**0.0100**	**wt%**	1	02-Feb-2016 16:05

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
Sample ID: SO-1620-CSBN2(0-5)-20160202
Collection Date: 02-Feb-2016 14:12

ANALYTICAL REPORT
WorkOrder:HS16020093
Lab ID:HS16020093-04
Matrix:Soil

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES		**Method:SW8270**			Prep:SW3541 / 02-Feb-2016		Analyst: ACN
1,2-Diphenylhydrazine	U		0.013	0.076	mg/Kg-dry	1	03-Feb-2016 14:48
2,4-Dimethylphenol	U		0.038	0.076	mg/Kg-dry	1	03-Feb-2016 14:48
2,4-Dinitrotoluene	U		0.010	0.076	mg/Kg-dry	1	03-Feb-2016 14:48
2,6-Dinitrotoluene	U		0.038	0.076	mg/Kg-dry	1	03-Feb-2016 14:48
2-Chloronaphthalene	U		0.015	0.076	mg/Kg-dry	1	03-Feb-2016 14:48
2-Methylnaphthalene	**0.15**		**0.0058**	**0.038**	**mg/Kg-dry**	1	03-Feb-2016 14:48
4,6-Dinitro-2-methylphenol	U		0.024	0.076	mg/Kg-dry	1	03-Feb-2016 14:48
4-Nitrophenol	U		0.022	0.15	mg/Kg-dry	1	03-Feb-2016 14:48
Acenaphthene	**0.30**		**0.0058**	**0.038**	**mg/Kg-dry**	1	03-Feb-2016 14:48
Acenaphthylene	**0.048**		**0.012**	**0.038**	**mg/Kg-dry**	1	03-Feb-2016 14:48
Anthracene	**0.26**		**0.0058**	**0.038**	**mg/Kg-dry**	1	03-Feb-2016 14:48
Benz(a)anthracene	**0.24**		**0.018**	**0.038**	**mg/Kg-dry**	1	03-Feb-2016 14:48
Benzo(a)pyrene	**0.20**		**0.012**	**0.038**	**mg/Kg-dry**	1	03-Feb-2016 14:48
Bis(2-chloroethoxy)methane	U		0.010	0.076	mg/Kg-dry	1	03-Feb-2016 14:48
Bis(2-ethylhexyl)phthalate	U		0.020	0.076	mg/Kg-dry	1	03-Feb-2016 14:48
Chrysene	**0.31**		**0.0092**	**0.038**	**mg/Kg-dry**	1	03-Feb-2016 14:48
Dibenzofuran	**0.17**		**0.0081**	**0.038**	**mg/Kg-dry**	1	03-Feb-2016 14:48
Di-n-butyl phthalate	U		0.014	0.076	mg/Kg-dry	1	03-Feb-2016 14:48
Fluoranthene	**1.6**		**0.013**	**0.038**	**mg/Kg-dry**	1	03-Feb-2016 14:48
Fluorene	**0.25**		**0.013**	**0.038**	**mg/Kg-dry**	1	03-Feb-2016 14:48
Naphthalene	**0.28**		**0.0069**	**0.038**	**mg/Kg-dry**	1	03-Feb-2016 14:48
Nitrobenzene	U		0.010	0.076	mg/Kg-dry	1	03-Feb-2016 14:48
N-Nitrosodiphenylamine	U		0.0081	0.076	mg/Kg-dry	1	03-Feb-2016 14:48
Pentachlorophenol	U		0.038	0.076	mg/Kg-dry	1	03-Feb-2016 14:48
Phenanthrene	**0.93**		**0.017**	**0.038**	**mg/Kg-dry**	1	03-Feb-2016 14:48
Phenol	**0.042**	J	**0.013**	**0.076**	**mg/Kg-dry**	1	03-Feb-2016 14:48
Pyrene	**1.2**		**0.0069**	**0.038**	**mg/Kg-dry**	1	03-Feb-2016 14:48
Surr: 2,4,6-Tribromophenol	*97.7*			*36-126*	*%REC*	*1*	*03-Feb-2016 14:48*
Surr: 2-Fluorobiphenyl	*99.7*			*43-125*	*%REC*	*1*	*03-Feb-2016 14:48*
Surr: 2-Fluorophenol	*82.7*			*37-125*	*%REC*	*1*	*03-Feb-2016 14:48*
Surr: 4-Terphenyl-d14	*101*			*32-125*	*%REC*	*1*	*03-Feb-2016 14:48*
Surr: Nitrobenzene-d5	*111*			*37-125*	*%REC*	*1*	*03-Feb-2016 14:48*
Surr: Phenol-d6	*69.3*			*40-125*	*%REC*	*1*	*03-Feb-2016 14:48*
METALS BY SW6020A		**Method:SW6020**			Prep:SW3050A / 02-Feb-2016		Analyst: JDE
Arsenic	**1.12**		**0.111**	**0.553**	**mg/Kg-dry**	1	03-Feb-2016 13:11
Lead	**4.71**		**0.0553**	**0.553**	**mg/Kg-dry**	1	03-Feb-2016 13:11
MOISTURE - ASTM D2216		**Method:ASTM D2216**					Analyst: DFF
Percent Moisture	**13.6**		**0.0100**	**0.0100**	**wt%**	1	02-Feb-2016 16:05

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
Sample ID: SO-1620-CSBN1(0-5)-20160202
Collection Date: 02-Feb-2016 14:15

ANALYTICAL REPORT
WorkOrder:HS16020093
Lab ID:HS16020093-05
Matrix:Soil

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES	**Method:SW8270**				Prep:SW3541 / 02-Feb-2016		Analyst: ACN
1,2-Diphenylhydrazine	U		0.0013	0.0077	mg/Kg-dry	1	03-Feb-2016 15:08
2,4-Dimethylphenol	U		0.0039	0.0077	mg/Kg-dry	1	03-Feb-2016 15:08
2,4-Dinitrotoluene	U		0.0011	0.0077	mg/Kg-dry	1	03-Feb-2016 15:08
2,6-Dinitrotoluene	U		0.0039	0.0077	mg/Kg-dry	1	03-Feb-2016 15:08
2-Chloronaphthalene	U		0.0015	0.0077	mg/Kg-dry	1	03-Feb-2016 15:08
2-Methylnaphthalene	**0.21**		**0.00058**	**0.0039**	**mg/Kg-dry**	1	03-Feb-2016 15:08
4,6-Dinitro-2-methylphenol	U		0.0025	0.0077	mg/Kg-dry	1	03-Feb-2016 15:08
4-Nitrophenol	U		0.0022	0.015	mg/Kg-dry	1	03-Feb-2016 15:08
Acenaphthene	**0.25**		**0.00058**	**0.0039**	**mg/Kg-dry**	1	03-Feb-2016 15:08
Acenaphthylene	**0.0053**		**0.0012**	**0.0039**	**mg/Kg-dry**	1	03-Feb-2016 15:08
Anthracene	**0.096**		**0.00058**	**0.0039**	**mg/Kg-dry**	1	03-Feb-2016 15:08
Benz(a)anthracene	**0.065**		**0.0019**	**0.0039**	**mg/Kg-dry**	1	03-Feb-2016 15:08
Benzo(a)pyrene	**0.031**		**0.0012**	**0.0039**	**mg/Kg-dry**	1	03-Feb-2016 15:08
Bis(2-chloroethoxy)methane	U		0.0011	0.0077	mg/Kg-dry	1	03-Feb-2016 15:08
Bis(2-ethylhexyl)phthalate	**0.0078**		**0.0020**	**0.0077**	**mg/Kg-dry**	1	03-Feb-2016 15:08
Chrysene	**0.067**		**0.00094**	**0.0039**	**mg/Kg-dry**	1	03-Feb-2016 15:08
Dibenzofuran	**0.16**		**0.00082**	**0.0039**	**mg/Kg-dry**	1	03-Feb-2016 15:08
Di-n-butyl phthalate	**0.0041**	J	**0.0014**	**0.0077**	**mg/Kg-dry**	1	03-Feb-2016 15:08
Fluoranthene	**0.35**		**0.0013**	**0.0039**	**mg/Kg-dry**	1	03-Feb-2016 15:08
Fluorene	**0.25**		**0.0013**	**0.0039**	**mg/Kg-dry**	1	03-Feb-2016 15:08
Naphthalene	**0.26**		**0.00070**	**0.0039**	**mg/Kg-dry**	1	03-Feb-2016 15:08
Nitrobenzene	U		0.0011	0.0077	mg/Kg-dry	1	03-Feb-2016 15:08
N-Nitrosodiphenylamine	U		0.00082	0.0077	mg/Kg-dry	1	03-Feb-2016 15:08
Pentachlorophenol	U		0.0039	0.0077	mg/Kg-dry	1	03-Feb-2016 15:08
Phenanthrene	**0.51**		**0.0070**	**0.015**	**mg/Kg-dry**	4	03-Feb-2016 16:29
Phenol	U		0.0013	0.0077	mg/Kg-dry	1	03-Feb-2016 15:08
Pyrene	**0.27**		**0.00070**	**0.0039**	**mg/Kg-dry**	1	03-Feb-2016 15:08
Surr: 2,4,6-Tribromophenol	*59.7*			*36-126*	*%REC*	*4*	*03-Feb-2016 16:29*
Surr: 2,4,6-Tribromophenol	*72.2*			*36-126*	*%REC*	*1*	*03-Feb-2016 15:08*
Surr: 2-Fluorobiphenyl	*75.0*			*43-125*	*%REC*	*1*	*03-Feb-2016 15:08*
Surr: 2-Fluorobiphenyl	*68.5*			*43-125*	*%REC*	*4*	*03-Feb-2016 16:29*
Surr: 2-Fluorophenol	*60.5*			*37-125*	*%REC*	*4*	*03-Feb-2016 16:29*
Surr: 2-Fluorophenol	*49.4*			*37-125*	*%REC*	*1*	*03-Feb-2016 15:08*
Surr: 4-Terphenyl-d14	*86.6*			*32-125*	*%REC*	*4*	*03-Feb-2016 16:29*
Surr: 4-Terphenyl-d14	*77.8*			*32-125*	*%REC*	*1*	*03-Feb-2016 15:08*
Surr: Nitrobenzene-d5	*83.7*			*37-125*	*%REC*	*1*	*03-Feb-2016 15:08*
Surr: Nitrobenzene-d5	*75.1*			*37-125*	*%REC*	*4*	*03-Feb-2016 16:29*
Surr: Phenol-d6	*54.8*			*40-125*	*%REC*	*4*	*03-Feb-2016 16:29*
Surr: Phenol-d6	*58.4*			*40-125*	*%REC*	*1*	*03-Feb-2016 15:08*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
Sample ID: SO-1620-CSBN1(0-5)-20160202
Collection Date: 02-Feb-2016 14:15

ANALYTICAL REPORT
WorkOrder:HS16020093
Lab ID:HS16020093-05
Matrix:Soil

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
METALS BY SW6020A	**Method:SW6020**				Prep:SW3050A / 02-Feb-2016		Analyst: JDE
Arsenic	**8.72**		**0.107**	**0.535**	**mg/Kg-dry**	1	03-Feb-2016 13:15
Lead	**7.74**		**0.0535**	**0.535**	**mg/Kg-dry**	1	03-Feb-2016 13:15
MOISTURE - ASTM D2216	**Method:ASTM D2216**						Analyst: DFF
Percent Moisture	**14.8**		**0.0100**	**0.0100**	**wt%**	1	02-Feb-2016 16:05

Note: See Qualifiers Page for a list of qualifiers and their explanation.

WEIGHT LOG

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
WorkOrder: HS16020093

Batch ID: 101105 **Method:** METALS BY SW6020A **Prep:** 3050_I_LOW

SampID	Container	Sample Wt/Vol	Final Volume	Prep Factor
HS16020093-01	1	0.5174	50 (mL)	96.64
HS16020093-02	1	0.5311	50 (mL)	94.14
HS16020093-03	1	0.5285	50 (mL)	94.61
HS16020093-04	1	0.5237	50 (mL)	95.47
HS16020093-05	1	0.5481	50 (mL)	91.22

Batch ID: 101122 **Method:** LOW-LEVEL SEMIVOLATILES **Prep:** 3541_B_LOW

SampID	Container	Sample Wt/Vol	Final Volume	Prep Factor
HS16020093-01	1	30.15	10 (mL)	0.3317
HS16020093-02	1	30.19	1 (mL)	0.03312
HS16020093-03	1	30.12	10 (mL)	0.332
HS16020093-04	1	30.14	10 (mL)	0.3318
HS16020093-05	1	30.11	1 (mL)	0.03321

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
WorkOrder: HS16020093

DATES REPORT

Sample ID	Client Samp ID	Collection Date	TCLP Date	Prep Date	Analysis Date	DF
Batch ID 101105	**Test Name :** METALS BY SW6020A			**Matrix:** Soil		
HS16020093-01	SO-1620-CSBS1(0-5)-20160202	02 Feb 2016 14:00		02 Feb 2016 11:11	03 Feb 2016 12:58	1
HS16020093-02	SO-1620-CSBS2(0-5)-20160202	02 Feb 2016 14:03		02 Feb 2016 11:11	03 Feb 2016 13:02	1
HS16020093-03	SO-1620-CSBE1(0-5)-20160202	02 Feb 2016 14:08		02 Feb 2016 11:11	03 Feb 2016 13:06	1
HS16020093-04	SO-1620-CSBN2(0-5)-20160202	02 Feb 2016 14:12		02 Feb 2016 11:11	03 Feb 2016 13:11	1
HS16020093-05	SO-1620-CSBN1(0-5)-20160202	02 Feb 2016 14:15		02 Feb 2016 11:11	03 Feb 2016 13:15	1
Batch ID 101122	**Test Name :** LOW-LEVEL SEMIVOLATILES			**Matrix:** Soil		
HS16020093-01	SO-1620-CSBS1(0-5)-20160202	02 Feb 2016 14:00		02 Feb 2016 16:34	03 Feb 2016 15:49	25
HS16020093-01	SO-1620-CSBS1(0-5)-20160202	02 Feb 2016 14:00		02 Feb 2016 16:34	03 Feb 2016 15:28	5
HS16020093-01	SO-1620-CSBS1(0-5)-20160202	02 Feb 2016 14:00		02 Feb 2016 16:34	03 Feb 2016 13:06	1
HS16020093-02	SO-1620-CSBS2(0-5)-20160202	02 Feb 2016 14:03		02 Feb 2016 16:34	03 Feb 2016 14:07	1
HS16020093-03	SO-1620-CSBE1(0-5)-20160202	02 Feb 2016 14:08		02 Feb 2016 16:34	03 Feb 2016 16:09	5
HS16020093-03	SO-1620-CSBE1(0-5)-20160202	02 Feb 2016 14:08		02 Feb 2016 16:34	03 Feb 2016 14:27	1
HS16020093-04	SO-1620-CSBN2(0-5)-20160202	02 Feb 2016 14:12		02 Feb 2016 16:34	03 Feb 2016 14:48	1
HS16020093-05	SO-1620-CSBN1(0-5)-20160202	02 Feb 2016 14:15		02 Feb 2016 16:34	03 Feb 2016 16:29	4
HS16020093-05	SO-1620-CSBN1(0-5)-20160202	02 Feb 2016 14:15		02 Feb 2016 16:34	03 Feb 2016 15:08	1
Batch ID R268707	**Test Name :** MOISTURE - ASTM D2216			**Matrix:** Soil		
HS16020093-01	SO-1620-CSBS1(0-5)-20160202	02 Feb 2016 14:00			02 Feb 2016 16:05	1
HS16020093-02	SO-1620-CSBS2(0-5)-20160202	02 Feb 2016 14:03			02 Feb 2016 16:05	1
HS16020093-03	SO-1620-CSBE1(0-5)-20160202	02 Feb 2016 14:08			02 Feb 2016 16:05	1
HS16020093-04	SO-1620-CSBN2(0-5)-20160202	02 Feb 2016 14:12			02 Feb 2016 16:05	1
HS16020093-05	SO-1620-CSBN1(0-5)-20160202	02 Feb 2016 14:15			02 Feb 2016 16:05	1

WorkOrder: HS16020093
InstrumentID: ICPMS04
Test Code: ICP_S_Low
Test Number: SW6020
Test Name: Metals by SW6020A

METHOD DETECTION / REPORTING LIMITS

Matrix: Solid **Units:** mg/Kg

Type	Analyte	CAS	DCS Spike	DCS	MDL	PQL
A	Arsenic	7440-38-2	0.100	0.0974	0.100	0.500
A	Lead	7439-92-1	0.100	0.0927	0.0500	0.500

WorkOrder: HS16020093
InstrumentID: SV-4
Test Code: 8270_LOW_S
Test Number: SW8270
Test Name: Low-Level Semivolatiles

METHOD DETECTION / REPORTING LIMITS

Matrix: Solid **Units:** mg/Kg

Type	Analyte	CAS	DCS Spike	DCS	MDL	PQL
A	1,2-Diphenylhydrazine	122-66-7	0.0033	0.0029	0.0011	0.0066
A	2,4-Dimethylphenol	105-67-9	0.0033	0.00084	0.0033	0.0066
A	2,4-Dinitrotoluene	121-14-2	0.0033	0.0025	0.00090	0.0066
A	2,6-Dinitrotoluene	606-20-2	0.0033	0.0030	0.0033	0.0066
A	2-Chloronaphthalene	91-58-7	0.0033	0.0025	0.0013	0.0066
A	2-Methylnaphthalene	91-57-6	0.0033	0.0034	0.00050	0.0033
A	4,6-Dinitro-2-methylphenol	534-52-1	0.0033	0.0036	0.0021	0.0066
A	4-Nitrophenol	100-02-7	0.0033	0.0043	0.0019	0.013
A	Acenaphthene	83-32-9	0.0033	0.0029	0.00050	0.0033
A	Acenaphthene	83-32-9	0.0017	0.0015	0.00050	0.0033
A	Acenaphthylene	208-96-8	0.0017	0.0017	0.0010	0.0033
A	Acenaphthylene	208-96-8	0.0033	0.0023	0.0010	0.0033
A	Anthracene	120-12-7	0.0033	0.0031	0.00050	0.0033
A	Anthracene	120-12-7	0.0017	0.0017	0.00050	0.0033
A	Benz(a)anthracene	56-55-3	0.0017	0.0020	0.0016	0.0033
A	Benz(a)anthracene	56-55-3	0.0033	0.0032	0.0016	0.0033
A	Benzo(a)pyrene	50-32-8	0.0033	0.0032	0.0010	0.0033
A	Benzo(a)pyrene	50-32-8	0.0017	0.0018	0.0010	0.0033
A	Bis(2-chloroethoxy)methane	111-91-1	0.0033	0.0033	0.00090	0.0066
A	Bis(2-ethylhexyl)phthalate	117-81-7	0.0033	0.0060	0.0017	0.0066
A	Chrysene	218-01-9	0.0033	0.0044	0.00080	0.0033
A	Dibenzofuran	132-64-9	0.0033	0.0028	0.00070	0.0033
A	Di-n-butyl phthalate	84-74-2	0.0033	0.0038	0.0012	0.0066
A	Fluoranthene	206-44-0	0.0033	0.0038	0.0011	0.0033
A	Fluorene	86-73-7	0.0017	0.0015	0.0011	0.0033
A	Fluorene	86-73-7	0.0033	0.0027	0.0011	0.0033
A	Naphthalene	91-20-3	0.0033	0.0034	0.00060	0.0033
A	Nitrobenzene	98-95-3	0.0033	0.0038	0.00090	0.0066
A	N-Nitrosodiphenylamine	86-30-6	0.0033	0.0037	0.00070	0.0066
A	Pentachlorophenol	87-86-5	0.0033	0.0023	0.0033	0.0066
A	Phenanthrene	85-01-8	0.0033	0.0031	0.0015	0.0033
A	Phenol	108-95-2	0.0033	0.0038	0.0011	0.0066
A	Pyrene	129-00-0	0.0033	0.0045	0.00060	0.0033
A	Pyrene	129-00-0	0.0017	0.0019	0.00060	0.0033
S	2,4,6-Tribromophenol	118-79-6	0	0	0	0
S	2-Fluorobiphenyl	321-60-8	0	0	0	0
S	2-Fluorophenol	367-12-4	0	0	0	0
S	4-Terphenyl-d14	1718-51-0	0	0	0	0
S	Nitrobenzene-d5	4165-60-0	0	0	0	0
S	Phenol-d6	13127-88-3	0	0	0	0

WorkOrder: HS16020093
InstrumentID: Balance1
Test Code: MOIST_ASTM
Test Number: ASTM D2216
Test Name: Moisture - ASTM D2216

METHOD DETECTION / REPORTING LIMITS

Matrix: Solid **Units:** wt%

Type	Analyte	CAS	DCS Spike	DCS	MDL	PQL
A	Percent Moisture	MOIST	0.0100	0.0100	0.0100	0.0100

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
WorkOrder: HS16020093

QC BATCH REPORT

Batch ID: 101105 **Instrument: ICPMS04** **Method: SW6020**

MBLK Sample ID: **MBLK-101105** Units: **mg/Kg** Analysis Date: **02-Feb-2016 20:28**
Client ID: Run ID: **ICPMS04_268661** SeqNo: **3573627** PrepDate: **02-Feb-2016** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	U	0.500								
Lead	U	0.500								

LCS Sample ID: **MLCS-101105** Units: **mg/Kg** Analysis Date: **02-Feb-2016 20:33**
Client ID: Run ID: **ICPMS04_268661** SeqNo: **3573628** PrepDate: **02-Feb-2016** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	9.567	0.500	10	0	95.7	80 - 120				
Lead	9.986	0.500	10	0	99.9	80 - 120				

MS Sample ID: **HS16011173-01MS** Units: **mg/Kg** Analysis Date: **02-Feb-2016 22:16**
Client ID: Run ID: **ICPMS04_268661** SeqNo: **3573651** PrepDate: **02-Feb-2016** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	11.12	0.470	9.393	2.364	93.2	75 - 125				
Lead	15.78	0.470	9.393	5.579	109	75 - 125				

MSD Sample ID: **HS16011173-01MSD** Units: **mg/Kg** Analysis Date: **02-Feb-2016 22:20**
Client ID: Run ID: **ICPMS04_268661** SeqNo: **3573652** PrepDate: **02-Feb-2016** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	10.45	0.447	8.948	2.364	90.4	75 - 125	11.12	6.19	20	
Lead	14.76	0.447	8.948	5.579	103	75 - 125	15.78	6.68	20	

PDS Sample ID: **HS16011173-01BS** Units: **mg/Kg** Analysis Date: **02-Feb-2016 22:25**
Client ID: Run ID: **ICPMS04_268661** SeqNo: **3573653** PrepDate: **02-Feb-2016** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	10.42	0.434	8.678	2.364	92.9	75 - 125				
Lead	14.14	0.434	8.678	5.579	98.6	75 - 125				

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
WorkOrder: HS16020093

QC BATCH REPORT

Batch ID: 101105 **Instrument: ICPMS04** **Method: SW6020**

SD Sample ID: **HS16011173-01 DIL SX** Units: **mg/Kg** Analysis Date: **02-Feb-2016 22:12**
Client ID: Run ID: **ICPMS04_268661** SeqNo: **3573650** PrepDate: **02-Feb-2016** DF: **5**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%D	%D Limit	Qual
Arsenic	2.367	2.17					2.364	0.125	10	
Lead	5.218	2.17					5.579	6.48	10	

The following samples were anayzed in this batch: HS16020093-01 HS16020093-02 HS16020093-03 HS16020093-04 HS16020093-05

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
WorkOrder: HS16020093

QC BATCH REPORT

Batch ID: 101122 **Instrument: SV-4** **Method: SW8270**

MBLK Sample ID: **MBLK-101122** Units: **ug/Kg** Analysis Date: **03-Feb-2016 12:25**
Client ID: Run ID: **SV-4_268737** SeqNo: **3574386** PrepDate: **02-Feb-2016** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Diphenylhydrazine	U	6.6								
2,4-Dimethylphenol	U	6.6								
2,4-Dinitrotoluene	U	6.6								
2,6-Dinitrotoluene	U	6.6								
2-Chloronaphthalene	U	6.6								
2-Methylnaphthalene	U	3.3								
4,6-Dinitro-2-methylphenol	U	6.6								
4-Nitrophenol	U	13								
Acenaphthene	U	3.3								
Acenaphthylene	U	3.3								
Anthracene	U	3.3								
Benz(a)anthracene	U	3.3								
Benzo(a)pyrene	U	3.3								
Bis(2-chloroethoxy)methane	U	6.6								
Bis(2-ethylhexyl)phthalate	U	6.6								
Chrysene	U	3.3								
Dibenzofuran	U	3.3								
Di-n-butyl phthalate	U	6.6								
Fluoranthene	U	3.3								
Fluorene	U	3.3								
Naphthalene	U	3.3								
Nitrobenzene	U	6.6								
N-Nitrosodiphenylamine	U	6.6								
Pentachlorophenol	U	6.6								
Phenanthrene	U	3.3								
Phenol	U	6.6								
Pyrene	U	3.3								
Surr: 2,4,6-Tribromophenol	*103*	*0*	*167*	*0*	*61.7*	*36 - 126*				
Surr: 2-Fluorobiphenyl	*127.8*	*0*	*167*	*0*	*76.5*	*43 - 125*				
Surr: 2-Fluorophenol	*111.9*	*0*	*167*	*0*	*67.0*	*37 - 125*				
Surr: 4-Terphenyl-d14	*135.3*	*0*	*167*	*0*	*81.0*	*32 - 125*				
Surr: Nitrobenzene-d5	*138.6*	*0*	*167*	*0*	*83.0*	*37 - 125*				
Surr: Phenol-d6	*113.6*	*0*	*167*	*0*	*68.0*	*40 - 125*				

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
WorkOrder: HS16020093

QC BATCH REPORT

Batch ID: 101122 **Instrument: SV-4** **Method: SW8270**

LCS Sample ID: **LCS-101122** Units: **ug/Kg** Analysis Date: **03-Feb-2016 12:45**
Client ID: Run ID: **SV-4_268737** SeqNo: **3574387** PrepDate: **02-Feb-2016** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Diphenylhydrazine	132.8	6.6	167	0	79.5	50 - 135				
2,4-Dimethylphenol	163.8	6.6	167	0	98.1	45 - 120				
2,4-Dinitrotoluene	167.5	6.6	167	0	100	50 - 130				
2,6-Dinitrotoluene	158	6.6	167	0	94.6	50 - 125				
2-Chloronaphthalene	146.3	6.6	167	0	87.6	50 - 145				
2-Methylnaphthalene	158.2	3.3	167	0	94.7	50 - 120				
4,6-Dinitro-2-methylphenol	139	6.6	167	0	83.2	15 - 135				
4-Nitrophenol	163	13	167	0	97.6	40 - 147				
Acenaphthene	124.3	3.3	167	0	74.5	50 - 120				
Acenaphthylene	127.2	3.3	167	0	76.2	50 - 120				
Anthracene	153	3.3	167	0	91.6	50 - 123				
Benz(a)anthracene	144.5	3.3	167	0	86.5	50 - 131				
Benzo(a)pyrene	154.1	3.3	167	0	92.3	50 - 130				
Bis(2-chloroethoxy)methane	140.3	6.6	167	0	84.0	50 - 120				
Bis(2-ethylhexyl)phthalate	192.1	6.6	167	0	115	21 - 148				
Chrysene	128.2	3.3	167	0	76.7	50 - 130				
Dibenzofuran	143.4	3.3	167	0	85.9	50 - 125				
Di-n-butyl phthalate	180.3	6.6	167	0	108	50 - 140				
Fluoranthene	168.9	3.3	167	0	101	50 - 131				
Fluorene	141.8	3.3	167	0	84.9	50 - 125				
Naphthalene	153.4	3.3	167	0	91.9	50 - 125				
Nitrobenzene	166.9	6.6	167	0	99.9	50 - 125				
N-Nitrosodiphenylamine	88.02	6.6	167	0	52.7	50 - 130				
Pentachlorophenol	107.4	6.6	167	0	64.3	23 - 136				
Phenanthrene	148.6	3.3	167	0	89.0	50 - 125				
Phenol	129.4	6.6	167	0	77.5	45 - 130				
Pyrene	161.2	3.3	167	0	96.5	45 - 130				
Surr: 2,4,6-Tribromophenol	*97.68*	*0*	*167*	*0*	*58.5*	*36 - 126*				
Surr: 2-Fluorobiphenyl	*149*	*0*	*167*	*0*	*89.2*	*43 - 125*				
Surr: 2-Fluorophenol	*118.8*	*0*	*167*	*0*	*71.2*	*37 - 125*				
Surr: 4-Terphenyl-d14	*134.9*	*0*	*167*	*0*	*80.8*	*32 - 125*				
Surr: Nitrobenzene-d5	*165.5*	*0*	*167*	*0*	*99.1*	*37 - 125*				
Surr: Phenol-d6	*127*	*0*	*167*	*0*	*76.0*	*40 - 125*				

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
WorkOrder: HS16020093

QC BATCH REPORT

Batch ID: 101122 **Instrument: SV-4** **Method: SW8270**

MS Sample ID: **HS16020093-01MS** Units: **ug/Kg** Analysis Date: **03-Feb-2016 13:27**
Client ID: **SO-1620-CSBS1(0-5)-20160202** Run ID: **SV-4_268737** SeqNo: **3574389** PrepDate: **02-Feb-2016** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual
1,2-Diphenylhydrazine	224.6	66	166.1	0	135	50 - 135			S
2,4-Dimethylphenol	167.8	66	166.1	0	101	45 - 120			
2,4-Dinitrotoluene	403.6	66	166.1	0	243	50 - 130			S
2,6-Dinitrotoluene	138.8	66	166.1	0	83.6	50 - 125			
2-Chloronaphthalene	117.9	66	166.1	0	71.0	50 - 145			
2-Methylnaphthalene	2438	33	166.1	1858	349	50 - 120			SO
4,6-Dinitro-2-methylphenol	U	66	166.1	0	0	15 - 135			S
4-Nitrophenol	187.7	130	166.1	0	113	40 - 147			
Acenaphthene	8252	33	166.1	6121	1280	50 - 120			SEO
Acenaphthylene	235.1	33	166.1	95.93	83.8	50 - 120			
Anthracene	9935	33	166.1	9510	256	50 - 123			SEO
Benz(a)anthracene	11230	33	166.1	8345	1740	50 - 131			SEO
Benzo(a)pyrene	6779	33	166.1	4854	1160	50 - 130			SEO
Bis(2-chloroethoxy)methane	133.6	66	166.1	0	80.5	50 - 120			
Bis(2-ethylhexyl)phthalate	198.8	66	166.1	0	120	21 - 148			
Chrysene	12200	33	166.1	9267	1770	50 - 130			SEO
Dibenzofuran	6812	33	166.1	5305	908	50 - 125			SEO
Di-n-butyl phthalate	198.7	66	166.1	0	120	50 - 140			
Fluoranthene	25810	33	166.1	30470	-2810	50 - 131			SEO
Fluorene	12650	33	166.1	10370	1370	50 - 125			SEO
Naphthalene	3923	33	166.1	3265	396	50 - 125			SEO
Nitrobenzene	161.6	66	166.1	0	97.3	50 - 125			
N-Nitrosodiphenylamine	630.6	66	166.1	0	380	50 - 130			S
Pentachlorophenol	118.8	66	166.1	0	71.5	23 - 136			
Phenanthrene	21170	33	166.1	25700	-2730	50 - 125			SEO
Phenol	91.86	66	166.1	0	55.3	45 - 130			
Pyrene	22940	33	166.1	22140	482	45 - 130			SEO
Surr: 2,4,6-Tribromophenol	*96.56*	*0*	*166.1*	*0*	*58.1*	*36 - 126*			
Surr: 2-Fluorobiphenyl	*145.6*	*0*	*166.1*	*0*	*87.7*	*43 - 125*			
Surr: 2-Fluorophenol	*103.7*	*0*	*166.1*	*0*	*62.5*	*37 - 125*			
Surr: 4-Terphenyl-d14	*174.4*	*0*	*166.1*	*0*	*105*	*32 - 125*			
Surr: Nitrobenzene-d5	*157.7*	*0*	*166.1*	*0*	*95.0*	*37 - 125*			
Surr: Phenol-d6	*140.8*	*0*	*166.1*	*0*	*84.8*	*40 - 125*			

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
WorkOrder: HS16020093

QC BATCH REPORT

Batch ID: 101122 **Instrument: SV-4** **Method: SW8270**

MSD Sample ID: **HS16020093-01MSD** Units: **ug/Kg** Analysis Date: **03-Feb-2016 13:47**
Client ID: **SO-1620-CSBS1(0-5)-20160202** Run ID: **SV-4_268737** SeqNo: **3574390** PrepDate: **02-Feb-2016** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual
1,2-Diphenylhydrazine	210.7	66	166.1	0	127	50 - 135	224.6	6.39	30	
2,4-Dimethylphenol	176.8	66	166.1	0	106	45 - 120	167.8	5.25	30	
2,4-Dinitrotoluene	329.7	66	166.1	0	199	50 - 130	403.6	20.1	30	S
2,6-Dinitrotoluene	149.5	66	166.1	0	90.0	50 - 125	138.8	7.47	30	
2-Chloronaphthalene	133.7	66	166.1	0	80.5	50 - 145	117.9	12.5	30	
2-Methylnaphthalene	2587	33	166.1	1858	439	50 - 120	2438	5.92	30	SO
4,6-Dinitro-2-methylphenol	U	66	166.1	0	0	15 - 135	0	0	30	S
4-Nitrophenol	451.4	130	166.1	0	272	40 - 147	187.7	82.5	30	SR
Acenaphthene	7620	33	166.1	6121	902	50 - 120	8252	7.97	30	SEO
Acenaphthylene	256.4	33	166.1	95.93	96.6	50 - 120	235.1	8.66	30	
Anthracene	8808	33	166.1	9510	-423	50 - 123	9935	12	30	SEO
Benz(a)anthracene	13840	33	166.1	8345	3310	50 - 131	11230	20.9	30	SEO
Benzo(a)pyrene	5339	33	166.1	4854	292	50 - 130	6779	23.8	30	SEO
Bis(2-chloroethoxy)methane	154.3	66	166.1	0	92.9	50 - 120	133.6	14.3	30	
Bis(2-ethylhexyl)phthalate	298.9	66	166.1	0	180	21 - 148	198.8	40.2	30	SR
Chrysene	13950	33	166.1	9267	2820	50 - 130	12200	13.4	30	SEO
Dibenzofuran	6046	33	166.1	5305	446	50 - 125	6812	11.9	30	SEO
Di-n-butyl phthalate	269.4	66	166.1	0	162	50 - 140	198.7	30.2	30	SR
Fluoranthene	23620	33	166.1	30470	-4130	50 - 131	25810	8.87	30	SEO
Fluorene	10830	33	166.1	10370	278	50 - 125	12650	15.4	30	SEO
Naphthalene	4038	33	166.1	3265	465	50 - 125	3923	2.89	30	SEO
Nitrobenzene	188.1	66	166.1	0	113	50 - 125	161.6	15.1	30	
N-Nitrosodiphenylamine	841.2	66	166.1	0	507	50 - 130	630.6	28.6	30	S
Pentachlorophenol	149	66	166.1	0	89.7	23 - 136	118.8	22.6	30	
Phenanthrene	20250	33	166.1	25700	-3280	50 - 125	21170	4.42	30	SEO
Phenol	119.3	66	166.1	0	71.8	45 - 130	91.86	26	30	
Pyrene	23790	33	166.1	22140	991	45 - 130	22940	3.62	30	SEO
Surr: 2,4,6-Tribromophenol	*111.8*	*0*	*166.1*	*0*	*67.3*	*36 - 126*	*96.56*	*14.6*	*30*	
Surr: 2-Fluorobiphenyl	*134*	*0*	*166.1*	*0*	*80.7*	*43 - 125*	*145.6*	*8.3*	*30*	
Surr: 2-Fluorophenol	*122.1*	*0*	*166.1*	*0*	*73.6*	*37 - 125*	*103.7*	*16.3*	*30*	
Surr: 4-Terphenyl-d14	*182.7*	*0*	*166.1*	*0*	*110*	*32 - 125*	*174.4*	*4.63*	*30*	
Surr: Nitrobenzene-d5	*152.3*	*0*	*166.1*	*0*	*91.7*	*37 - 125*	*157.7*	*3.53*	*30*	
Surr: Phenol-d6	*166.9*	*0*	*166.1*	*0*	*101*	*40 - 125*	*140.8*	*16.9*	*30*	

The following samples were anayzed in this batch: HS16020093-01 HS16020093-02 HS16020093-03 HS16020093-04 HS16020093-05

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
WorkOrder: HS16020093

QC BATCH REPORT

Batch ID: **R268707** **Instrument:** **Balance1** **Method:** **ASTM D2216**

DUP Sample ID: **HS16020093-05DUP** Units: **wt%** Analysis Date: **02-Feb-2016 16:05**
Client ID: **SO-1620-CSBN1(0-5)-20160202** Run ID: **Balance1_268707** SeqNo: **3573777** PrepDate: DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Percent Moisture	14.5	0.0100					14.8	2.05	20	

The following samples were anayzed in this batch: HS16020093-01 HS16020093-02 HS16020093-03 HS16020093-04 HS16020093-05

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
WorkOrder: **HS16020093**

QUALIFIERS, ACRONYMS, UNITS

Qualifier	Description
*	Value exceeds Regulatory Limit
a	Not accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte detected below quantitation limit
M	Manually integrated, see raw data for justification
n	Not offered for accreditation
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL/SDL

Acronym	Description
DCS	Detectability Check Study
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
MBLK	Method Blank
MDL	Method Detection Limit
MQL	Method Quantitation Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PDS	Post Digestion Spike
PQL	Practical Quantitaion Limit
SD	Serial Dilution
SDL	Sample Detection Limit
TRRP	Texas Risk Reduction Program

Unit Reported	Description
mg/Kg-dry	Milligrams per Kilogram- Dry weight corrected

CERTIFICATIONS,ACCREDITATIONS & LICENSES

Agency	Number	Expire Date
Arkansas	15-024-0	27-Mar-2016
California	2919	31-Jul-2016
Illinois	003622	09-May-2016
Kentucky	KY 2015-2016	30-Apr-2016
Louisiana	03087 2015/2016	30-Jun-2016
North Carolina	624 - 2016	31-Dec-2016
North Dakota	R-193 2015-2016	30-Apr-2016
Oklahoma	2015-047	31-Aug-2016
Texas	T104704231-15-15	30-Apr-2016

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
Work Order: HS16020093

SAMPLE TRACKING

Lab Samp ID	Client Sample ID	Action	Date	Person	New Location
HS16020093-01	SO-1620-CSBS1(0-5)-20160202	Login	2/2/2016 3:58:33 PM	RPG	11D
HS16020093-02	SO-1620-CSBS2(0-5)-20160202	Login	2/2/2016 3:58:33 PM	RPG	11D
HS16020093-03	SO-1620-CSBE1(0-5)-20160202	Login	2/2/2016 3:58:33 PM	RPG	11D
HS16020093-04	SO-1620-CSBN2(0-5)-20160202	Login	2/2/2016 3:58:33 PM	RPG	11D
HS16020093-05	SO-1620-CSBN1(0-5)-20160202	Login	2/2/2016 3:58:33 PM	RPG	11D

Sample Receipt Checklist

Client Name: PBW
Work Order: HS16020093

Date/Time Received: **02-Feb-2016 15:48**
Received by: **FBH**

Checklist completed by: *Raegen Giga* eSignature 2-Feb-2016 Date

Reviewed by: *Dane J. Wacasey* eSignature 2-Feb-2016 Date

Matrices: **soil**

Carrier name: **ALS.HS**

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on shipping container/cooler?	Yes ☐	No ☐	Not Present ☑
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☑	No ☐	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
TX1005 solids received in hermetically sealed vials?	Yes ☐	No ☐	N/A ☑
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time?	Yes ☑	No ☐	
Container/Temp Blank temperature in compliance?	Yes ☑	No ☐	
Temperature(s)/Thermometer(s):	1.6c/2.1c uc/c	IR 5	
Cooler(s)/Kit(s):	4429		
Date/Time sample(s) sent to storage:	02/02/2016 16:00		
Water - VOA vials have zero headspace?	Yes ☐	No ☐	No VOA vials submitted ☑
Water - pH acceptable upon receipt?	Yes ☐	No ☐	N/A ☑
pH adjusted?	Yes ☐	No ☐	N/A ☑
pH adjusted by:			

Login Notes: Confirmation samples logged in on this WO HS16020093. Base samples are reported in HS16020095. Trip blank placed on hold. No VOCs are associated with these samples.

Client Contacted: Date Contacted: Person Contacted:

Contacted By: 0 Regarding:

Comments:

Corrective Action:

ALS Environmental

Cincinnati, OH +1 513 733 5336 | Everett, WA +1 425 356 2600 | Fort Collins, CO +1 970 490 1511 | Holland, MI +1 616 399 6070

Chain of Custody Form

Page 1 of 1

COC ID: 135233

HS16020093

Pastor, Behling & Wheeler, LLC

1620-10-Rev1 HoustonTX-Wood

ALS Project Manager:

Customer Information		Project Information			
Purchase Order	UPRR	Project Name	1620-10-Rev1 HoustonTX-Wood	A	8270_LOW_S (5632532 SemiVolatiles)
Work Order		Project Number	1620-10-Rev1	B	ICP_S_Low (5636002 5652646 Metals - As, Pb)
Company Name	Pastor, Behling & Wheeler, LLC	Bill To Company	Union Pacific Railroad- A/P	C	MOIST_ASTM (5631931 Gen.Chem. MOIST%)
Send Report To	Eric Matzner	Invoice Attn	Accounts Payable	D	
Address	2201 Double Creek Drive Suite 4004	Address	1400 Douglas Street Stop 0750	E	
				F	
City/State/Zip	Round Rock, TX 78664	City/State/Zip	Omaha, NE 681790750	G	
Phone	(512) 671-3434	Phone		H	
Fax	(512) 671-3446	Fax		I	
e-Mail Address		e-Mail Address		J	

No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
1	SO-1620-BSC1(5)-20160202	2-2-2016	1215	Soil	8	1	X	X	X	X							
2	SO-1620-BSF1(5)-20160202	2-2-2016	1245	Soil	8	1	X	X	X	X	Standard TAT						
3	SO-1620-BSF2(5)-20160202	2-2-2016	1250	Soil	8	1	X	X	X	X							
4	SO-1620-BSF3(5)-20160202	2-2-2016	1255	Soil	8	1	X	X	X	X							
5	SO-1620-CSBS1(0-5)-20160202	2-2-2016	1400	Soil	8	1	X	X	X	X							
6	SO-1620-CSBS2(0-5)-20160202	2-2-2016	1403	Soil	8	1	X	X	X	X							
7	SO-1620-CSBE1(0-5)-20160202	2-2-2016	1408	Soil	8	1	X	X	X	X	RUSH 24-hr TAT						
8	SO-1620-CSBN2(0-5)-20160202	2-2-2016	1412	Soil	8	1	X	X	X	X							
9	SO-1620-CSBN1(0-5)-20160202	2-2-2016	1415	Soil	8	1	X	X	X	X							
10																	

Sampler(s) Please Print & Sign: Stephen Grahmann

Shipment Method:

Required Turnaround Time: (Check Box) TAT 1 days Other:

Results Due Date:

Relinquished by: Date: 2-2-2016 Time: 1512 Received by:

Relinquished by: Date: 2-2-16 Time: 15:48 Received by (Laboratory):

Logged by (Laboratory): Date: Time: Checked by (Laboratory):

Notes: [UPRR Houston MW/PW]

Cooler ID	Cooler Temp.

QC Package: (Check One Box Below)

QC Level: TRRP LRC

Other:

Preservative Key: 1-HCl 2-HNO_3 3-H_2SO_4 4-NaOH 5-$Na_2S_2O_3$ 6-$NaHSO_4$ 7-Other 8-4°C 9-5035

Note:
1. Any changes must be made in writing once samples and COC Form have been submitted to ALS Environmental.
2. Unless otherwise agreed in a formal contract, services provided by ALS Environmental are expressly limited to the terms and conditions stated on the reverse.
3. The Chain of Custody is a legal document. All information must be completed accurately.

10450 Stancliff Rd. Suite 210
Houston, TX 77099
T: +1 281 530 5656
F: +1 281 530 5887
www.alsglobal.com

February 10, 2016

Eric Matzner
Pastor, Behling & Wheeler, LLC
2201 Double Creek Drive
Suite 4004
Round Rock, TX 78664

Work Order: **HS16020095**

Laboratory Results for: **1620-10-Rev1 HoustonTX-Wood**

Dear Eric,

ALS Environmental received 4 sample(s) on Feb 02, 2016 for the analysis presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested. Results are expressed as "as received" unless otherwise noted.

QC sample results for this data met EPA or laboratory specifications except as noted in the Case Narrative or as noted with qualifiers in the QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained by ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

If you have any questions regarding this report, please feel free to call me.

Sincerely,

Generated By: Jumoke.Lawal
Dane J. Wacasey

Client:	Pastor, Behling & Wheeler, LLC	**TRRP Laboratory Data Package Cover Page**
Project:	1620-10-Rev1 HoustonTX-Wood	
WorkOrder:	**HS16020095**	

This data package consists of all or some of the following as applicable:

This signature page, the laboratory review checklist, and the following reportable data:

R1 Field chain-of-custody documentation;

R2 Sample identification cross-reference;

R3 Test reports (analytical data sheets) for each environmental sample that includes:

a) Items consistent with NELAC Chapter 5,
b) dilution factors,
c) preparation methods,
d) cleanup methods, and
e) if required for the project, tentatively identified compounds (TICs).

R4 Surrogate recovery data including:

a) Calculated recovery (%R), and
b) The laboratory's surrogate QC limits.

R5 Test reports/summary forms for blank samples;

R6 Test reports/summary forms for laboratory control samples (LCSs) including:

a) LCS spiking amounts,
b) Calculated %R for each analyte, and
c)The laboratory's LCS QC limits.

R7 Test reports for project matrix spike/matrix spike duplicates (MS/MSDs) including:

a) Samples associated with the MS/MSD clearly identified,
b) MS/MSD spiking amounts,
c) Concentration of each MS/MSD analyte measured in the parent and spiked samples,
d) Calculated %Rs and relative percent differences (RPDs), and
e) The laboratory's MS/MSD QC limits.

R8 Laboratory analytical duplicate (if applicable) recovery and precision:

a) the amount of analyte measured in the duplicate,
b) the calculated RPD, and
c) the laboratory's QC limits for analytical duplicates.

R9 List of method quantitation limits (MQLs) and detectability check sample results for each analyte for each method and matrix.

R10 Other problems or anomalies.
The Exception Report for each "No" or "Not Reviewed (NR)" item in Laboratory Review Checklist and for each analyte, matrix, and method for which the laboratory does not hold NELAC accreditation under the Texas Laboratory Accreditation Program.

Client:	Pastor, Behling & Wheeler, LLC
Project:	1620-10-Rev1 HoustonTX-Wood
WorkOrder:	**HS16020095**

TRRP Laboratory Data Package Cover Page

Release Statement: I am responsible for the release of this laboratory data package. This laboratory is NELAC accredited under the Texas Laboratory Accreditation Program for all the methods, analytes and matrices reported in this data package except as noted in the Exception Reports. The data have been reviewed and are technically compliant with the requirements of the methods used, except where noted by the laboratory in the attached exception reports. By my signature below, I affirm to the best of my knowledge, all problems/anomalies, observed by the laboratory have been identified by the laboratory in the Laboratory Review Checklist, and no information affecting the quality of the data has been knowingly withheld.

Check, if applicable: [NA] This laboratory meets an exception under 30 TAC §25.6 and was last inspected by [ ] TCEQ or [ ] _____ on (enter date of last inspection). Any findings affecting the data in this laboratory data package are noted in the Exception Reports herein. The official signing the cover page of the report in which these data are used is responsible for releasing this data package and is by signature affirming the above release statement is true.

Dane J. Wacasey

Laboratory Review Checklist: Reportable Data								
Laboratory Name: ALS Laboratory Group			LRC Date: 02/10/2016					
Project Name: 1620-10-Rev1 HoustonTX-Wood			Laboratory Job Number: HS16020095					
Reviewer Name: Dane Wacasey			Prep Batch Number(s): 101173,101194,R268707					
#[1]	**A[2]**	**Description**	**Yes**	**No**	**NA[3]**	**NR[4]**	**ER#[5]**
R1	OI	**Chain-of-custody (C-O-C)**					
		Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?	X				
		Were all departures from standard conditions described in an exception report?	X				
R2	OI	**Sample and quality control (QC) identification**					
		Are all field sample ID numbers cross-referenced to the laboratory ID numbers?	X				
		Are all laboratory ID numbers cross-referenced to the corresponding QC data?	X				
R3	OI	**Test reports**					
		Were all samples prepared and analyzed within holding times?	X				
		Other than those results < MQL, were all other raw values bracketed by calibration standards?	X				
		Were calculations checked by a peer or supervisor?	X				
		Were all analyte identifications checked by a peer or supervisor?	X				
		Were sample detection limits reported for all analytes not detected?	X				
		Were all results for soil and sediment samples reported on a dry weight basis?	X				
		Were % moisture (or solids) reported for all soil and sediment samples?	X				
		Were bulk soils/solids samples for volatile analysis extracted with methanol per SW-846 Method 5035?			X		
		If required for the project, TICs reported?			X		
R4	O	**Surrogate recovery data**					
		Were surrogates added prior to extraction?	X				
		Were surrogate percent recoveries in all samples within the laboratory QC limits?	X				
R5	OI	**Test reports/summary forms for blank samples**					
		Were appropriate type(s) of blanks analyzed?	X				
		Were blanks analyzed at the appropriate frequency?	X				
		Were method blanks taken through the entire analytical process, including preparation and, if applicable, cleanup procedures?	X				
		Were blank concentrations < MQL?	X				
R6	OI	**Laboratory control samples (LCS):**					
		Were all COCs included in the LCS?	X				
		Was each LCS taken through the entire analytical procedure, including prep and cleanup steps?	X				
		Were LCSs analyzed at the required frequency?	X				
		Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?	X				
		Does the detectability data document the laboratory's capability to detect the COCs at the MDL used to calculate the SDLs?	X				
		Was the LCSD RPD within QC limits?	X				
R7	OI	**Matrix spike (MS) and matrix spike duplicate (MSD) data**					
		Were the project/method specified analytes included in the MS and MSD?	X				
		Were MS/MSD analyzed at the appropriate frequency?	X				
		Were MS (and MSD, if applicable) %Rs within the laboratory QC limits?		X			1
		Were MS/MSD RPDs within laboratory QC limits?		X			2
R8	OI	**Analytical duplicate data**					
		Were appropriate analytical duplicates analyzed for each matrix?	X				
		Were analytical duplicates analyzed at the appropriate frequency?	X				
		Were RPDs or relative standard deviations within the laboratory QC limits?	X				
R9	OI	**Method quantitation limits (MQLs):**					
		Are the MQLs for each method analyte included in the laboratory data package?	X				
		Do the MQLs correspond to the concentration of the lowest non-zero calibration standard?	X				
		Are unadjusted MQLs and DCSs included in the laboratory data package?	X				
R10	OI	**Other problems/anomalies**					
		Are all known problems/anomalies/special conditions noted in this LRC and ER?	X				
		Were all necessary corrective actions performed for the reported data?	X				
		Was applicable and available technology used to lower the SDL and minimize the matrix interference affects on the sample results?	X				
		Is the laboratory NELAC-accredited under the Texas Laboratory Program for the analytes, matrices and methods associated with this laboratory data package?	X				

Laboratory Review Checklist: Reportable Data							
Laboratory Name: ALS Laboratory Group			LRC Date: 02/10/2016				
Project Name: 1620-10-Rev1 HoustonTX-Wood			Laboratory Job Number: HS16020095				
Reviewer Name: Dane Wacasey			Prep Batch Number(s): 101173,101194,R268707				
#[1]	A[2]	Description	Yes	No	NA[3]	NR[4]	ER#[5]
S1	OI	**Initial calibration (ICAL)**					
		Were response factors and/or relative response factors for each analyte within QC limits?	X				
		Were percent RSDs or correlation coefficient criteria met?	X				
		Was the number of standards recommended in the method used for all analytes?	X				
		Were all points generated between the lowest and highest standard used to calculate the curve?	X				
		Are ICAL data available for all instruments used?	X				
		Has the initial calibration curve been verified using an appropriate second source standard?	X				
S2	OI	**Initial and continuing calibration verification (ICCV and CCV) and continuing calibration blank (CCB)**					
		Was the CCV analyzed at the method-required frequency?	X				
		Were percent differences for each analyte within the method-required QC limits?	X				
		Was the ICAL curve verified for each analyte?	X				
		Was the absolute value of the analyte concentration in the inorganic CCB < MDL?	X				
S3	O	**Mass spectral tuning:**					
		Was the appropriate compound for the method used for tuning?	X				
		Were ion abundance data within the method-required QC limits?	X				
S4	O	**Internal standards (IS):**					
		Were IS area counts and retention times within the method-required QC limits?		X			3
S5	OI	**Raw data** (NELAC section 1 appendix A glossary, and section 5.12 or ISO/IEC 17025 section					
		Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst?	X				
		Were data associated with manual integrations flagged on the raw data?	X				
S6	O	**Dual column confirmation**					
		Did dual column confirmation results meet the method-required QC?			X		
S7	O	**Tentatively identified compounds (TICs):**					
		If TICs were requested, were the mass spectra and TIC data subject to appropriate checks?			X		
S8	I	**Interference Check Sample (ICS) results:**					
		Were percent recoveries within method QC limits?	X				
S9	I	**Serial dilutions, post digestion spikes, and method of standard additions**					
		Were percent differences, recoveries, and the linearity within the QC limits specified in the method?	X				
S10	OI	**Method detection limit (MDL) studies**					
		Was a MDL study performed for each reported analyte?	X				
		Is the MDL either adjusted or supported by the analysis of DCSs?	X				
S11	OI	**Proficiency test reports:**					
		Was the laboratory's performance acceptable on the applicable proficiency tests or evaluation studies?	X				
S12	OI	**Standards documentation**					
		Are all standards used in the analyses NIST-traceable or obtained from other appropriate sources?	X				
S13	OI	**Compound/analyte identification procedures**					
		Are the procedures for compound/analyte identification documented?	X				
S14	OI	**Demonstration of analyst competency (DOC)**					
		Was DOC conducted consistent with NELAC Chapter 5C or ISO/IEC 4?	X				
		Is documentation of the analyst's competency up-to-date and on file?	X				
S15	OI	**Verification/validation documentation for methods** (NELAC Chap 5 or ISO/IEC 17025 Section 5)					
		Are all the methods used to generate the data documented, verified, and validated, where applicable?	X				
S16	OI	**Laboratory standard operating procedures (SOPs):**					
		Are laboratory SOPs current and on file for each method performed?	X				

Items identified by the letter "R" must be included in the laboratory data package submitted in the TRRP-required report(s). Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period.
O = Organic Analyses; I = Inorganic Analyses (and general chemistry, when applicable);
NA = Not Applicable;
NR = Not Reviewed;
R# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

Laboratory Review Checklist: Reportable Data	
Laboratory Name: ALS Laboratory Group	LRC Date: 02/10/2016
Project Name: 1620-10-Rev1 HoustonTX-Wood	Laboratory Job Number: HS16020095
Reviewer Name: Dane Wacasey	Prep Batch Number(s): 101173,101194,R268707

ER#[5]	Description
1	Batch 101173, Semivolatile Organics Method SW8270, sample HS16020149-02, MS and MSD were performed on unrelated sample
2	Batch 101173, Semivolatile Organics Method SW8270, sample HS16020149-02, MSD RPD is for an unrelated sample.
3	Batch 101173, Semivolatile Orgnaics Method SW8270, sample SO-1620-BSF3(5)-20160202; One or more of the GCMS semi-volatile internal standards were recovered at <50%. The sample was reanalyzed with similar results indicating sample matrix interference.

Items identified by the letter "R" must be included in the laboratory data package submitted in the TRRP-required report(s). Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period.
O = Organic Analyses; I = Inorganic Analyses (and general chemistry, when applicable);
NA = Not Applicable;
NR = Not Reviewed;
R# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
Work Order: HS16020095

SAMPLE SUMMARY

Lab Samp ID	Client Sample ID	Matrix	TagNo	Collection Date	Date Received	Hold
HS16020095-01	SO-1620-BSC1(5)-20160202	Soil		02-Feb-2016 12:15	02-Feb-2016 15:48	☐
HS16020095-02	SO-1620-BSF1(5)-20160202	Soil		02-Feb-2016 12:45	02-Feb-2016 15:48	☐
HS16020095-03	SO-1620-BSF2(5)-20160202	Soil		02-Feb-2016 12:50	02-Feb-2016 15:48	☐
HS16020095-04	SO-1620-BSF3(5)-20160202	Soil		02-Feb-2016 12:55	02-Feb-2016 15:48	☐

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
Sample ID: SO-1620-BSC1(5)-20160202
Collection Date: 02-Feb-2016 12:15

ANALYTICAL REPORT
WorkOrder:HS16020095
Lab ID:HS16020095-01
Matrix:Soil

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES		**Method:SW8270**			Prep:SW3541 / 04-Feb-2016		Analyst: ACN
1,2-Diphenylhydrazine	U		0.0013	0.0079	mg/Kg-dry	1	09-Feb-2016 00:41
2,4-Dimethylphenol	U		0.0040	0.0079	mg/Kg-dry	1	09-Feb-2016 00:41
2,4-Dinitrotoluene	U		0.0011	0.0079	mg/Kg-dry	1	09-Feb-2016 00:41
2,6-Dinitrotoluene	U		0.0040	0.0079	mg/Kg-dry	1	09-Feb-2016 00:41
2-Chloronaphthalene	U		0.0016	0.0079	mg/Kg-dry	1	09-Feb-2016 00:41
2-Methylnaphthalene	U		0.00060	0.0040	mg/Kg-dry	1	09-Feb-2016 00:41
4,6-Dinitro-2-methylphenol	U		0.0025	0.0079	mg/Kg-dry	1	09-Feb-2016 00:41
4-Nitrophenol	U		0.0023	0.016	mg/Kg-dry	1	09-Feb-2016 00:41
Acenaphthene	U		0.00060	0.0040	mg/Kg-dry	1	09-Feb-2016 00:41
Acenaphthylene	U		0.0012	0.0040	mg/Kg-dry	1	09-Feb-2016 00:41
Anthracene	U		0.00060	0.0040	mg/Kg-dry	1	09-Feb-2016 00:41
Benz(a)anthracene	**0.0031**	J	**0.0019**	**0.0040**	**mg/Kg-dry**	1	09-Feb-2016 00:41
Benzo(a)pyrene	**0.0033**	J	**0.0012**	**0.0040**	**mg/Kg-dry**	1	09-Feb-2016 00:41
Bis(2-chloroethoxy)methane	U		0.0011	0.0079	mg/Kg-dry	1	09-Feb-2016 00:41
Bis(2-ethylhexyl)phthalate	U		0.0020	0.0079	mg/Kg-dry	1	09-Feb-2016 00:41
Chrysene	**0.0052**		**0.00096**	**0.0040**	**mg/Kg-dry**	1	09-Feb-2016 00:41
Dibenzofuran	U		0.00084	0.0040	mg/Kg-dry	1	09-Feb-2016 00:41
Di-n-butyl phthalate	U		0.0014	0.0079	mg/Kg-dry	1	09-Feb-2016 00:41
Fluoranthene	**0.012**		**0.0013**	**0.0040**	**mg/Kg-dry**	1	09-Feb-2016 00:41
Fluorene	U		0.0013	0.0040	mg/Kg-dry	1	09-Feb-2016 00:41
Naphthalene	U		0.00072	0.0040	mg/Kg-dry	1	09-Feb-2016 00:41
Nitrobenzene	U		0.0011	0.0079	mg/Kg-dry	1	09-Feb-2016 00:41
N-Nitrosodiphenylamine	U		0.00084	0.0079	mg/Kg-dry	1	09-Feb-2016 00:41
Pentachlorophenol	U		0.0040	0.0079	mg/Kg-dry	1	09-Feb-2016 00:41
Phenanthrene	**0.0034**	J	**0.0018**	**0.0040**	**mg/Kg-dry**	1	09-Feb-2016 00:41
Phenol	U		0.0013	0.0079	mg/Kg-dry	1	09-Feb-2016 00:41
Pyrene	**0.010**		**0.00072**	**0.0040**	**mg/Kg-dry**	1	09-Feb-2016 00:41
Surr: 2,4,6-Tribromophenol	*109*			*36-126*	*%REC*	*1*	*09-Feb-2016 00:41*
Surr: 2-Fluorobiphenyl	*87.8*			*43-125*	*%REC*	*1*	*09-Feb-2016 00:41*
Surr: 2-Fluorophenol	*49.1*			*37-125*	*%REC*	*1*	*09-Feb-2016 00:41*
Surr: 4-Terphenyl-d14	*92.5*			*32-125*	*%REC*	*1*	*09-Feb-2016 00:41*
Surr: Nitrobenzene-d5	*75.3*			*37-125*	*%REC*	*1*	*09-Feb-2016 00:41*
Surr: Phenol-d6	*59.0*			*40-125*	*%REC*	*1*	*09-Feb-2016 00:41*
METALS BY SW6020A		**Method:SW6020**			Prep:SW3050A / 04-Feb-2016		Analyst: JDE
Arsenic	**1.43**		**0.111**	**0.556**	**mg/Kg-dry**	1	08-Feb-2016 14:18
Lead	**5.00**		**0.0556**	**0.556**	**mg/Kg-dry**	1	08-Feb-2016 14:18
MOISTURE - ASTM D2216		**Method:ASTM D2216**					Analyst: DFF
Percent Moisture	**17.0**		**0.0100**	**0.0100**	**wt%**	1	02-Feb-2016 16:05

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
Sample ID: SO-1620-BSF1(5)-20160202
Collection Date: 02-Feb-2016 12:45

ANALYTICAL REPORT
WorkOrder:HS16020095
Lab ID:HS16020095-02
Matrix:Soil

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES	**Method:SW8270**				Prep:SW3541 / 04-Feb-2016		Analyst: ACN
1,2-Diphenylhydrazine	**0.0076**	J	**0.0013**	**0.0079**	**mg/Kg-dry**	1	09-Feb-2016 01:01
2,4-Dimethylphenol	U		0.0039	0.0079	mg/Kg-dry	1	09-Feb-2016 01:01
2,4-Dinitrotoluene	U		0.0011	0.0079	mg/Kg-dry	1	09-Feb-2016 01:01
2,6-Dinitrotoluene	U		0.0039	0.0079	mg/Kg-dry	1	09-Feb-2016 01:01
2-Chloronaphthalene	U		0.0016	0.0079	mg/Kg-dry	1	09-Feb-2016 01:01
2-Methylnaphthalene	U		0.00060	0.0039	mg/Kg-dry	1	09-Feb-2016 01:01
4,6-Dinitro-2-methylphenol	U		0.0025	0.0079	mg/Kg-dry	1	09-Feb-2016 01:01
4-Nitrophenol	**0.0079**	J	**0.0023**	**0.016**	**mg/Kg-dry**	1	09-Feb-2016 01:01
Acenaphthene	**0.11**		**0.00060**	**0.0039**	**mg/Kg-dry**	1	09-Feb-2016 01:01
Acenaphthylene	**0.0060**		**0.0012**	**0.0039**	**mg/Kg-dry**	1	09-Feb-2016 01:01
Anthracene	**0.31**		**0.00060**	**0.0039**	**mg/Kg-dry**	1	09-Feb-2016 01:01
Benz(a)anthracene	**0.10**		**0.0019**	**0.0039**	**mg/Kg-dry**	1	09-Feb-2016 01:01
Benzo(a)pyrene	**0.040**		**0.0012**	**0.0039**	**mg/Kg-dry**	1	09-Feb-2016 01:01
Bis(2-chloroethoxy)methane	U		0.0011	0.0079	mg/Kg-dry	1	09-Feb-2016 01:01
Bis(2-ethylhexyl)phthalate	**0.0021**	J	**0.0020**	**0.0079**	**mg/Kg-dry**	1	09-Feb-2016 01:01
Chrysene	**0.21**		**0.00095**	**0.0039**	**mg/Kg-dry**	1	09-Feb-2016 01:01
Dibenzofuran	**0.12**		**0.00083**	**0.0039**	**mg/Kg-dry**	1	09-Feb-2016 01:01
Di-n-butyl phthalate	**0.0020**	J	**0.0014**	**0.0079**	**mg/Kg-dry**	1	09-Feb-2016 01:01
Fluoranthene	**0.70**		**0.0066**	**0.020**	**mg/Kg-dry**	5	09-Feb-2016 15:35
Fluorene	**0.27**		**0.0013**	**0.0039**	**mg/Kg-dry**	1	09-Feb-2016 01:01
Naphthalene	**0.0018**	J	**0.00072**	**0.0039**	**mg/Kg-dry**	1	09-Feb-2016 01:01
Nitrobenzene	U		0.0011	0.0079	mg/Kg-dry	1	09-Feb-2016 01:01
N-Nitrosodiphenylamine	U		0.00083	0.0079	mg/Kg-dry	1	09-Feb-2016 01:01
Pentachlorophenol	U		0.0039	0.0079	mg/Kg-dry	1	09-Feb-2016 01:01
Phenanthrene	**1.2**		**0.0089**	**0.020**	**mg/Kg-dry**	5	09-Feb-2016 15:35
Phenol	**0.0083**		**0.0013**	**0.0079**	**mg/Kg-dry**	1	09-Feb-2016 01:01
Pyrene	**0.30**		**0.0036**	**0.020**	**mg/Kg-dry**	5	09-Feb-2016 15:35
Surr: 2,4,6-Tribromophenol	*114*			*36-126*	*%REC*	*1*	*09-Feb-2016 01:01*
Surr: 2,4,6-Tribromophenol	*80.6*			*36-126*	*%REC*	*5*	*09-Feb-2016 15:35*
Surr: 2-Fluorobiphenyl	*82.0*			*43-125*	*%REC*	*1*	*09-Feb-2016 01:01*
Surr: 2-Fluorobiphenyl	*76.3*			*43-125*	*%REC*	*5*	*09-Feb-2016 15:35*
Surr: 2-Fluorophenol	*75.7*			*37-125*	*%REC*	*1*	*09-Feb-2016 01:01*
Surr: 2-Fluorophenol	*76.7*			*37-125*	*%REC*	*5*	*09-Feb-2016 15:35*
Surr: 4-Terphenyl-d14	*118*			*32-125*	*%REC*	*1*	*09-Feb-2016 01:01*
Surr: 4-Terphenyl-d14	*70.9*			*32-125*	*%REC*	*5*	*09-Feb-2016 15:35*
Surr: Nitrobenzene-d5	*110*			*37-125*	*%REC*	*1*	*09-Feb-2016 01:01*
Surr: Nitrobenzene-d5	*91.4*			*37-125*	*%REC*	*5*	*09-Feb-2016 15:35*
Surr: Phenol-d6	*76.3*			*40-125*	*%REC*	*1*	*09-Feb-2016 01:01*
Surr: Phenol-d6	*79.6*			*40-125*	*%REC*	*5*	*09-Feb-2016 15:35*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
Sample ID: SO-1620-BSF1(5)-20160202
Collection Date: 02-Feb-2016 12:45

ANALYTICAL REPORT
WorkOrder:HS16020095
Lab ID:HS16020095-02
Matrix:Soil

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
METALS BY SW6020A	**Method:SW6020**				Prep:SW3050A / 04-Feb-2016		Analyst: JDE
Arsenic	**2.13**		**0.110**	**0.548**	**mg/Kg-dry**	1	08-Feb-2016 14:22
Lead	**7.65**		**0.0548**	**0.548**	**mg/Kg-dry**	1	08-Feb-2016 14:22
MOISTURE - ASTM D2216	**Method:ASTM D2216**						Analyst: DFF
Percent Moisture	**16.3**		**0.0100**	**0.0100**	**wt%**	1	02-Feb-2016 16:05

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
Sample ID: SO-1620-BSF2(5)-20160202
Collection Date: 02-Feb-2016 12:50

ANALYTICAL REPORT
WorkOrder:HS16020095
Lab ID:HS16020095-03
Matrix:Soil

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES		**Method:SW8270**			Prep:SW3541 / 04-Feb-2016		Analyst: ACN
1,2-Diphenylhydrazine	U		0.0013	0.0077	mg/Kg-dry	1	09-Feb-2016 01:20
2,4-Dimethylphenol	U		0.0039	0.0077	mg/Kg-dry	1	09-Feb-2016 01:20
2,4-Dinitrotoluene	U		0.0011	0.0077	mg/Kg-dry	1	09-Feb-2016 01:20
2,6-Dinitrotoluene	U		0.0039	0.0077	mg/Kg-dry	1	09-Feb-2016 01:20
2-Chloronaphthalene	U		0.0015	0.0077	mg/Kg-dry	1	09-Feb-2016 01:20
2-Methylnaphthalene	U		0.00059	0.0039	mg/Kg-dry	1	09-Feb-2016 01:20
4,6-Dinitro-2-methylphenol	U		0.0025	0.0077	mg/Kg-dry	1	09-Feb-2016 01:20
4-Nitrophenol	U		0.0022	0.015	mg/Kg-dry	1	09-Feb-2016 01:20
Acenaphthene	**0.0014**	J	**0.00059**	**0.0039**	**mg/Kg-dry**	1	09-Feb-2016 01:20
Acenaphthylene	U		0.0012	0.0039	mg/Kg-dry	1	09-Feb-2016 01:20
Anthracene	**0.0080**		**0.00059**	**0.0039**	**mg/Kg-dry**	1	09-Feb-2016 01:20
Benz(a)anthracene	**0.0057**		**0.0019**	**0.0039**	**mg/Kg-dry**	1	09-Feb-2016 01:20
Benzo(a)pyrene	**0.0034**	J	**0.0012**	**0.0039**	**mg/Kg-dry**	1	09-Feb-2016 01:20
Bis(2-chloroethoxy)methane	U		0.0011	0.0077	mg/Kg-dry	1	09-Feb-2016 01:20
Bis(2-ethylhexyl)phthalate	**0.0025**	J	**0.0020**	**0.0077**	**mg/Kg-dry**	1	09-Feb-2016 01:20
Chrysene	**0.012**		**0.00094**	**0.0039**	**mg/Kg-dry**	1	09-Feb-2016 01:20
Dibenzofuran	**0.0024**	J	**0.00082**	**0.0039**	**mg/Kg-dry**	1	09-Feb-2016 01:20
Di-n-butyl phthalate	**0.0017**	J	**0.0014**	**0.0077**	**mg/Kg-dry**	1	09-Feb-2016 01:20
Fluoranthene	**0.027**		**0.0013**	**0.0039**	**mg/Kg-dry**	1	09-Feb-2016 01:20
Fluorene	**0.0016**	J	**0.0013**	**0.0039**	**mg/Kg-dry**	1	09-Feb-2016 01:20
Naphthalene	**0.0010**	J	**0.00070**	**0.0039**	**mg/Kg-dry**	1	09-Feb-2016 01:20
Nitrobenzene	**0.0031**	J	**0.0011**	**0.0077**	**mg/Kg-dry**	1	09-Feb-2016 01:20
N-Nitrosodiphenylamine	U		0.00082	0.0077	mg/Kg-dry	1	09-Feb-2016 01:20
Pentachlorophenol	U		0.0039	0.0077	mg/Kg-dry	1	09-Feb-2016 01:20
Phenanthrene	**0.026**		**0.0018**	**0.0039**	**mg/Kg-dry**	1	09-Feb-2016 01:20
Phenol	**0.0023**	J	**0.0013**	**0.0077**	**mg/Kg-dry**	1	09-Feb-2016 01:20
Pyrene	**0.014**		**0.00070**	**0.0039**	**mg/Kg-dry**	1	09-Feb-2016 01:20
Surr: 2,4,6-Tribromophenol	*110*			*36-126*	*%REC*	*1*	*09-Feb-2016 01:20*
Surr: 2-Fluorobiphenyl	*79.1*			*43-125*	*%REC*	*1*	*09-Feb-2016 01:20*
Surr: 2-Fluorophenol	*83.0*			*37-125*	*%REC*	*1*	*09-Feb-2016 01:20*
Surr: 4-Terphenyl-d14	*106*			*32-125*	*%REC*	*1*	*09-Feb-2016 01:20*
Surr: Nitrobenzene-d5	*117*			*37-125*	*%REC*	*1*	*09-Feb-2016 01:20*
Surr: Phenol-d6	*67.0*			*40-125*	*%REC*	*1*	*09-Feb-2016 01:20*
METALS BY SW6020A		**Method:SW6020**			Prep:SW3050A / 04-Feb-2016		Analyst: JDE
Arsenic	**0.752**		**0.111**	**0.554**	**mg/Kg-dry**	1	08-Feb-2016 14:27
Lead	**9.58**		**0.0554**	**0.554**	**mg/Kg-dry**	1	08-Feb-2016 14:27
MOISTURE - ASTM D2216		**Method:ASTM D2216**					Analyst: DFF
Percent Moisture	**15.0**		**0.0100**	**0.0100**	**wt%**	1	02-Feb-2016 16:05

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
Sample ID: SO-1620-BSF3(5)-20160202
Collection Date: 02-Feb-2016 12:55

ANALYTICAL REPORT
WorkOrder:HS16020095
Lab ID:HS16020095-04
Matrix:Soil

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES		**Method:SW8270**			Prep:SW3541 / 04-Feb-2016		Analyst: ACN
1,2-Diphenylhydrazine	U		0.0014	0.0083	mg/Kg-dry	1	09-Feb-2016 15:15
2,4-Dimethylphenol	U		0.0042	0.0083	mg/Kg-dry	1	09-Feb-2016 15:15
2,4-Dinitrotoluene	U		0.0011	0.0083	mg/Kg-dry	1	09-Feb-2016 15:15
2,6-Dinitrotoluene	U		0.0042	0.0083	mg/Kg-dry	1	09-Feb-2016 15:15
2-Chloronaphthalene	U		0.0016	0.0083	mg/Kg-dry	1	09-Feb-2016 15:15
2-Methylnaphthalene	U		0.00063	0.0042	mg/Kg-dry	1	09-Feb-2016 15:15
4,6-Dinitro-2-methylphenol	U		0.0027	0.0083	mg/Kg-dry	1	09-Feb-2016 15:15
4-Nitrophenol	U		0.0024	0.017	mg/Kg-dry	1	09-Feb-2016 15:15
Acenaphthene	U		0.00063	0.0042	mg/Kg-dry	1	09-Feb-2016 15:15
Acenaphthylene	U		0.0013	0.0042	mg/Kg-dry	1	09-Feb-2016 15:15
Anthracene	**0.0027**	J	**0.00063**	**0.0042**	**mg/Kg-dry**	1	09-Feb-2016 15:15
Benz(a)anthracene	**0.021**		**0.0020**	**0.0042**	**mg/Kg-dry**	1	09-Feb-2016 15:15
Benzo(a)pyrene	**0.014**		**0.0013**	**0.0042**	**mg/Kg-dry**	1	09-Feb-2016 15:15
Bis(2-chloroethoxy)methane	U		0.0011	0.0083	mg/Kg-dry	1	09-Feb-2016 15:15
Bis(2-ethylhexyl)phthalate	U		0.0021	0.0083	mg/Kg-dry	1	09-Feb-2016 15:15
Chrysene	**0.027**		**0.0010**	**0.0042**	**mg/Kg-dry**	1	09-Feb-2016 15:15
Dibenzofuran	U		0.00088	0.0042	mg/Kg-dry	1	09-Feb-2016 15:15
Di-n-butyl phthalate	U		0.0015	0.0083	mg/Kg-dry	1	09-Feb-2016 15:15
Fluoranthene	**0.044**		**0.0014**	**0.0042**	**mg/Kg-dry**	1	09-Feb-2016 15:15
Fluorene	U		0.0014	0.0042	mg/Kg-dry	1	09-Feb-2016 15:15
Naphthalene	U		0.00076	0.0042	mg/Kg-dry	1	09-Feb-2016 15:15
Nitrobenzene	U		0.0011	0.0083	mg/Kg-dry	1	09-Feb-2016 15:15
N-Nitrosodiphenylamine	U		0.00088	0.0083	mg/Kg-dry	1	09-Feb-2016 15:15
Pentachlorophenol	U		0.0042	0.0083	mg/Kg-dry	1	09-Feb-2016 15:15
Phenanthrene	**0.0066**		**0.0019**	**0.0042**	**mg/Kg-dry**	1	09-Feb-2016 15:15
Phenol	U		0.0014	0.0083	mg/Kg-dry	1	09-Feb-2016 15:15
Pyrene	**0.072**		**0.00076**	**0.0042**	**mg/Kg-dry**	1	09-Feb-2016 15:15
Surr: 2,4,6-Tribromophenol	*118*			*36-126*	*%REC*	*1*	*09-Feb-2016 15:15*
Surr: 2-Fluorobiphenyl	*82.9*			*43-125*	*%REC*	*1*	*09-Feb-2016 15:15*
Surr: 2-Fluorophenol	*70.6*			*37-125*	*%REC*	*1*	*09-Feb-2016 15:15*
Surr: 4-Terphenyl-d14	*69.9*			*32-125*	*%REC*	*1*	*09-Feb-2016 15:15*
Surr: Nitrobenzene-d5	*76.6*			*37-125*	*%REC*	*1*	*09-Feb-2016 15:15*
Surr: Phenol-d6	*74.6*			*40-125*	*%REC*	*1*	*09-Feb-2016 15:15*
METALS BY SW6020A		**Method:SW6020**			Prep:SW3050A / 04-Feb-2016		Analyst: JDE
Arsenic	**1.63**		**0.124**	**0.620**	**mg/Kg-dry**	1	08-Feb-2016 14:31
Lead	**6.51**		**0.0620**	**0.620**	**mg/Kg-dry**	1	08-Feb-2016 14:31
MOISTURE - ASTM D2216		**Method:ASTM D2216**					Analyst: DFF
Percent Moisture	**20.9**		**0.0100**	**0.0100**	**wt%**	1	02-Feb-2016 16:05

Note: See Qualifiers Page for a list of qualifiers and their explanation.

WEIGHT LOG

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
WorkOrder: HS16020095

Batch ID: 101173 **Method:** LOW-LEVEL SEMIVOLATILES **Prep:** 3541_B_LOW

SampID	Container	Sample Wt/Vol	Final Volume	Prep Factor
HS16020095-01	1	30.01	1 (mL)	0.03332
HS16020095-02	1	30.06	1 (mL)	0.03327
HS16020095-03	1	30.09	1 (mL)	0.03323
HS16020095-04	1	30.04	1 (mL)	0.03329

Batch ID: 101194 **Method:** METALS BY SW6020A **Prep:** 3050_I_LOW

SampID	Container	Sample Wt/Vol	Final Volume	Prep Factor
HS16020095-01	1	0.5418	50 (mL)	92.28
HS16020095-02	1	0.5452	50 (mL)	91.71
HS16020095-03	1	0.5305	50 (mL)	94.25
HS16020095-04	1	0.5096	50 (mL)	98.12

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
WorkOrder: HS16020095

DATES REPORT

Sample ID	Client Samp ID	Collection Date	TCLP Date	Prep Date	Analysis Date	DF
Batch ID 101173	**Test Name :** LOW-LEVEL SEMIVOLATILES			**Matrix:** Soil		
HS16020095-01	SO-1620-BSC1(5)-20160202	02 Feb 2016 12:15		04 Feb 2016 08:41	09 Feb 2016 00:41	1
HS16020095-02	SO-1620-BSF1(5)-20160202	02 Feb 2016 12:45		04 Feb 2016 08:41	09 Feb 2016 15:35	5
HS16020095-02	SO-1620-BSF1(5)-20160202	02 Feb 2016 12:45		04 Feb 2016 08:41	09 Feb 2016 01:01	1
HS16020095-03	SO-1620-BSF2(5)-20160202	02 Feb 2016 12:50		04 Feb 2016 08:41	09 Feb 2016 01:20	1
HS16020095-04	SO-1620-BSF3(5)-20160202	02 Feb 2016 12:55		04 Feb 2016 08:41	09 Feb 2016 15:15	1
Batch ID 101194	**Test Name :** METALS BY SW6020A			**Matrix:** Soil		
HS16020095-01	SO-1620-BSC1(5)-20160202	02 Feb 2016 12:15		04 Feb 2016 20:03	08 Feb 2016 14:18	1
HS16020095-02	SO-1620-BSF1(5)-20160202	02 Feb 2016 12:45		04 Feb 2016 20:03	08 Feb 2016 14:22	1
HS16020095-03	SO-1620-BSF2(5)-20160202	02 Feb 2016 12:50		04 Feb 2016 20:03	08 Feb 2016 14:27	1
HS16020095-04	SO-1620-BSF3(5)-20160202	02 Feb 2016 12:55		04 Feb 2016 20:03	08 Feb 2016 14:31	1
Batch ID R268707	**Test Name :** MOISTURE - ASTM D2216			**Matrix:** Soil		
HS16020095-01	SO-1620-BSC1(5)-20160202	02 Feb 2016 12:15			02 Feb 2016 16:05	1
HS16020095-02	SO-1620-BSF1(5)-20160202	02 Feb 2016 12:45			02 Feb 2016 16:05	1
HS16020095-03	SO-1620-BSF2(5)-20160202	02 Feb 2016 12:50			02 Feb 2016 16:05	1
HS16020095-04	SO-1620-BSF3(5)-20160202	02 Feb 2016 12:55			02 Feb 2016 16:05	1

WorkOrder: HS16020095
InstrumentID: ICPMS04
Test Code: ICP_S_Low
Test Number: SW6020
Test Name: Metals by SW6020A

METHOD DETECTION / REPORTING LIMITS

Matrix: Solid **Units:** mg/Kg

Type	Analyte	CAS	DCS Spike	DCS	MDL	PQL
A	Arsenic	7440-38-2	0.100	0.0974	0.100	0.500
A	Lead	7439-92-1	0.100	0.0927	0.0500	0.500

WorkOrder: HS16020095
InstrumentID: SV-7
Test Code: 8270_LOW_S
Test Number: SW8270
Test Name: Low-Level Semivolatiles

METHOD DETECTION / REPORTING LIMITS

Matrix: Solid **Units:** mg/Kg

Type	Analyte	CAS	DCS Spike	DCS	MDL	PQL
A	1,2-Diphenylhydrazine	122-66-7	0.0033	0.0029	0.0011	0.0066
A	2,4-Dimethylphenol	105-67-9	0.0033	0.00084	0.0033	0.0066
A	2,4-Dinitrotoluene	121-14-2	0.0033	0.0025	0.00090	0.0066
A	2,6-Dinitrotoluene	606-20-2	0.0033	0.0030	0.0033	0.0066
A	2-Chloronaphthalene	91-58-7	0.0033	0.0025	0.0013	0.0066
A	2-Methylnaphthalene	91-57-6	0.0033	0.0034	0.00050	0.0033
A	4,6-Dinitro-2-methylphenol	534-52-1	0.0033	0.0036	0.0021	0.0066
A	4-Nitrophenol	100-02-7	0.0033	0.0043	0.0019	0.013
A	Acenaphthene	83-32-9	0.0033	0.0029	0.00050	0.0033
A	Acenaphthene	83-32-9	0.0017	0.0015	0.00050	0.0033
A	Acenaphthylene	208-96-8	0.0017	0.0017	0.0010	0.0033
A	Acenaphthylene	208-96-8	0.0033	0.0023	0.0010	0.0033
A	Anthracene	120-12-7	0.0017	0.0017	0.00050	0.0033
A	Anthracene	120-12-7	0.0033	0.0031	0.00050	0.0033
A	Benz(a)anthracene	56-55-3	0.0033	0.0032	0.0016	0.0033
A	Benz(a)anthracene	56-55-3	0.0017	0.0020	0.0016	0.0033
A	Benzo(a)pyrene	50-32-8	0.0033	0.0032	0.0010	0.0033
A	Benzo(a)pyrene	50-32-8	0.0017	0.0018	0.0010	0.0033
A	Bis(2-chloroethoxy)methane	111-91-1	0.0033	0.0033	0.00090	0.0066
A	Bis(2-ethylhexyl)phthalate	117-81-7	0.0033	0.0060	0.0017	0.0066
A	Chrysene	218-01-9	0.0033	0.0044	0.00080	0.0033
A	Chrysene	218-01-9	0.0017	0.0017	0.00080	0.0033
A	Dibenzofuran	132-64-9	0.0033	0.0028	0.00070	0.0033
A	Di-n-butyl phthalate	84-74-2	0.0033	0.0038	0.0012	0.0066
A	Fluoranthene	206-44-0	0.0033	0.0038	0.0011	0.0033
A	Fluorene	86-73-7	0.0017	0.0015	0.0011	0.0033
A	Naphthalene	91-20-3	0.0033	0.0034	0.00060	0.0033
A	Naphthalene	91-20-3	0.0017	0.0019	0.00060	0.0033
A	Nitrobenzene	98-95-3	0.0033	0.0038	0.00090	0.0066
A	N-Nitrosodiphenylamine	86-30-6	0.0033	0.0037	0.00070	0.0066
A	Pentachlorophenol	87-86-5	0.0033	0.0023	0.0033	0.0066
A	Phenanthrene	85-01-8	0.0033	0.0031	0.0015	0.0033
A	Phenol	108-95-2	0.0033	0.0038	0.0011	0.0066
A	Pyrene	129-00-0	0.0033	0.0045	0.00060	0.0033
A	Pyrene	129-00-0	0.0017	0.0019	0.00060	0.0033
S	2,4,6-Tribromophenol	118-79-6	0	0	0	0
S	2-Fluorobiphenyl	321-60-8	0	0	0	0
S	2-Fluorophenol	367-12-4	0	0	0	0
S	4-Terphenyl-d14	1718-51-0	0	0	0	0
S	Nitrobenzene-d5	4165-60-0	0	0	0	0
S	Phenol-d6	13127-88-3	0	0	0	0

WorkOrder: HS16020095
InstrumentID: Balance1
Test Code: MOIST_ASTM
Test Number: ASTM D2216
Test Name: Moisture - ASTM D2216

METHOD DETECTION / REPORTING LIMITS

Matrix: Solid **Units:** wt%

Type	Analyte	CAS	DCS Spike	DCS	MDL	PQL
A	Percent Moisture	MOIST	0.0100	0.0100	0.0100	0.0100

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
WorkOrder: HS16020095

QC BATCH REPORT

Batch ID: 101194 **Instrument: ICPMS03** **Method: SW6020**

MBLK Sample ID: **MBLK-101194** Units: **mg/Kg** Analysis Date: **05-Feb-2016 14:50**
Client ID: Run ID: **ICPMS03_268841** SeqNo: **3576804** PrepDate: **04-Feb-2016** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	U	0.500								
Lead	U	0.500								

LCS Sample ID: **MLCS-101194** Units: **mg/Kg** Analysis Date: **05-Feb-2016 14:55**
Client ID: Run ID: **ICPMS03_268841** SeqNo: **3576805** PrepDate: **04-Feb-2016** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	8.419	0.500	10	0	84.2	80 - 120				
Lead	8.659	0.500	10	0	86.6	80 - 120				

MS Sample ID: **HS16020208-01MS** Units: **mg/Kg** Analysis Date: **05-Feb-2016 15:08**
Client ID: Run ID: **ICPMS03_268841** SeqNo: **3576808** PrepDate: **04-Feb-2016** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	8.498	0.458	9.166	1.01	81.7	75 - 125				
Lead	14.39	0.458	9.166	5.511	96.9	75 - 125				

MSD Sample ID: **HS16020208-01MSD** Units: **mg/Kg** Analysis Date: **05-Feb-2016 15:12**
Client ID: Run ID: **ICPMS03_268841** SeqNo: **3576809** PrepDate: **04-Feb-2016** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	8.877	0.467	9.33	1.01	84.3	75 - 125	8.498	4.36	20	
Lead	14.66	0.467	9.33	5.511	98.0	75 - 125	14.39	1.84	20	

PDS Sample ID: **HS16020208-01BS** Units: **mg/Kg** Analysis Date: **05-Feb-2016 15:16**
Client ID: Run ID: **ICPMS03_268841** SeqNo: **3576810** PrepDate: **04-Feb-2016** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	8.645	0.458	9.156	1.01	83.4	75 - 125				
Lead	13.6	0.458	9.156	5.511	88.3	75 - 125				

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
WorkOrder: HS16020095

QC BATCH REPORT

Batch ID: 101194 **Instrument: ICPMS03** **Method: SW6020**

SD Sample ID: **HS16020208-01 DIL SX** Units: **mg/Kg** Analysis Date: **05-Feb-2016 15:04**
Client ID: Run ID: **ICPMS03_268841** SeqNo: **3576807** PrepDate: **04-Feb-2016** DF: **5**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%D	%D Limit	Qual
Arsenic	0.9939	2.29					1.01	0	10	J
Lead	5.64	2.29					5.511	2.34	10	

The following samples were anayzed in this batch: HS16020095-01 HS16020095-02 HS16020095-03 HS16020095-04

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
WorkOrder: HS16020095

QC BATCH REPORT

Batch ID: 101173 **Instrument: SV-7** **Method: SW8270**

MBLK Sample ID: **MBLK-101173** Units: **ug/Kg** Analysis Date: **04-Feb-2016 15:47**
Client ID: Run ID: **SV-7_268826** SeqNo: **3578108** PrepDate: **04-Feb-2016** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Diphenylhydrazine	U	6.6								
2,4-Dimethylphenol	U	6.6								
2,4-Dinitrotoluene	U	6.6								
2,6-Dinitrotoluene	U	6.6								
2-Chloronaphthalene	U	6.6								
2-Methylnaphthalene	U	3.3								
4,6-Dinitro-2-methylphenol	U	6.6								
4-Nitrophenol	U	13								
Acenaphthene	U	3.3								
Acenaphthylene	U	3.3								
Anthracene	U	3.3								
Benz(a)anthracene	U	3.3								
Benzo(a)pyrene	U	3.3								
Bis(2-chloroethoxy)methane	U	6.6								
Bis(2-ethylhexyl)phthalate	U	6.6								
Chrysene	U	3.3								
Dibenzofuran	U	3.3								
Di-n-butyl phthalate	U	6.6								
Fluoranthene	U	3.3								
Fluorene	U	3.3								
Naphthalene	U	3.3								
Nitrobenzene	U	6.6								
N-Nitrosodiphenylamine	U	6.6								
Pentachlorophenol	U	6.6								
Phenanthrene	U	3.3								
Phenol	U	6.6								
Pyrene	U	3.3								
Surr: 2,4,6-Tribromophenol	*138.4*	*0*	*167*	*0*	*82.9*	*36 - 126*				
Surr: 2-Fluorobiphenyl	*148.5*	*0*	*167*	*0*	*88.9*	*43 - 125*				
Surr: 2-Fluorophenol	*156.9*	*0*	*167*	*0*	*94.0*	*37 - 125*				
Surr: 4-Terphenyl-d14	*181.5*	*0*	*167*	*0*	*109*	*32 - 125*				
Surr: Nitrobenzene-d5	*158.4*	*0*	*167*	*0*	*94.9*	*37 - 125*				
Surr: Phenol-d6	*172.4*	*0*	*167*	*0*	*103*	*40 - 125*				

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
WorkOrder: HS16020095

QC BATCH REPORT

Batch ID: 101173 **Instrument: SV-7** **Method: SW8270**

LCS Sample ID: **LCS-101173** Units: **ug/Kg** Analysis Date: **04-Feb-2016 16:06**
Client ID: Run ID: **SV-7_268826** SeqNo: **3578109** PrepDate: **04-Feb-2016** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Diphenylhydrazine	205.1	6.6	167	0	123	50 - 135				
2,4-Dimethylphenol	127.3	6.6	167	0	76.3	45 - 120				
2,4-Dinitrotoluene	141.4	6.6	167	0	84.7	50 - 130				
2,6-Dinitrotoluene	148	6.6	167	0	88.6	50 - 125				
2-Chloronaphthalene	162	6.6	167	0	97.0	50 - 145				
2-Methylnaphthalene	163.4	3.3	167	0	97.9	50 - 120				
4,6-Dinitro-2-methylphenol	140.9	6.6	167	0	84.4	15 - 135				
4-Nitrophenol	178.8	13	167	0	107	40 - 147				
Acenaphthene	130.8	3.3	167	0	78.3	50 - 120				
Acenaphthylene	125	3.3	167	0	74.8	50 - 120				
Anthracene	147.5	3.3	167	0	88.3	50 - 123				
Benz(a)anthracene	147.1	3.3	167	0	88.1	50 - 131				
Benzo(a)pyrene	136	3.3	167	0	81.4	50 - 130				
Bis(2-chloroethoxy)methane	156	6.6	167	0	93.4	50 - 120				
Bis(2-ethylhexyl)phthalate	140	6.6	167	0	83.8	21 - 148				
Chrysene	146.8	3.3	167	0	87.9	50 - 130				
Dibenzofuran	132.4	3.3	167	0	79.3	50 - 125				
Di-n-butyl phthalate	186.1	6.6	167	0	111	50 - 140				
Fluoranthene	157.7	3.3	167	0	94.5	50 - 131				
Fluorene	157.2	3.3	167	0	94.1	50 - 125				
Naphthalene	138.8	3.3	167	0	83.1	50 - 125				
Nitrobenzene	159.7	6.6	167	0	95.7	50 - 125				
N-Nitrosodiphenylamine	173	6.6	167	0	104	50 - 130				
Pentachlorophenol	120.6	6.6	167	0	72.2	23 - 136				
Phenanthrene	144.6	3.3	167	0	86.6	50 - 125				
Phenol	150.4	6.6	167	0	90.0	45 - 130				
Pyrene	128.8	3.3	167	0	77.1	45 - 130				
Surr: 2,4,6-Tribromophenol	*183.4*	*0*	*167*	*0*	*110*	*36 - 126*				
Surr: 2-Fluorobiphenyl	*160.8*	*0*	*167*	*0*	*96.3*	*43 - 125*				
Surr: 2-Fluorophenol	*127.8*	*0*	*167*	*0*	*76.5*	*37 - 125*				
Surr: 4-Terphenyl-d14	*139.5*	*0*	*167*	*0*	*83.5*	*32 - 125*				
Surr: Nitrobenzene-d5	*182.2*	*0*	*167*	*0*	*109*	*37 - 125*				
Surr: Phenol-d6	*138.9*	*0*	*167*	*0*	*83.2*	*40 - 125*				

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
WorkOrder: HS16020095

QC BATCH REPORT

Batch ID: 101173 **Instrument: SV-7** **Method: SW8270**

MS Sample ID: **HS16020149-03MS** Units: **ug/Kg** Analysis Date: **05-Feb-2016 01:22**
Client ID: Run ID: **SV-7_268826** SeqNo: **3578111** PrepDate: **04-Feb-2016** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Diphenylhydrazine	336.3	66	166.7	485.8	-89.7	50 - 135				S
2,4-Dimethylphenol	94.2	66	166.7	0	56.5	45 - 120				
2,4-Dinitrotoluene	686.4	66	166.7	0	412	50 - 130				S
2,6-Dinitrotoluene	156.8	66	166.7	0	94.0	50 - 125				
2-Chloronaphthalene	189	66	166.7	0	113	50 - 145				
2-Methylnaphthalene	10200	33	166.7	17840	-4580	50 - 120				SEO
4,6-Dinitro-2-methylphenol	U	66	166.7	0	0	15 - 135				S
4-Nitrophenol	139.2	130	166.7	0	83.5	40 - 147				
Acenaphthene	38220	33	166.7	35390	1690	50 - 120				SEO
Acenaphthylene	1823	33	166.7	2292	-281	50 - 120				SO
Anthracene	22770	33	166.7	20850	1150	50 - 123				SEO
Benz(a)anthracene	18300	33	166.7	16730	939	50 - 131				SEO
Benzo(a)pyrene	6055	33	166.7	9688	-2180	50 - 130				SEO
Bis(2-chloroethoxy)methane	199.5	66	166.7	0	120	50 - 120				
Bis(2-ethylhexyl)phthalate	131.1	66	166.7	0	78.6	21 - 148				
Chrysene	13830	33	166.7	21430	-4560	50 - 130				SEO
Dibenzofuran	21610	33	166.7	19880	1040	50 - 125				SEO
Di-n-butyl phthalate	231.1	66	166.7	124.8	63.8	50 - 140				
Fluoranthene	51890	33	166.7	42580	5590	50 - 131				SEO
Fluorene	31750	33	166.7	29970	1070	50 - 125				SEO
Naphthalene	6819	33	166.7	9556	-1640	50 - 125				SEO
Nitrobenzene	272.1	66	166.7	0	163	50 - 125				S
N-Nitrosodiphenylamine	797.5	66	166.7	0	478	50 - 130				S
Pentachlorophenol	36.87	66	166.7	963.1	-556	23 - 136				JSO
Phenanthrene	41030	33	166.7	35440	3350	50 - 125				SEO
Phenol	235.6	66	166.7	0	141	45 - 130				S
Pyrene	38360	33	166.7	33570	2870	45 - 130				SEO
Surr: 2,4,6-Tribromophenol	*155.1*	*0*	*166.7*	*0*	*93.0*	*36 - 126*				
Surr: 2-Fluorobiphenyl	*178.8*	*0*	*166.7*	*0*	*107*	*43 - 125*				
Surr: 2-Fluorophenol	*69.22*	*0*	*166.7*	*0*	*41.5*	*37 - 125*				
Surr: 4-Terphenyl-d14	*304.4*	*0*	*166.7*	*0*	*183*	*32 - 125*				S
Surr: Nitrobenzene-d5	*240.6*	*0*	*166.7*	*0*	*144*	*37 - 125*				S
Surr: Phenol-d6	*186*	*0*	*166.7*	*0*	*112*	*40 - 125*				

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
WorkOrder: HS16020095

QC BATCH REPORT

Batch ID: 101173 **Instrument: SV-7** **Method: SW8270**

MSD Sample ID: **HS16020149-03MSD** Units: **ug/Kg** Analysis Date: **05-Feb-2016 01:41**
Client ID: Run ID: **SV-7_268826** SeqNo: **3578112** PrepDate: **04-Feb-2016** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Diphenylhydrazine	441.7	66	166.8	485.8	-26.4	50 - 135	336.3	27.1	30	S
2,4-Dimethylphenol	176.5	66	166.8	0	106	45 - 120	94.2	60.8	30	R
2,4-Dinitrotoluene	518.9	66	166.8	0	311	50 - 130	686.4	27.8	30	S
2,6-Dinitrotoluene	202.2	66	166.8	0	121	50 - 125	156.8	25.3	30	
2-Chloronaphthalene	108.8	66	166.8	0	65.2	50 - 145	189	53.8	30	R
2-Methylnaphthalene	8865	33	166.8	17840	-5380	50 - 120	10200	14	30	SEO
4,6-Dinitro-2-methylphenol	U	66	166.8	0	0	15 - 135	0	0	30	S
4-Nitrophenol	241.4	130	166.8	0	145	40 - 147	139.2	53.7	30	R
Acenaphthene	31070	33	166.8	35390	-2590	50 - 120	38220	20.6	30	SEO
Acenaphthylene	1582	33	166.8	2292	-426	50 - 120	1823	14.1	30	SO
Anthracene	17710	33	166.8	20850	-1880	50 - 123	22770	25	30	SEO
Benz(a)anthracene	18040	33	166.8	16730	786	50 - 131	18300	1.4	30	SEO
Benzo(a)pyrene	7382	33	166.8	9688	-1380	50 - 130	6055	19.7	30	SEO
Bis(2-chloroethoxy)methane	182.4	66	166.8	0	109	50 - 120	199.5	8.97	30	
Bis(2-ethylhexyl)phthalate	156.3	66	166.8	0	93.7	21 - 148	131.1	17.5	30	
Chrysene	16130	33	166.8	21430	-3170	50 - 130	13830	15.4	30	SEO
Dibenzofuran	16740	33	166.8	19880	-1880	50 - 125	21610	25.4	30	SEO
Di-n-butyl phthalate	264.8	66	166.8	124.8	83.9	50 - 140	231.1	13.6	30	
Fluoranthene	46640	33	166.8	42580	2440	50 - 131	51890	10.7	30	SEO
Fluorene	27970	33	166.8	29970	-1200	50 - 125	31750	12.7	30	SEO
Naphthalene	6995	33	166.8	9556	-1530	50 - 125	6819	2.55	30	SEO
Nitrobenzene	296	66	166.8	0	177	50 - 125	272.1	8.41	30	S
N-Nitrosodiphenylamine	1036	66	166.8	0	621	50 - 130	797.5	26	30	S
Pentachlorophenol	U	66	166.8	963.1	-577	23 - 136	36.87	0	30	SO
Phenanthrene	34740	33	166.8	35440	-420	50 - 125	41030	16.6	30	SEO
Phenol	289.9	66	166.8	0	174	45 - 130	235.6	20.7	30	S
Pyrene	33680	33	166.8	33570	64.5	45 - 130	38360	13	30	EO
Surr: 2,4,6-Tribromophenol	*149.1*	*0*	*166.8*	*0*	*89.4*	*36 - 126*	*155.1*	*3.95*	*30*	
Surr: 2-Fluorobiphenyl	*125.8*	*0*	*166.8*	*0*	*75.4*	*43 - 125*	*178.8*	*34.8*	*30*	R
Surr: 2-Fluorophenol	*133.4*	*0*	*166.8*	*0*	*80.0*	*37 - 125*	*69.22*	*63.4*	*30*	R
Surr: 4-Terphenyl-d14	*273.4*	*0*	*166.8*	*0*	*164*	*32 - 125*	*304.4*	*10.7*	*30*	S
Surr: Nitrobenzene-d5	*194*	*0*	*166.8*	*0*	*116*	*37 - 125*	*240.6*	*21.4*	*30*	
Surr: Phenol-d6	*218.1*	*0*	*166.8*	*0*	*131*	*40 - 125*	*186*	*15.9*	*30*	S

The following samples were anayzed in this batch: HS16020095-01 HS16020095-02 HS16020095-03 HS16020095-04

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
WorkOrder: HS16020095

QC BATCH REPORT

Batch ID: R268707 **Instrument: Balance1** **Method: ASTM D2216**

DUP Sample ID: **HS16020093-05DUP** Units: **wt%** Analysis Date: **02-Feb-2016 16:05**
Client ID: Run ID: **Balance1_268707** SeqNo: **3573777** PrepDate: DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Percent Moisture	14.5	0.0100					14.8	2.05	20	

The following samples were anayzed in this batch: HS16020095-01 HS16020095-02 HS16020095-03 HS16020095-04

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
WorkOrder: **HS16020095**

QUALIFIERS, ACRONYMS, UNITS

Qualifier	Description
*	Value exceeds Regulatory Limit
a	Not accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte detected below quantitation limit
M	Manually integrated, see raw data for justification
n	Not offered for accreditation
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL/SDL

Acronym	Description
DCS	Detectability Check Study
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
MBLK	Method Blank
MDL	Method Detection Limit
MQL	Method Quantitation Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PDS	Post Digestion Spike
PQL	Practical Quantitaion Limit
SD	Serial Dilution
SDL	Sample Detection Limit
TRRP	Texas Risk Reduction Program

Unit Reported	Description
mg/Kg-dry	Milligrams per Kilogram- Dry weight corrected

CERTIFICATIONS,ACCREDITATIONS & LICENSES

Agency	Number	Expire Date
Arkansas	15-024-0	27-Mar-2016
California	2919	31-Jul-2016
Illinois	003622	09-May-2016
Kentucky	KY 2015-2016	30-Apr-2016
Louisiana	03087 2015/2016	30-Jun-2016
North Carolina	624 - 2016	31-Dec-2016
North Dakota	R-193 2015-2016	30-Apr-2016
Oklahoma	2015-047	31-Aug-2016
Texas	T104704231-15-15	30-Apr-2016

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
Work Order: HS16020095

SAMPLE TRACKING

Lab Samp ID	Client Sample ID	Action	Date	Person	New Location
HS16020095-01	SO-1620-BSC1(5)-20160202	Login	2/2/2016 4:03:44 PM	RPG	11D
HS16020095-02	SO-1620-BSF1(5)-20160202	Login	2/2/2016 4:03:44 PM	RPG	11D
HS16020095-03	SO-1620-BSF2(5)-20160202	Login	2/2/2016 4:03:45 PM	RPG	11D
HS16020095-04	SO-1620-BSF3(5)-20160202	Login	2/2/2016 4:03:45 PM	RPG	11D

Sample Receipt Checklist

Client Name: PBW
Work Order: HS16020095

Date/Time Received: **02-Feb-2016 15:48**
Received by: **FBH**

Checklist completed by: *Raegen Giga* eSignature 2-Feb-2016 Date

Reviewed by: *Dane J. Wacasey* eSignature 2-Feb-2016 Date

Matrices: **soil**

Carrier name: **ALS.HS**

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on shipping container/cooler?	Yes ☐	No ☐	Not Present ☑
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☑	No ☐	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
TX1005 solids received in hermetically sealed vials?	Yes ☐	No ☐	N/A ☑
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time?	Yes ☑	No ☐	
Container/Temp Blank temperature in compliance?	Yes ☑	No ☐	
Temperature(s)/Thermometer(s):	1.6c/2.1c uc/c	IR 5	
Cooler(s)/Kit(s):	4429		
Date/Time sample(s) sent to storage:	02/02/2016 16:00		
Water - VOA vials have zero headspace?	Yes ☐	No ☐	No VOA vials submitted ☑
Water - pH acceptable upon receipt?	Yes ☐	No ☐	N/A ☑
pH adjusted?	Yes ☐	No ☐	N/A ☑
pH adjusted by:			

Login Notes: Confirmation samples logged in WO HS16020093. Trip blank placed on HOLD. No VOCs are associated to these samples.

Client Contacted: Date Contacted: Person Contacted:

Contacted By: 0 Regarding:

Comments:

Corrective Action:

ALS Environmental

Cincinnati, OH +1 513 733 5336
Everett, WA +1 425 356 2600
Fort Collins, CO +1 970 490 1511
Holland, MI +1 616 399 6070

Chain of Custody Form

Page 1 of 1

COC ID: 135233

HS16020095

Pastor, Behling & Wheeler, LLC
1620-10-Rev1 HoustonTX-Wood

ALS Project Manager:

Customer Information		Project Information			
Purchase Order	UPRR	Project Name	1620-10-Rev1 HoustonTX-Wood	A	8270_LOW_S (5632532 SemiVolatiles)
Work Order		Project Number	1620-10-Rev1	B	ICP_S_Low (5636002 5652646 Metals - As, Pb)
Company Name	Pastor, Behling & Wheeler, LLC	Bill To Company	Union Pacific Railroad- A/P	C	MOIST_ASTM (5631931 Gen.Chem. MOIST%)
Send Report To	Eric Matzner	Invoice Attn	Accounts Payable	D	
Address	2201 Double Creek Drive Suite 4004	Address	1400 Douglas Street Stop 0750	E	
				F	
City/State/Zip	Round Rock, TX 78664	City/State/Zip	Omaha, NE 681790750	G	
Phone	(512) 671-3434	Phone		H	
Fax	(512) 671-3446	Fax		I	
e-Mail Address		e-Mail Address		J	

No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
1	SO-1620-BSC1(5)-20160202	2-2-2016	1215	Soil	8	1											
2	SO-1620-BSF1(5)-20160202	2-2-2016	1245	Soil	8	1											
3	SO-1620-BSF2(5)-20160202	2-2-2016	1250	Soil	8	1											
4	SO-1620-BSF3(5)-20160202	2-2-2016	1255	Soil	8	1											
5	SO-1620-CSBS1(0-5)-20160202	2-2-2016	1400	Soil	8	1											
6	SO-1620-CSBS2(0-5)-20160202	2-2-2016	1403	Soil	8	1											
7	SO-1620-CSBE1(0-5)-20160202	2-2-2016	1408	Soil	8	1											
8	SO-1620-CSBN2(0-5)-20160202	2-2-2016	1412	Soil	8	1											
9	SO-1620-CSBN1(0-5)-20160202	2-2-2016	1415	Soil	8	1											
10																	

Standard TAT

RUSH 24-hr TAT

Sampler(s) Please Print & Sign: Stephen Grahmann

Shipment Method:

Required Turnaround Time: (Check Box) TAT 1 days Other:

Results Due Date:

Relinquished by: Date: 2-2-2016 Time: 1512 Received by:

Relinquished by: Date: 2-2-16 Time: 15:48 Received by (Laboratory):

Logged by (Laboratory): Date: Time: Checked by (Laboratory):

Notes: [UPRR Houston MW/BW]

Cooler ID	Cooler Temp.

QC Package: (Check One Box Below)

QC Level: TRRP LRC

Other:

Preservative Key: 1-HCl 2-HNO_3 3-H_2SO_4 4-NaOH 5-$Na_2S_2O_3$ 6-$NaHSO_4$ 7-Other 8-4°C 9-5035

Note:
1. Any changes must be made in writing once samples and COC Form have been submitted to ALS Environmental.
2. Unless otherwise agreed in a formal contract, services provided by ALS Environmental are expressly limited to the terms and conditions stated on the reverse.
3. The Chain of Custody is a legal document. All information must be completed accurately.

10450 Stancliff Rd. Suite 210
Houston, TX 77099
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F: +1 281 530 5887
www.alsglobal.com

February 05, 2016

Eric Matzner
Pastor, Behling & Wheeler, LLC
2201 Double Creek Drive
Suite 4004
Round Rock, TX 78664

Work Order: **HS16020138**

Laboratory Results for: **1620-10-Rev1 HoustonTX-Wood**

Dear Eric,

ALS Environmental received 5 sample(s) on Feb 03, 2016 for the analysis presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested. Results are expressed as "as received" unless otherwise noted.

QC sample results for this data met EPA or laboratory specifications except as noted in the Case Narrative or as noted with qualifiers in the QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained by ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

If you have any questions regarding this report, please feel free to call me.

Sincerely,

Generated By: Dayna.Fisher
Dane J. Wacasey

Client:	Pastor, Behling & Wheeler, LLC	**TRRP Laboratory Data Package Cover Page**
Project:	1620-10-Rev1 HoustonTX-Wood	
WorkOrder:	**HS16020138**	

This data package consists of all or some of the following as applicable:

This signature page, the laboratory review checklist, and the following reportable data:

R1 Field chain-of-custody documentation;

R2 Sample identification cross-reference;

R3 Test reports (analytical data sheets) for each environmental sample that includes:

a) Items consistent with NELAC Chapter 5,
b) dilution factors,
c) preparation methods,
d) cleanup methods, and
e) if required for the project, tentatively identified compounds (TICs).

R4 Surrogate recovery data including:

a) Calculated recovery (%R), and
b) The laboratory's surrogate QC limits.

R5 Test reports/summary forms for blank samples;

R6 Test reports/summary forms for laboratory control samples (LCSs) including:

a) LCS spiking amounts,
b) Calculated %R for each analyte, and
c)The laboratory's LCS QC limits.

R7 Test reports for project matrix spike/matrix spike duplicates (MS/MSDs) including:

a) Samples associated with the MS/MSD clearly identified,
b) MS/MSD spiking amounts,
c) Concentration of each MS/MSD analyte measured in the parent and spiked samples,
d) Calculated %Rs and relative percent differences (RPDs), and
e) The laboratory's MS/MSD QC limits.

R8 Laboratory analytical duplicate (if applicable) recovery and precision:

a) the amount of analyte measured in the duplicate,
b) the calculated RPD, and
c) the laboratory's QC limits for analytical duplicates.

R9 List of method quantitation limits (MQLs) and detectability check sample results for each analyte for each method and matrix.

R10 Other problems or anomalies.
The Exception Report for each "No" or "Not Reviewed (NR)" item in Laboratory Review Checklist and for each analyte, matrix, and method for which the laboratory does not hold NELAC accreditation under the Texas Laboratory Accreditation Program.

Client:	Pastor, Behling & Wheeler, LLC
Project:	1620-10-Rev1 HoustonTX-Wood
WorkOrder:	**HS16020138**

TRRP Laboratory Data Package Cover Page

Release Statement: I am responsible for the release of this laboratory data package. This laboratory is NELAC accredited under the Texas Laboratory Accreditation Program for all the methods, analytes and matrices reported in this data package except as noted in the Exception Reports. The data have been reviewed and are technically compliant with the requirements of the methods used, except where noted by the laboratory in the attached exception reports. By my signature below, I affirm to the best of my knowledge, all problems/anomalies, observed by the laboratory have been identified by the laboratory in the Laboratory Review Checklist, and no information affecting the quality of the data has been knowingly withheld.

Check, if applicable: [NA] This laboratory meets an exception under 30 TAC §25.6 and was last inspected by [ ] TCEQ or [ ] _____ on (enter date of last inspection). Any findings affecting the data in this laboratory data package are noted in the Exception Reports herein. The official signing the cover page of the report in which these data are used is responsible for releasing this data package and is by signature affirming the above release statement is true.

Dane J. Wacasey

Laboratory Review Checklist: Reportable Data							
Laboratory Name: ALS Laboratory Group			LRC Date: 02/05/2016				
Project Name: 1620-10-Rev1 HoustonTX-Wood			Laboratory Job Number: HS16020138				
Reviewer Name: Dane Wacasey			Prep Batch Number(s): 101145, 101155, R268754				
#[1]	A[2]	Description	Yes	No	NA[3]	NR[4]	ER#[5]
R1	OI	**Chain-of-custody (C-O-C)**					
		Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?	X				
		Were all departures from standard conditions described in an exception report?	X				
R2	OI	**Sample and quality control (QC) identification**					
		Are all field sample ID numbers cross-referenced to the laboratory ID numbers?	X				
		Are all laboratory ID numbers cross-referenced to the corresponding QC data?	X				
R3	OI	**Test reports**					
		Were all samples prepared and analyzed within holding times?	X				
		Other than those results < MQL, were all other raw values bracketed by calibration standards?	X				
		Were calculations checked by a peer or supervisor?	X				
		Were all analyte identifications checked by a peer or supervisor?	X				
		Were sample detection limits reported for all analytes not detected?	X				
		Were all results for soil and sediment samples reported on a dry weight basis?	X				
		Were % moisture (or solids) reported for all soil and sediment samples?	X				
		Were bulk soils/solids samples for volatile analysis extracted with methanol per SW-846 Method 5035?			X		
		If required for the project, TICs reported?			X		
R4	O	**Surrogate recovery data**					
		Were surrogates added prior to extraction?	X				
		Were surrogate percent recoveries in all samples within the laboratory QC limits?		X			1
R5	OI	**Test reports/summary forms for blank samples**					
		Were appropriate type(s) of blanks analyzed?	X				
		Were blanks analyzed at the appropriate frequency?	X				
		Were method blanks taken through the entire analytical process, including preparation and, if applicable, cleanup procedures?	X				
		Were blank concentrations < MQL?	X				
R6	OI	**Laboratory control samples (LCS):**					
		Were all COCs included in the LCS?	X				
		Was each LCS taken through the entire analytical procedure, including prep and cleanup steps?	X				
		Were LCSs analyzed at the required frequency?	X				
		Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?	X				
		Does the detectability data document the laboratory's capability to detect the COCs at the MDL used to calculate the SDLs?	X				
		Was the LCSD RPD within QC limits?	X				
R7	OI	**Matrix spike (MS) and matrix spike duplicate (MSD) data**					
		Were the project/method specified analytes included in the MS and MSD?	X				
		Were MS/MSD analyzed at the appropriate frequency?	X				
		Were MS (and MSD, if applicable) %Rs within the laboratory QC limits?		X			2
		Were MS/MSD RPDs within laboratory QC limits?		X			3
R8	OI	**Analytical duplicate data**					
		Were appropriate analytical duplicates analyzed for each matrix?	X				
		Were analytical duplicates analyzed at the appropriate frequency?	X				
		Were RPDs or relative standard deviations within the laboratory QC limits?	X				
R9	OI	**Method quantitation limits (MQLs):**					
		Are the MQLs for each method analyte included in the laboratory data package?	X				
		Do the MQLs correspond to the concentration of the lowest non-zero calibration standard?	X				
		Are unadjusted MQLs and DCSs included in the laboratory data package?	X				
R10	OI	**Other problems/anomalies**					
		Are all known problems/anomalies/special conditions noted in this LRC and ER?	X				
		Were all necessary corrective actions performed for the reported data?	X				
		Was applicable and available technology used to lower the SDL and minimize the matrix interference affects on the sample results?	X				
		Is the laboratory NELAC-accredited under the Texas Laboratory Program for the analytes, matrices and methods associated with this laboratory data package?	X				

Laboratory Review Checklist: Reportable Data							
Laboratory Name: ALS Laboratory Group			LRC Date: 02/05/2016				
Project Name: 1620-10-Rev1 HoustonTX-Wood			Laboratory Job Number: HS16020138				
Reviewer Name: Dane Wacasey			Prep Batch Number(s): 101145, 101155, R268754				
#[1]	A[2]	Description	Yes	No	NA[3]	NR[4]	ER#[5]
S1	OI	**Initial calibration (ICAL)**					
		Were response factors and/or relative response factors for each analyte within QC limits?	X				
		Were percent RSDs or correlation coefficient criteria met?	X				
		Was the number of standards recommended in the method used for all analytes?	X				
		Were all points generated between the lowest and highest standard used to calculate the curve?	X				
		Are ICAL data available for all instruments used?	X				
		Has the initial calibration curve been verified using an appropriate second source standard?	X				
S2	OI	**Initial and continuing calibration verification (ICCV and CCV) and continuing calibration blank (CCB)**					
		Was the CCV analyzed at the method-required frequency?	X				
		Were percent differences for each analyte within the method-required QC limits?	X				
		Was the ICAL curve verified for each analyte?	X				
		Was the absolute value of the analyte concentration in the inorganic CCB < MDL?	X				
S3	O	**Mass spectral tuning:**					
		Was the appropriate compound for the method used for tuning?	X				
		Were ion abundance data within the method-required QC limits?	X				
S4	O	**Internal standards (IS):**					
		Were IS area counts and retention times within the method-required QC limits?	X				
S5	OI	**Raw data** (NELAC section 1 appendix A glossary, and section 5.12 or ISO/IEC 17025 section					
		Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst?	X				
		Were data associated with manual integrations flagged on the raw data?	X				
S6	O	**Dual column confirmation**					
		Did dual column confirmation results meet the method-required QC?			X		
S7	O	**Tentatively identified compounds (TICs):**					
		If TICs were requested, were the mass spectra and TIC data subject to appropriate checks?			X		
S8	I	**Interference Check Sample (ICS) results:**					
		Were percent recoveries within method QC limits?	X				
S9	I	**Serial dilutions, post digestion spikes, and method of standard additions**					
		Were percent differences, recoveries, and the linearity within the QC limits specified in the method?	X				
S10	OI	**Method detection limit (MDL) studies**					
		Was a MDL study performed for each reported analyte?	X				
		Is the MDL either adjusted or supported by the analysis of DCSs?	X				
S11	OI	**Proficiency test reports:**					
		Was the laboratory's performance acceptable on the applicable proficiency tests or evaluation studies?	X				
S12	OI	**Standards documentation**					
		Are all standards used in the analyses NIST-traceable or obtained from other appropriate sources?	X				
S13	OI	**Compound/analyte identification procedures**					
		Are the procedures for compound/analyte identification documented?	X				
S14	OI	**Demonstration of analyst competency (DOC)**					
		Was DOC conducted consistent with NELAC Chapter 5C or ISO/IEC 4?	X				
		Is documentation of the analyst's competency up-to-date and on file?	X				
S15	OI	**Verification/validation documentation for methods** (NELAC Chap 5 or ISO/IEC 17025 Section 5)					
		Are all the methods used to generate the data documented, verified, and validated, where applicable?	X				
S16	OI	**Laboratory standard operating procedures (SOPs):**					
		Are laboratory SOPs current and on file for each method performed?	X				

Items identified by the letter "R" must be included in the laboratory data package submitted in the TRRP-required report(s). Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period.
O = Organic Analyses; I = Inorganic Analyses (and general chemistry, when applicable);
NA = Not Applicable;
NR = Not Reviewed;
R# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

Laboratory Review Checklist: Reportable Data	
Laboratory Name: ALS Laboratory Group	LRC Date: 02/05/2016
Project Name: 1620-10-Rev1 HoustonTX-Wood	Laboratory Job Number: HS16020138
Reviewer Name: Dane Wacasey	Prep Batch Number(s): 101145, 101155, R268754

ER#[5]	Description
1	Batch 101145, Low-Level Semivolatiles by Method SW8270, Sample SO-1620-SB212(0-5)-20160203: Surrogate recoveries were diluted out in the 50X, 10X and 200X dilutions. Batch 101145, Low-Level Semivolatiles by Method SW8270, Samples SO-1620-SB213(0-5)-20160203, SO-1620-SB214(0-5)-20160203, SO-1620-SB215(0-5)-20160203: Surrogate recoveries were diluted out in 25X dilution.
2	Batch 101145, Low-Level Semivolatiles by Method SW8270, Sample HS16011169-01 MS and MSD were performed on an unrelated sample.
3	Batch 101145, Low-Level Semivolatiles by Method SW8270, Sample HS16011169-01 MSD RPD is for an unrelated sample.

Items identified by the letter "R" must be included in the laboratory data package submitted in the TRRP-required report(s). Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period.
O = Organic Analyses; I = Inorganic Analyses (and general chemistry, when applicable);
NA = Not Applicable;
NR = Not Reviewed;
R# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
Work Order: HS16020138

SAMPLE SUMMARY

Lab Samp ID	Client Sample ID	Matrix	TagNo	Collection Date	Date Received	Hold
HS16020138-01	SO-1620-CSBW1(0-5)-20160202	Soil		02-Feb-2016 16:25	03-Feb-2016 15:25	☐
HS16020138-02	SO-1620-SB212(0-5)-20160203	Soil		03-Feb-2016 10:00	03-Feb-2016 15:25	☐
HS16020138-03	SO-1620-SB213(0-5)-20160203	Soil		03-Feb-2016 11:00	03-Feb-2016 15:25	☐
HS16020138-04	SO-1620-SB214(0-5)-20160203	Soil		03-Feb-2016 12:50	03-Feb-2016 15:25	☐
HS16020138-05	SO-1620-SB215(0-5)-20160203	Soil		03-Feb-2016 13:40	03-Feb-2016 15:25	☐

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
Sample ID: SO-1620-CSBW1(0-5)-20160202
Collection Date: 02-Feb-2016 16:25

ANALYTICAL REPORT
WorkOrder:HS16020138
Lab ID:HS16020138-01
Matrix:Soil

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES	**Method:SW8270**				Prep:SW3541 / 03-Feb-2016		Analyst: ACN
1,2-Diphenylhydrazine	U		0.0013	0.0075	mg/Kg-dry	1	03-Feb-2016 17:43
2,4-Dimethylphenol	U		0.0038	0.0075	mg/Kg-dry	1	03-Feb-2016 17:43
2,4-Dinitrotoluene	U		0.0010	0.0075	mg/Kg-dry	1	03-Feb-2016 17:43
2,6-Dinitrotoluene	U		0.0038	0.0075	mg/Kg-dry	1	03-Feb-2016 17:43
2-Chloronaphthalene	U		0.0015	0.0075	mg/Kg-dry	1	03-Feb-2016 17:43
2-Methylnaphthalene	**0.47**		**0.0028**	**0.019**	**mg/Kg-dry**	5	04-Feb-2016 12:41
4,6-Dinitro-2-methylphenol	U		0.0024	0.0075	mg/Kg-dry	1	03-Feb-2016 17:43
4-Nitrophenol	U		0.0022	0.015	mg/Kg-dry	1	03-Feb-2016 17:43
Acenaphthene	**0.48**		**0.0028**	**0.019**	**mg/Kg-dry**	5	04-Feb-2016 12:41
Acenaphthylene	**0.0075**		**0.0011**	**0.0038**	**mg/Kg-dry**	1	03-Feb-2016 17:43
Anthracene	**0.24**		**0.00057**	**0.0038**	**mg/Kg-dry**	1	03-Feb-2016 17:43
Benz(a)anthracene	**0.096**		**0.0018**	**0.0038**	**mg/Kg-dry**	1	03-Feb-2016 17:43
Benzo(a)pyrene	**0.033**		**0.0011**	**0.0038**	**mg/Kg-dry**	1	03-Feb-2016 17:43
Bis(2-chloroethoxy)methane	U		0.0010	0.0075	mg/Kg-dry	1	03-Feb-2016 17:43
Bis(2-ethylhexyl)phthalate	U		0.0019	0.0075	mg/Kg-dry	1	03-Feb-2016 17:43
Chrysene	**0.087**		**0.00091**	**0.0038**	**mg/Kg-dry**	1	03-Feb-2016 17:43
Dibenzofuran	**0.40**		**0.0040**	**0.019**	**mg/Kg-dry**	5	04-Feb-2016 12:41
Di-n-butyl phthalate	U		0.0014	0.0075	mg/Kg-dry	1	03-Feb-2016 17:43
Fluoranthene	**0.67**		**0.0063**	**0.019**	**mg/Kg-dry**	5	04-Feb-2016 12:41
Fluorene	**0.55**		**0.0063**	**0.019**	**mg/Kg-dry**	5	04-Feb-2016 12:41
Naphthalene	**0.74**		**0.0034**	**0.019**	**mg/Kg-dry**	5	04-Feb-2016 12:41
Nitrobenzene	U		0.0010	0.0075	mg/Kg-dry	1	03-Feb-2016 17:43
N-Nitrosodiphenylamine	U		0.00080	0.0075	mg/Kg-dry	1	03-Feb-2016 17:43
Pentachlorophenol	U		0.0038	0.0075	mg/Kg-dry	1	03-Feb-2016 17:43
Phenanthrene	**1.3**		**0.0085**	**0.019**	**mg/Kg-dry**	5	04-Feb-2016 12:41
Phenol	**0.0015**	J	**0.0013**	**0.0075**	**mg/Kg-dry**	1	03-Feb-2016 17:43
Pyrene	**0.44**		**0.0034**	**0.019**	**mg/Kg-dry**	5	04-Feb-2016 12:41
Surr: 2,4,6-Tribromophenol	*66.8*			*36-126*	*%REC*	*1*	*03-Feb-2016 17:43*
Surr: 2,4,6-Tribromophenol	*46.9*			*36-126*	*%REC*	*5*	*04-Feb-2016 12:41*
Surr: 2-Fluorobiphenyl	*82.8*			*43-125*	*%REC*	*1*	*03-Feb-2016 17:43*
Surr: 2-Fluorobiphenyl	*80.5*			*43-125*	*%REC*	*5*	*04-Feb-2016 12:41*
Surr: 2-Fluorophenol	*57.5*			*37-125*	*%REC*	*1*	*03-Feb-2016 17:43*
Surr: 2-Fluorophenol	*76.2*			*37-125*	*%REC*	*5*	*04-Feb-2016 12:41*
Surr: 4-Terphenyl-d14	*83.6*			*32-125*	*%REC*	*1*	*03-Feb-2016 17:43*
Surr: 4-Terphenyl-d14	*82.8*			*32-125*	*%REC*	*5*	*04-Feb-2016 12:41*
Surr: Nitrobenzene-d5	*85.4*			*37-125*	*%REC*	*1*	*03-Feb-2016 17:43*
Surr: Nitrobenzene-d5	*89.7*			*37-125*	*%REC*	*5*	*04-Feb-2016 12:41*
Surr: Phenol-d6	*65.2*			*40-125*	*%REC*	*1*	*03-Feb-2016 17:43*
Surr: Phenol-d6	*66.9*			*40-125*	*%REC*	*5*	*04-Feb-2016 12:41*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
Sample ID: SO-1620-CSBW1(0-5)-20160202
Collection Date: 02-Feb-2016 16:25

ANALYTICAL REPORT
WorkOrder:HS16020138
Lab ID:HS16020138-01
Matrix:Soil

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
METALS BY SW6020A	**Method:SW6020**				Prep:SW3050A / 03-Feb-2016		Analyst: RPM
Arsenic	**6.97**		**0.111**	**0.555**	**mg/Kg-dry**	1	04-Feb-2016 11:05
Lead	**6.84**		**0.0555**	**0.555**	**mg/Kg-dry**	1	04-Feb-2016 11:05
MOISTURE - ASTM D2216	**Method:ASTM D2216**						Analyst: DFF
Percent Moisture	**12.7**		**0.0100**	**0.0100**	**wt%**	1	03-Feb-2016 16:15

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
Sample ID: SO-1620-SB212(0-5)-20160203
Collection Date: 03-Feb-2016 10:00

ANALYTICAL REPORT
WorkOrder:HS16020138
Lab ID:HS16020138-02
Matrix:Soil

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES	**Method:SW8270**				Prep:SW3541 / 03-Feb-2016		Analyst: ACN
1,2-Diphenylhydrazine	U		0.013	0.078	mg/Kg-dry	1	03-Feb-2016 18:03
2,4-Dimethylphenol	U		0.039	0.078	mg/Kg-dry	1	03-Feb-2016 18:03
2,4-Dinitrotoluene	U		0.011	0.078	mg/Kg-dry	1	03-Feb-2016 18:03
2,6-Dinitrotoluene	U		0.039	0.078	mg/Kg-dry	1	03-Feb-2016 18:03
2-Chloronaphthalene	U		0.015	0.078	mg/Kg-dry	1	03-Feb-2016 18:03
2-Methylnaphthalene	**82**		**0.30**	**2.0**	**mg/Kg-dry**	50	04-Feb-2016 13:21
4,6-Dinitro-2-methylphenol	U		0.025	0.078	mg/Kg-dry	1	03-Feb-2016 18:03
4-Nitrophenol	U		0.022	0.16	mg/Kg-dry	1	03-Feb-2016 18:03
Acenaphthene	**92**		**0.30**	**2.0**	**mg/Kg-dry**	50	04-Feb-2016 13:21
Acenaphthylene	**0.77**		**0.012**	**0.039**	**mg/Kg-dry**	1	03-Feb-2016 18:03
Anthracene	**38**		**0.059**	**0.39**	**mg/Kg-dry**	10	04-Feb-2016 16:02
Benz(a)anthracene	**11**		**0.19**	**0.39**	**mg/Kg-dry**	10	04-Feb-2016 16:02
Benzo(a)pyrene	**2.6**		**0.012**	**0.039**	**mg/Kg-dry**	1	03-Feb-2016 18:03
Bis(2-chloroethoxy)methane	U		0.011	0.078	mg/Kg-dry	1	03-Feb-2016 18:03
Bis(2-ethylhexyl)phthalate	**0.62**		**0.020**	**0.078**	**mg/Kg-dry**	1	03-Feb-2016 18:03
Chrysene	**11**		**0.095**	**0.39**	**mg/Kg-dry**	10	04-Feb-2016 16:02
Dibenzofuran	**72**		**0.41**	**2.0**	**mg/Kg-dry**	50	04-Feb-2016 13:21
Di-n-butyl phthalate	U		0.014	0.078	mg/Kg-dry	1	03-Feb-2016 18:03
Fluoranthene	**130**		**0.65**	**2.0**	**mg/Kg-dry**	50	04-Feb-2016 13:21
Fluorene	**110**		**0.65**	**2.0**	**mg/Kg-dry**	50	04-Feb-2016 13:21
Naphthalene	**390**		**1.4**	**7.8**	**mg/Kg-dry**	200	04-Feb-2016 15:42
Nitrobenzene	U		0.011	0.078	mg/Kg-dry	1	03-Feb-2016 18:03
N-Nitrosodiphenylamine	**0.80**		**0.0083**	**0.078**	**mg/Kg-dry**	1	03-Feb-2016 18:03
Pentachlorophenol	U		0.039	0.078	mg/Kg-dry	1	03-Feb-2016 18:03
Phenanthrene	**260**		**3.6**	**7.8**	**mg/Kg-dry**	200	04-Feb-2016 15:42
Phenol	**0.99**		**0.013**	**0.078**	**mg/Kg-dry**	1	03-Feb-2016 18:03
Pyrene	**86**		**0.36**	**2.0**	**mg/Kg-dry**	50	04-Feb-2016 13:21
Surr: 2,4,6-Tribromophenol	*43.5*			*36-126*	*%REC*	*1*	*03-Feb-2016 18:03*
Surr: 2,4,6-Tribromophenol	*0*	*S*		*36-126*	*%REC*	*50*	*04-Feb-2016 13:21*
Surr: 2,4,6-Tribromophenol	*0*	*S*		*36-126*	*%REC*	*10*	*04-Feb-2016 16:02*
Surr: 2,4,6-Tribromophenol	*0*	*S*		*36-126*	*%REC*	*200*	*04-Feb-2016 15:42*
Surr: 2-Fluorobiphenyl	*56.6*			*43-125*	*%REC*	*1*	*03-Feb-2016 18:03*
Surr: 2-Fluorobiphenyl	*0*	*S*		*43-125*	*%REC*	*50*	*04-Feb-2016 13:21*
Surr: 2-Fluorobiphenyl	*0*	*S*		*43-125*	*%REC*	*10*	*04-Feb-2016 16:02*
Surr: 2-Fluorobiphenyl	*0*	*S*		*43-125*	*%REC*	*200*	*04-Feb-2016 15:42*
Surr: 2-Fluorophenol	*80.5*			*37-125*	*%REC*	*1*	*03-Feb-2016 18:03*
Surr: 2-Fluorophenol	*0*	*S*		*37-125*	*%REC*	*50*	*04-Feb-2016 13:21*
Surr: 2-Fluorophenol	*0*	*S*		*37-125*	*%REC*	*10*	*04-Feb-2016 16:02*
Surr: 2-Fluorophenol	*0*	*S*		*37-125*	*%REC*	*200*	*04-Feb-2016 15:42*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
Sample ID: SO-1620-SB212(0-5)-20160203
Collection Date: 03-Feb-2016 10:00

ANALYTICAL REPORT
WorkOrder:HS16020138
Lab ID:HS16020138-02
Matrix:Soil

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES		**Method:SW8270**			Prep:SW3541 / 03-Feb-2016		Analyst: ACN
Surr: 4-Terphenyl-d14	*87.4*			*32-125*	*%REC*	*1*	*03-Feb-2016 18:03*
Surr: 4-Terphenyl-d14	*0*	*S*		*32-125*	*%REC*	*50*	*04-Feb-2016 13:21*
Surr: 4-Terphenyl-d14	*0*	*S*		*32-125*	*%REC*	*10*	*04-Feb-2016 16:02*
Surr: 4-Terphenyl-d14	*0*	*S*		*32-125*	*%REC*	*200*	*04-Feb-2016 15:42*
Surr: Nitrobenzene-d5	*0*	*S*		*37-125*	*%REC*	*10*	*04-Feb-2016 16:02*
Surr: Nitrobenzene-d5	*93.8*			*37-125*	*%REC*	*1*	*03-Feb-2016 18:03*
Surr: Nitrobenzene-d5	*0*	*S*		*37-125*	*%REC*	*50*	*04-Feb-2016 13:21*
Surr: Nitrobenzene-d5	*0*	*S*		*37-125*	*%REC*	*200*	*04-Feb-2016 15:42*
Surr: Phenol-d6	*0*	*S*		*40-125*	*%REC*	*200*	*04-Feb-2016 15:42*
Surr: Phenol-d6	*0*	*S*		*40-125*	*%REC*	*10*	*04-Feb-2016 16:02*
Surr: Phenol-d6	*0*	*S*		*40-125*	*%REC*	*50*	*04-Feb-2016 13:21*
Surr: Phenol-d6	*116*			*40-125*	*%REC*	*1*	*03-Feb-2016 18:03*
METALS BY SW6020A		**Method:SW6020**			Prep:SW3050A / 03-Feb-2016		Analyst: RPM
Arsenic	**1.46**		**0.110**	**0.552**	**mg/Kg-dry**	1	04-Feb-2016 11:27
Lead	**7.56**		**0.0552**	**0.552**	**mg/Kg-dry**	1	04-Feb-2016 11:27
MOISTURE - ASTM D2216		**Method:ASTM D2216**					Analyst: DFF
Percent Moisture	**15.8**		**0.0100**	**0.0100**	**wt%**	1	03-Feb-2016 16:15

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
Sample ID: SO-1620-SB213(0-5)-20160203
Collection Date: 03-Feb-2016 11:00

ANALYTICAL REPORT
WorkOrder:HS16020138
Lab ID:HS16020138-03
Matrix:Soil

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES	**Method:SW8270**				Prep:SW3541 / 03-Feb-2016		Analyst: ACN
1,2-Diphenylhydrazine	U		0.013	0.078	mg/Kg-dry	1	03-Feb-2016 18:23
2,4-Dimethylphenol	U		0.039	0.078	mg/Kg-dry	1	03-Feb-2016 18:23
2,4-Dinitrotoluene	U		0.011	0.078	mg/Kg-dry	1	03-Feb-2016 18:23
2,6-Dinitrotoluene	U		0.039	0.078	mg/Kg-dry	1	03-Feb-2016 18:23
2-Chloronaphthalene	U		0.015	0.078	mg/Kg-dry	1	03-Feb-2016 18:23
2-Methylnaphthalene	**1.8**		**0.0059**	**0.039**	**mg/Kg-dry**	1	03-Feb-2016 18:23
4,6-Dinitro-2-methylphenol	U		0.025	0.078	mg/Kg-dry	1	03-Feb-2016 18:23
4-Nitrophenol	U		0.022	0.16	mg/Kg-dry	1	03-Feb-2016 18:23
Acenaphthene	**3.7**		**0.0059**	**0.039**	**mg/Kg-dry**	1	03-Feb-2016 18:23
Acenaphthylene	**3.3**		**0.059**	**0.20**	**mg/Kg-dry**	5	04-Feb-2016 13:41
Anthracene	**10.0**		**0.030**	**0.20**	**mg/Kg-dry**	5	04-Feb-2016 13:41
Benz(a)anthracene	**8.4**		**0.095**	**0.20**	**mg/Kg-dry**	5	04-Feb-2016 13:41
Benzo(a)pyrene	**11**		**0.059**	**0.20**	**mg/Kg-dry**	5	04-Feb-2016 13:41
Bis(2-chloroethoxy)methane	U		0.011	0.078	mg/Kg-dry	1	03-Feb-2016 18:23
Bis(2-ethylhexyl)phthalate	**2.3**		**0.020**	**0.078**	**mg/Kg-dry**	1	03-Feb-2016 18:23
Chrysene	**15**		**0.047**	**0.20**	**mg/Kg-dry**	5	04-Feb-2016 13:41
Dibenzofuran	**2.7**		**0.0083**	**0.039**	**mg/Kg-dry**	1	03-Feb-2016 18:23
Di-n-butyl phthalate	U		0.014	0.078	mg/Kg-dry	1	03-Feb-2016 18:23
Fluoranthene	**51**		**0.33**	**0.98**	**mg/Kg-dry**	25	04-Feb-2016 14:01
Fluorene	**4.5**		**0.065**	**0.20**	**mg/Kg-dry**	5	04-Feb-2016 13:41
Naphthalene	**5.0**		**0.036**	**0.20**	**mg/Kg-dry**	5	04-Feb-2016 13:41
Nitrobenzene	U		0.011	0.078	mg/Kg-dry	1	03-Feb-2016 18:23
N-Nitrosodiphenylamine	U		0.0083	0.078	mg/Kg-dry	1	03-Feb-2016 18:23
Pentachlorophenol	**0.23**		**0.039**	**0.078**	**mg/Kg-dry**	1	03-Feb-2016 18:23
Phenanthrene	**17**		**0.089**	**0.20**	**mg/Kg-dry**	5	04-Feb-2016 13:41
Phenol	**0.35**		**0.013**	**0.078**	**mg/Kg-dry**	1	03-Feb-2016 18:23
Pyrene	**39**		**0.18**	**0.98**	**mg/Kg-dry**	25	04-Feb-2016 14:01
Surr: 2,4,6-Tribromophenol	*0*	*S*	*36-126*		*%REC*	*25*	*04-Feb-2016 14:01*
Surr: 2,4,6-Tribromophenol	*62.6*		*36-126*		*%REC*	*5*	*04-Feb-2016 13:41*
Surr: 2,4,6-Tribromophenol	*88.4*		*36-126*		*%REC*	*1*	*03-Feb-2016 18:23*
Surr: 2-Fluorobiphenyl	*89.4*		*43-125*		*%REC*	*5*	*04-Feb-2016 13:41*
Surr: 2-Fluorobiphenyl	*0*	*S*	*43-125*		*%REC*	*25*	*04-Feb-2016 14:01*
Surr: 2-Fluorobiphenyl	*110*		*43-125*		*%REC*	*1*	*03-Feb-2016 18:23*
Surr: 2-Fluorophenol	*70.6*		*37-125*		*%REC*	*1*	*03-Feb-2016 18:23*
Surr: 2-Fluorophenol	*0*	*S*	*37-125*		*%REC*	*25*	*04-Feb-2016 14:01*
Surr: 2-Fluorophenol	*69.8*		*37-125*		*%REC*	*5*	*04-Feb-2016 13:41*
Surr: 4-Terphenyl-d14	*115*		*32-125*		*%REC*	*5*	*04-Feb-2016 13:41*
Surr: 4-Terphenyl-d14	*0*	*S*	*32-125*		*%REC*	*25*	*04-Feb-2016 14:01*
Surr: 4-Terphenyl-d14	*92.7*		*32-125*		*%REC*	*1*	*03-Feb-2016 18:23*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
Sample ID: SO-1620-SB213(0-5)-20160203
Collection Date: 03-Feb-2016 11:00

ANALYTICAL REPORT
WorkOrder:HS16020138
Lab ID:HS16020138-03
Matrix:Soil

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES		**Method:SW8270**			Prep:SW3541 / 03-Feb-2016		Analyst: ACN
Surr: Nitrobenzene-d5	*0*	*S*		*37-125*	*%REC*	*25*	*04-Feb-2016 14:01*
Surr: Nitrobenzene-d5	*103*			*37-125*	*%REC*	*5*	*04-Feb-2016 13:41*
Surr: Nitrobenzene-d5	*95.0*			*37-125*	*%REC*	*1*	*03-Feb-2016 18:23*
Surr: Phenol-d6	*97.2*			*40-125*	*%REC*	*1*	*03-Feb-2016 18:23*
Surr: Phenol-d6	*70.0*			*40-125*	*%REC*	*5*	*04-Feb-2016 13:41*
Surr: Phenol-d6	*0*	*S*		*40-125*	*%REC*	*25*	*04-Feb-2016 14:01*
METALS BY SW6020A		**Method:SW6020**			Prep:SW3050A / 03-Feb-2016		Analyst: RPM
Arsenic	**7.18**		**0.118**	**0.589**	**mg/Kg-dry**	1	04-Feb-2016 11:30
Lead	**107**		**0.0589**	**0.589**	**mg/Kg-dry**	1	04-Feb-2016 11:30
MOISTURE - ASTM D2216		**Method:ASTM D2216**					Analyst: DFF
Percent Moisture	**15.9**		**0.0100**	**0.0100**	**wt%**	1	03-Feb-2016 16:15

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
Sample ID: SO-1620-SB214(0-5)-20160203
Collection Date: 03-Feb-2016 12:50

ANALYTICAL REPORT
WorkOrder:HS16020138
Lab ID:HS16020138-04
Matrix:Soil

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES	**Method:SW8270**				Prep:SW3541 / 03-Feb-2016		Analyst: ACN
1,2-Diphenylhydrazine	U		0.013	0.075	mg/Kg-dry	1	03-Feb-2016 18:43
2,4-Dimethylphenol	U		0.038	0.075	mg/Kg-dry	1	03-Feb-2016 18:43
2,4-Dinitrotoluene	U		0.010	0.075	mg/Kg-dry	1	03-Feb-2016 18:43
2,6-Dinitrotoluene	U		0.038	0.075	mg/Kg-dry	1	03-Feb-2016 18:43
2-Chloronaphthalene	U		0.015	0.075	mg/Kg-dry	1	03-Feb-2016 18:43
2-Methylnaphthalene	**2.9**		**0.0057**	**0.038**	**mg/Kg-dry**	1	03-Feb-2016 18:43
4,6-Dinitro-2-methylphenol	U		0.024	0.075	mg/Kg-dry	1	03-Feb-2016 18:43
4-Nitrophenol	U		0.022	0.15	mg/Kg-dry	1	03-Feb-2016 18:43
Acenaphthene	**6.6**		**0.029**	**0.19**	**mg/Kg-dry**	5	04-Feb-2016 14:21
Acenaphthylene	**2.2**		**0.011**	**0.038**	**mg/Kg-dry**	1	03-Feb-2016 18:43
Anthracene	**6.2**		**0.029**	**0.19**	**mg/Kg-dry**	5	04-Feb-2016 14:21
Benz(a)anthracene	**8.8**		**0.091**	**0.19**	**mg/Kg-dry**	5	04-Feb-2016 14:21
Benzo(a)pyrene	**4.8**		**0.057**	**0.19**	**mg/Kg-dry**	5	04-Feb-2016 14:21
Bis(2-chloroethoxy)methane	U		0.010	0.075	mg/Kg-dry	1	03-Feb-2016 18:43
Bis(2-ethylhexyl)phthalate	**0.45**		**0.019**	**0.075**	**mg/Kg-dry**	1	03-Feb-2016 18:43
Chrysene	**10**		**0.046**	**0.19**	**mg/Kg-dry**	5	04-Feb-2016 14:21
Dibenzofuran	**2.3**		**0.0080**	**0.038**	**mg/Kg-dry**	1	03-Feb-2016 18:43
Di-n-butyl phthalate	U		0.014	0.075	mg/Kg-dry	1	03-Feb-2016 18:43
Fluoranthene	**49**		**0.31**	**0.94**	**mg/Kg-dry**	25	04-Feb-2016 14:42
Fluorene	**5.1**		**0.063**	**0.19**	**mg/Kg-dry**	5	04-Feb-2016 14:21
Naphthalene	**12**		**0.034**	**0.19**	**mg/Kg-dry**	5	04-Feb-2016 14:21
Nitrobenzene	U		0.010	0.075	mg/Kg-dry	1	03-Feb-2016 18:43
N-Nitrosodiphenylamine	U		0.0080	0.075	mg/Kg-dry	1	03-Feb-2016 18:43
Pentachlorophenol	**0.41**		**0.038**	**0.075**	**mg/Kg-dry**	1	03-Feb-2016 18:43
Phenanthrene	**28**		**0.43**	**0.94**	**mg/Kg-dry**	25	04-Feb-2016 14:42
Phenol	**0.16**		**0.013**	**0.075**	**mg/Kg-dry**	1	03-Feb-2016 18:43
Pyrene	**40**		**0.17**	**0.94**	**mg/Kg-dry**	25	04-Feb-2016 14:42
Surr: 2,4,6-Tribromophenol	*85.8*			*36-126*	*%REC*	*5*	*04-Feb-2016 14:21*
Surr: 2,4,6-Tribromophenol	*0*	*S*		*36-126*	*%REC*	*25*	*04-Feb-2016 14:42*
Surr: 2,4,6-Tribromophenol	*67.3*			*36-126*	*%REC*	*1*	*03-Feb-2016 18:43*
Surr: 2-Fluorobiphenyl	*72.2*			*43-125*	*%REC*	*1*	*03-Feb-2016 18:43*
Surr: 2-Fluorobiphenyl	*0*	*S*		*43-125*	*%REC*	*25*	*04-Feb-2016 14:42*
Surr: 2-Fluorobiphenyl	*94.0*			*43-125*	*%REC*	*5*	*04-Feb-2016 14:21*
Surr: 2-Fluorophenol	*93.2*			*37-125*	*%REC*	*5*	*04-Feb-2016 14:21*
Surr: 2-Fluorophenol	*0*	*S*		*37-125*	*%REC*	*25*	*04-Feb-2016 14:42*
Surr: 2-Fluorophenol	*71.2*			*37-125*	*%REC*	*1*	*03-Feb-2016 18:43*
Surr: 4-Terphenyl-d14	*102*			*32-125*	*%REC*	*1*	*03-Feb-2016 18:43*
Surr: 4-Terphenyl-d14	*0*	*S*		*32-125*	*%REC*	*25*	*04-Feb-2016 14:42*
Surr: 4-Terphenyl-d14	*193*	*S*		*32-125*	*%REC*	*5*	*04-Feb-2016 14:21*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
Sample ID: SO-1620-SB214(0-5)-20160203
Collection Date: 03-Feb-2016 12:50

ANALYTICAL REPORT
WorkOrder:HS16020138
Lab ID:HS16020138-04
Matrix:Soil

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES		**Method:SW8270**			Prep:SW3541 / 03-Feb-2016		Analyst: ACN
Surr: Nitrobenzene-d5	*162*	*S*		*37-125*	*%REC*	*5*	*04-Feb-2016 14:21*
Surr: Nitrobenzene-d5	*0*	*S*		*37-125*	*%REC*	*25*	*04-Feb-2016 14:42*
Surr: Nitrobenzene-d5	*94.3*			*37-125*	*%REC*	*1*	*03-Feb-2016 18:43*
Surr: Phenol-d6	*106*			*40-125*	*%REC*	*1*	*03-Feb-2016 18:43*
Surr: Phenol-d6	*135*	*S*		*40-125*	*%REC*	*5*	*04-Feb-2016 14:21*
Surr: Phenol-d6	*0*	*S*		*40-125*	*%REC*	*25*	*04-Feb-2016 14:42*
METALS BY SW6020A		**Method:SW6020**			Prep:SW3050A / 03-Feb-2016		Analyst: RPM
Arsenic	**5.09**		**0.115**	**0.573**	**mg/Kg-dry**	1	04-Feb-2016 11:33
Lead	**76.3**		**0.0573**	**0.573**	**mg/Kg-dry**	1	04-Feb-2016 11:33
MOISTURE - ASTM D2216		**Method:ASTM D2216**					Analyst: DFF
Percent Moisture	**13.0**		**0.0100**	**0.0100**	**wt%**	1	03-Feb-2016 16:15

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
Sample ID: SO-1620-SB215(0-5)-20160203
Collection Date: 03-Feb-2016 13:40

ANALYTICAL REPORT
WorkOrder:HS16020138
Lab ID:HS16020138-05
Matrix:Soil

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES	**Method:SW8270**				Prep:SW3541 / 03-Feb-2016		Analyst: ACN
1,2-Diphenylhydrazine	U		0.012	0.073	mg/Kg-dry	1	03-Feb-2016 19:03
2,4-Dimethylphenol	U		0.037	0.073	mg/Kg-dry	1	03-Feb-2016 19:03
2,4-Dinitrotoluene	U		0.010	0.073	mg/Kg-dry	1	03-Feb-2016 19:03
2,6-Dinitrotoluene	U		0.037	0.073	mg/Kg-dry	1	03-Feb-2016 19:03
2-Chloronaphthalene	U		0.014	0.073	mg/Kg-dry	1	03-Feb-2016 19:03
2-Methylnaphthalene	**11**		**0.028**	**0.18**	**mg/Kg-dry**	5	04-Feb-2016 15:02
4,6-Dinitro-2-methylphenol	U		0.023	0.073	mg/Kg-dry	1	03-Feb-2016 19:03
4-Nitrophenol	U		0.021	0.15	mg/Kg-dry	1	03-Feb-2016 19:03
Acenaphthene	**15**		**0.028**	**0.18**	**mg/Kg-dry**	5	04-Feb-2016 15:02
Acenaphthylene	**1.1**		**0.011**	**0.037**	**mg/Kg-dry**	1	03-Feb-2016 19:03
Anthracene	**10.0**		**0.028**	**0.18**	**mg/Kg-dry**	5	04-Feb-2016 15:02
Benz(a)anthracene	**4.0**		**0.089**	**0.18**	**mg/Kg-dry**	5	04-Feb-2016 15:02
Benzo(a)pyrene	**1.4**		**0.011**	**0.037**	**mg/Kg-dry**	1	03-Feb-2016 19:03
Bis(2-chloroethoxy)methane	U		0.010	0.073	mg/Kg-dry	1	03-Feb-2016 19:03
Bis(2-ethylhexyl)phthalate	**0.46**		**0.019**	**0.073**	**mg/Kg-dry**	1	03-Feb-2016 19:03
Chrysene	**3.5**		**0.044**	**0.18**	**mg/Kg-dry**	5	04-Feb-2016 15:02
Dibenzofuran	**12**		**0.039**	**0.18**	**mg/Kg-dry**	5	04-Feb-2016 15:02
Di-n-butyl phthalate	U		0.013	0.073	mg/Kg-dry	1	03-Feb-2016 19:03
Fluoranthene	**29**		**0.31**	**0.92**	**mg/Kg-dry**	25	04-Feb-2016 15:22
Fluorene	**22**		**0.31**	**0.92**	**mg/Kg-dry**	25	04-Feb-2016 15:22
Naphthalene	**12**		**0.033**	**0.18**	**mg/Kg-dry**	5	04-Feb-2016 15:02
Nitrobenzene	U		0.010	0.073	mg/Kg-dry	1	03-Feb-2016 19:03
N-Nitrosodiphenylamine	**0.33**		**0.0078**	**0.073**	**mg/Kg-dry**	1	03-Feb-2016 19:03
Pentachlorophenol	**0.25**		**0.037**	**0.073**	**mg/Kg-dry**	1	03-Feb-2016 19:03
Phenanthrene	**47**		**0.42**	**0.92**	**mg/Kg-dry**	25	04-Feb-2016 15:22
Phenol	**0.10**		**0.012**	**0.073**	**mg/Kg-dry**	1	03-Feb-2016 19:03
Pyrene	**17**		**0.033**	**0.18**	**mg/Kg-dry**	5	04-Feb-2016 15:02
Surr: 2,4,6-Tribromophenol	*66.4*			*36-126*	*%REC*	*1*	*03-Feb-2016 19:03*
Surr: 2,4,6-Tribromophenol	*0*	*S*		*36-126*	*%REC*	*25*	*04-Feb-2016 15:22*
Surr: 2,4,6-Tribromophenol	*91.4*			*36-126*	*%REC*	*5*	*04-Feb-2016 15:02*
Surr: 2-Fluorobiphenyl	*87.3*			*43-125*	*%REC*	*5*	*04-Feb-2016 15:02*
Surr: 2-Fluorobiphenyl	*0*	*S*		*43-125*	*%REC*	*25*	*04-Feb-2016 15:22*
Surr: 2-Fluorobiphenyl	*79.1*			*43-125*	*%REC*	*1*	*03-Feb-2016 19:03*
Surr: 2-Fluorophenol	*66.9*			*37-125*	*%REC*	*1*	*03-Feb-2016 19:03*
Surr: 2-Fluorophenol	*0*	*S*		*37-125*	*%REC*	*25*	*04-Feb-2016 15:22*
Surr: 2-Fluorophenol	*72.0*			*37-125*	*%REC*	*5*	*04-Feb-2016 15:02*
Surr: 4-Terphenyl-d14	*0*	*S*		*32-125*	*%REC*	*25*	*04-Feb-2016 15:22*
Surr: 4-Terphenyl-d14	*123*			*32-125*	*%REC*	*1*	*03-Feb-2016 19:03*
Surr: 4-Terphenyl-d14	*109*			*32-125*	*%REC*	*5*	*04-Feb-2016 15:02*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
Sample ID: SO-1620-SB215(0-5)-20160203
Collection Date: 03-Feb-2016 13:40

ANALYTICAL REPORT
WorkOrder:HS16020138
Lab ID:HS16020138-05
Matrix:Soil

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES		**Method:SW8270**			Prep:SW3541 / 03-Feb-2016		Analyst: ACN
Surr: Nitrobenzene-d5	*0*	*S*		*37-125*	*%REC*	*25*	*04-Feb-2016 15:22*
Surr: Nitrobenzene-d5	*120*			*37-125*	*%REC*	*1*	*03-Feb-2016 19:03*
Surr: Nitrobenzene-d5	*122*			*37-125*	*%REC*	*5*	*04-Feb-2016 15:02*
Surr: Phenol-d6	*70.3*			*40-125*	*%REC*	*5*	*04-Feb-2016 15:02*
Surr: Phenol-d6	*89.2*			*40-125*	*%REC*	*1*	*03-Feb-2016 19:03*
Surr: Phenol-d6	*0*	*S*		*40-125*	*%REC*	*25*	*04-Feb-2016 15:22*
METALS BY SW6020A		**Method:SW6020**			Prep:SW3050A / 03-Feb-2016		Analyst: RPM
Arsenic	**6.58**		**0.110**	**0.548**	**mg/Kg-dry**	1	04-Feb-2016 11:36
Lead	**108**		**0.0548**	**0.548**	**mg/Kg-dry**	1	04-Feb-2016 11:36
MOISTURE - ASTM D2216		**Method:ASTM D2216**					Analyst: DFF
Percent Moisture	**10.2**		**0.0100**	**0.0100**	**wt%**	1	03-Feb-2016 16:15

Note: See Qualifiers Page for a list of qualifiers and their explanation.

WEIGHT LOG

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
WorkOrder: HS16020138

Batch ID: 101145 **Method:** LOW-LEVEL SEMIVOLATILES **Prep:** 3541_B_LOW

SampID	Container	Sample Wt/Vol	Final Volume	Prep Factor
HS16020138-01	1	30.15	1 (mL)	0.03317
HS16020138-02	1	30.09	10 (mL)	0.3323
HS16020138-03	1	30.14	10 (mL)	0.3318
HS16020138-04	1	30.18	10 (mL)	0.3313
HS16020138-05	1	30.11	10 (mL)	0.3321

Batch ID: 101155 **Method:** METALS BY SW6020A **Prep:** 3050_I_LOW

SampID	Container	Sample Wt/Vol	Final Volume	Prep Factor
HS16020138-01	1	0.5164	50 (mL)	96.82
HS16020138-02	1	0.5375	50 (mL)	93.02
HS16020138-03	1	0.5046	50 (mL)	99.09
HS16020138-04	1	0.5019	50 (mL)	99.62
HS16020138-05	1	0.508	50 (mL)	98.43

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
WorkOrder: HS16020138

DATES REPORT

Sample ID	Client Samp ID	Collection Date	TCLP Date	Prep Date	Analysis Date	DF
Batch ID 101145	**Test Name :** LOW-LEVEL SEMIVOLATILES			**Matrix:** Soil		
HS16020138-01	SO-1620-CSBW1(0-5)-20160202	02 Feb 2016 16:25		03 Feb 2016 12:11	04 Feb 2016 12:41	5
HS16020138-01	SO-1620-CSBW1(0-5)-20160202	02 Feb 2016 16:25		03 Feb 2016 12:11	03 Feb 2016 17:43	1
HS16020138-02	SO-1620-SB212(0-5)-20160203	03 Feb 2016 10:00		03 Feb 2016 12:11	04 Feb 2016 16:02	10
HS16020138-02	SO-1620-SB212(0-5)-20160203	03 Feb 2016 10:00		03 Feb 2016 12:11	04 Feb 2016 15:42	200
HS16020138-02	SO-1620-SB212(0-5)-20160203	03 Feb 2016 10:00		03 Feb 2016 12:11	04 Feb 2016 13:21	50
HS16020138-02	SO-1620-SB212(0-5)-20160203	03 Feb 2016 10:00		03 Feb 2016 12:11	03 Feb 2016 18:03	1
HS16020138-03	SO-1620-SB213(0-5)-20160203	03 Feb 2016 11:00		03 Feb 2016 12:11	04 Feb 2016 14:01	25
HS16020138-03	SO-1620-SB213(0-5)-20160203	03 Feb 2016 11:00		03 Feb 2016 12:11	04 Feb 2016 13:41	5
HS16020138-03	SO-1620-SB213(0-5)-20160203	03 Feb 2016 11:00		03 Feb 2016 12:11	03 Feb 2016 18:23	1
HS16020138-04	SO-1620-SB214(0-5)-20160203	03 Feb 2016 12:50		03 Feb 2016 12:11	04 Feb 2016 14:42	25
HS16020138-04	SO-1620-SB214(0-5)-20160203	03 Feb 2016 12:50		03 Feb 2016 12:11	04 Feb 2016 14:21	5
HS16020138-04	SO-1620-SB214(0-5)-20160203	03 Feb 2016 12:50		03 Feb 2016 12:11	03 Feb 2016 18:43	1
HS16020138-05	SO-1620-SB215(0-5)-20160203	03 Feb 2016 13:40		03 Feb 2016 12:11	04 Feb 2016 15:22	25
HS16020138-05	SO-1620-SB215(0-5)-20160203	03 Feb 2016 13:40		03 Feb 2016 12:11	04 Feb 2016 15:02	5
HS16020138-05	SO-1620-SB215(0-5)-20160203	03 Feb 2016 13:40		03 Feb 2016 12:11	03 Feb 2016 19:03	1
Batch ID 101155	**Test Name :** METALS BY SW6020A			**Matrix:** Soil		
HS16020138-01	SO-1620-CSBW1(0-5)-20160202	02 Feb 2016 16:25		03 Feb 2016 20:01	04 Feb 2016 11:05	1
HS16020138-02	SO-1620-SB212(0-5)-20160203	03 Feb 2016 10:00		03 Feb 2016 20:01	04 Feb 2016 11:27	1
HS16020138-03	SO-1620-SB213(0-5)-20160203	03 Feb 2016 11:00		03 Feb 2016 20:01	04 Feb 2016 11:30	1
HS16020138-04	SO-1620-SB214(0-5)-20160203	03 Feb 2016 12:50		03 Feb 2016 20:01	04 Feb 2016 11:33	1
HS16020138-05	SO-1620-SB215(0-5)-20160203	03 Feb 2016 13:40		03 Feb 2016 20:01	04 Feb 2016 11:36	1
Batch ID R268754	**Test Name :** MOISTURE - ASTM D2216			**Matrix:** Soil		
HS16020138-01	SO-1620-CSBW1(0-5)-20160202	02 Feb 2016 16:25			03 Feb 2016 16:15	1
HS16020138-02	SO-1620-SB212(0-5)-20160203	03 Feb 2016 10:00			03 Feb 2016 16:15	1
HS16020138-03	SO-1620-SB213(0-5)-20160203	03 Feb 2016 11:00			03 Feb 2016 16:15	1
HS16020138-04	SO-1620-SB214(0-5)-20160203	03 Feb 2016 12:50			03 Feb 2016 16:15	1
HS16020138-05	SO-1620-SB215(0-5)-20160203	03 Feb 2016 13:40			03 Feb 2016 16:15	1

WorkOrder: HS16020138
InstrumentID: ICPMS05
Test Code: ICP_S_Low
Test Number: SW6020
Test Name: Metals by SW6020A

METHOD DETECTION / REPORTING LIMITS

Matrix: Solid **Units:** mg/Kg

Type	Analyte	CAS	DCS Spike	DCS	MDL	PQL
A	Arsenic	7440-38-2	0.100	0.114	0.100	0.500
A	Lead	7439-92-1	0.100	0.0971	0.0500	0.500

WorkOrder: HS16020138
InstrumentID: SV-7
Test Code: 8270_LOW_S
Test Number: SW8270
Test Name: Low-Level Semivolatiles

METHOD DETECTION / REPORTING LIMITS

Matrix: Solid **Units:** mg/Kg

Type	Analyte	CAS	DCS Spike	DCS	MDL	PQL
A	1,2-Diphenylhydrazine	122-66-7	0.0033	0.0029	0.0011	0.0066
A	2,4-Dimethylphenol	105-67-9	0.0033	0.00084	0.0033	0.0066
A	2,4-Dinitrotoluene	121-14-2	0.0033	0.0025	0.00090	0.0066
A	2,6-Dinitrotoluene	606-20-2	0.0033	0.0030	0.0033	0.0066
A	2-Chloronaphthalene	91-58-7	0.0033	0.0025	0.0013	0.0066
A	2-Methylnaphthalene	91-57-6	0.0033	0.0034	0.00050	0.0033
A	4,6-Dinitro-2-methylphenol	534-52-1	0.0033	0.0036	0.0021	0.0066
A	4-Nitrophenol	100-02-7	0.0033	0.0043	0.0019	0.013
A	Acenaphthene	83-32-9	0.0033	0.0029	0.00050	0.0033
A	Acenaphthene	83-32-9	0.0017	0.0015	0.00050	0.0033
A	Acenaphthylene	208-96-8	0.0017	0.0017	0.0010	0.0033
A	Acenaphthylene	208-96-8	0.0033	0.0023	0.0010	0.0033
A	Anthracene	120-12-7	0.0017	0.0017	0.00050	0.0033
A	Anthracene	120-12-7	0.0033	0.0031	0.00050	0.0033
A	Benz(a)anthracene	56-55-3	0.0033	0.0032	0.0016	0.0033
A	Benz(a)anthracene	56-55-3	0.0017	0.0020	0.0016	0.0033
A	Benzo(a)pyrene	50-32-8	0.0017	0.0018	0.0010	0.0033
A	Benzo(a)pyrene	50-32-8	0.0033	0.0032	0.0010	0.0033
A	Bis(2-chloroethoxy)methane	111-91-1	0.0033	0.0033	0.00090	0.0066
A	Bis(2-ethylhexyl)phthalate	117-81-7	0.0033	0.0060	0.0017	0.0066
A	Chrysene	218-01-9	0.0017	0.0017	0.00080	0.0033
A	Dibenzofuran	132-64-9	0.0033	0.0028	0.00070	0.0033
A	Di-n-butyl phthalate	84-74-2	0.0033	0.0038	0.0012	0.0066
A	Fluoranthene	206-44-0	0.0017	0.0019	0.0011	0.0033
A	Fluoranthene	206-44-0	0.0033	0.0038	0.0011	0.0033
A	Fluorene	86-73-7	0.0033	0.0027	0.0011	0.0033
A	Fluorene	86-73-7	0.0017	0.0015	0.0011	0.0033
A	Naphthalene	91-20-3	0.0033	0.0034	0.00060	0.0033
A	Naphthalene	91-20-3	0.0017	0.0019	0.00060	0.0033
A	Nitrobenzene	98-95-3	0.0033	0.0038	0.00090	0.0066
A	N-Nitrosodiphenylamine	86-30-6	0.0033	0.0037	0.00070	0.0066
A	Pentachlorophenol	87-86-5	0.0033	0.0023	0.0033	0.0066
A	Phenanthrene	85-01-8	0.0033	0.0031	0.0015	0.0033
A	Phenanthrene	85-01-8	0.0017	0.0017	0.0015	0.0033
A	Phenol	108-95-2	0.0033	0.0038	0.0011	0.0066
A	Pyrene	129-00-0	0.0033	0.0045	0.00060	0.0033
A	Pyrene	129-00-0	0.0017	0.0019	0.00060	0.0033
S	2,4,6-Tribromophenol	118-79-6	0	0	0	0
S	2-Fluorobiphenyl	321-60-8	0	0	0	0
S	2-Fluorophenol	367-12-4	0	0	0	0
S	4-Terphenyl-d14	1718-51-0	0	0	0	0

WorkOrder: HS16020138
InstrumentID: SV-7
Test Code: 8270_LOW_S
Test Number: SW8270
Test Name: Low-Level Semivolatiles

METHOD DETECTION / REPORTING LIMITS

Matrix: Solid **Units:** mg/Kg

Type	Analyte	CAS	DCS Spike	DCS	MDL	PQL
S	Nitrobenzene-d5	4165-60-0	0	0	0	0
S	Phenol-d6	13127-88-3	0	0	0	0

WorkOrder: HS16020138
InstrumentID: Balance1
Test Code: MOIST_ASTM
Test Number: ASTM D2216
Test Name: Moisture - ASTM D2216

METHOD DETECTION / REPORTING LIMITS

Matrix: Solid **Units:** wt%

Type	Analyte	CAS	DCS Spike	DCS	MDL	PQL
A	Percent Moisture	MOIST	0.0100	0.0100	0.0100	0.0100

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
WorkOrder: HS16020138

QC BATCH REPORT

Batch ID: 101155 **Instrument: ICPMS05** **Method: SW6020**

MBLK Sample ID: **MBLK-101155** Units: **mg/Kg** Analysis Date: **04-Feb-2016 10:59**
Client ID: Run ID: **ICPMS05_268752** SeqNo: **3575357** PrepDate: **03-Feb-2016** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	U	0.500								
Lead	U	0.500								

LCS Sample ID: **MLCS-101155** Units: **mg/Kg** Analysis Date: **04-Feb-2016 11:02**
Client ID: Run ID: **ICPMS05_268752** SeqNo: **3575358** PrepDate: **03-Feb-2016** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	8.772	0.500	10	0	87.7	80 - 120				
Lead	8.844	0.500	10	0	88.4	80 - 120				

MS Sample ID: **HS16020138-01MS** Units: **mg/Kg** Analysis Date: **04-Feb-2016 11:11**
Client ID: **SO-1620-CSBW1(0-5)-20160202** Run ID: **ICPMS05_268752** SeqNo: **3575361** PrepDate: **03-Feb-2016** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	13.77	0.494	9.874	6.089	77.8	75 - 125				
Lead	15.41	0.494	9.874	5.967	95.6	75 - 125				

MSD Sample ID: **HS16020138-01MSD** Units: **mg/Kg** Analysis Date: **04-Feb-2016 11:15**
Client ID: **SO-1620-CSBW1(0-5)-20160202** Run ID: **ICPMS05_268752** SeqNo: **3575362** PrepDate: **03-Feb-2016** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	15.03	0.487	9.748	6.089	91.7	75 - 125	13.77	8.69	20	
Lead	14.29	0.487	9.748	5.967	85.4	75 - 125	15.41	7.51	20	

PDS Sample ID: **HS16020138-01BS** Units: **mg/Kg** Analysis Date: **04-Feb-2016 11:24**
Client ID: **SO-1620-CSBW1(0-5)-20160202** Run ID: **ICPMS05_268752** SeqNo: **3575365** PrepDate: **03-Feb-2016** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	14.53	0.484	9.682	6.089	87.2	75 - 125				
Lead	14.03	0.484	9.682	5.967	83.2	75 - 125				

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
WorkOrder: HS16020138

QC BATCH REPORT

Batch ID: 101155 **Instrument: ICPMS05** **Method: SW6020**

SD Sample ID: **HS16020138-01 DIL SX** Units: **mg/Kg** Analysis Date: **04-Feb-2016 11:08**
Client ID: **SO-1620-CSBW1(0-5)-20160202** Run ID: **ICPMS05_268752** SeqNo: **3575360** PrepDate: **03-Feb-2016** DF: **5**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%D	%D Limit	Qual
Arsenic	5.986	2.42					6.089	1.69	10	
Lead	6.072	2.42					5.967	1.76	10	

The following samples were anayzed in this batch: HS16020138-01 HS16020138-02 HS16020138-03 HS16020138-04 HS16020138-05

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
WorkOrder: HS16020138

QC BATCH REPORT

Batch ID: 101145 **Instrument: SV-7** **Method: SW8270**

MBLK Sample ID: **MBLK-101145** Units: **ug/Kg** Analysis Date: **04-Feb-2016 11:39**
Client ID: Run ID: **SV-7_268798** SeqNo: **3575590** PrepDate: **03-Feb-2016** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Diphenylhydrazine	U	6.6								
2,4-Dimethylphenol	U	6.6								
2,4-Dinitrotoluene	U	6.6								
2,6-Dinitrotoluene	U	6.6								
2-Chloronaphthalene	U	6.6								
2-Methylnaphthalene	U	3.3								
4,6-Dinitro-2-methylphenol	U	6.6								
4-Nitrophenol	U	13								
Acenaphthene	U	3.3								
Acenaphthylene	U	3.3								
Anthracene	U	3.3								
Benz(a)anthracene	U	3.3								
Benzo(a)pyrene	U	3.3								
Bis(2-chloroethoxy)methane	U	6.6								
Bis(2-ethylhexyl)phthalate	U	6.6								
Chrysene	U	3.3								
Dibenzofuran	U	3.3								
Di-n-butyl phthalate	U	6.6								
Fluoranthene	U	3.3								
Fluorene	U	3.3								
Naphthalene	U	3.3								
Nitrobenzene	U	6.6								
N-Nitrosodiphenylamine	U	6.6								
Pentachlorophenol	U	6.6								
Phenanthrene	U	3.3								
Phenol	U	6.6								
Pyrene	U	3.3								
Surr: 2,4,6-Tribromophenol	*112*	*0*	*167*	*0*	*67.1*	*36 - 126*				
Surr: 2-Fluorobiphenyl	*139.3*	*0*	*167*	*0*	*83.4*	*43 - 125*				
Surr: 2-Fluorophenol	*130.5*	*0*	*167*	*0*	*78.2*	*37 - 125*				
Surr: 4-Terphenyl-d14	*122*	*0*	*167*	*0*	*73.0*	*32 - 125*				
Surr: Nitrobenzene-d5	*153.8*	*0*	*167*	*0*	*92.1*	*37 - 125*				
Surr: Phenol-d6	*114.5*	*0*	*167*	*0*	*68.6*	*40 - 125*				

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
WorkOrder: HS16020138

QC BATCH REPORT

Batch ID: 101145 **Instrument: SV-7** **Method: SW8270**

LCS Sample ID: **LCS-101145** Units: **ug/Kg** Analysis Date: **04-Feb-2016 12:20**
Client ID: Run ID: **SV-7_268798** SeqNo: **3575591** PrepDate: **03-Feb-2016** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Diphenylhydrazine	135.8	6.6	167	0	81.3	50 - 135				
2,4-Dimethylphenol	164.7	6.6	167	0	98.6	45 - 120				
2,4-Dinitrotoluene	171.2	6.6	167	0	103	50 - 130				
2,6-Dinitrotoluene	171.8	6.6	167	0	103	50 - 125				
2-Chloronaphthalene	147.1	6.6	167	0	88.1	50 - 145				
2-Methylnaphthalene	148.4	3.3	167	0	88.8	50 - 120				
4,6-Dinitro-2-methylphenol	146.7	6.6	167	0	87.8	15 - 135				
4-Nitrophenol	149.3	13	167	0	89.4	40 - 147				
Acenaphthene	125.9	3.3	167	0	75.4	50 - 120				
Acenaphthylene	131.6	3.3	167	0	78.8	50 - 120				
Anthracene	149.9	3.3	167	0	89.8	50 - 123				
Benz(a)anthracene	150.3	3.3	167	0	90.0	50 - 131				
Benzo(a)pyrene	155.9	3.3	167	0	93.4	50 - 130				
Bis(2-chloroethoxy)methane	140.4	6.6	167	0	84.1	50 - 120				
Bis(2-ethylhexyl)phthalate	199.3	6.6	167	0	119	21 - 148				
Chrysene	144.5	3.3	167	0	86.6	50 - 130				
Dibenzofuran	137.3	3.3	167	0	82.2	50 - 125				
Di-n-butyl phthalate	179.8	6.6	167	0	108	50 - 140				
Fluoranthene	169.3	3.3	167	0	101	50 - 131				
Fluorene	141.3	3.3	167	0	84.6	50 - 125				
Naphthalene	152.4	3.3	167	0	91.3	50 - 125				
Nitrobenzene	166.9	6.6	167	0	99.9	50 - 125				
N-Nitrosodiphenylamine	179	6.6	167	0	107	50 - 130				
Pentachlorophenol	125.3	6.6	167	0	75.0	23 - 136				
Phenanthrene	149.6	3.3	167	0	89.6	50 - 125				
Phenol	147.4	6.6	167	0	88.3	45 - 130				
Pyrene	158.7	3.3	167	0	95.0	45 - 130				
Surr: 2,4,6-Tribromophenol	*126.2*	*0*	*167*	*0*	*75.6*	*36 - 126*				
Surr: 2-Fluorobiphenyl	*150*	*0*	*167*	*0*	*89.8*	*43 - 125*				
Surr: 2-Fluorophenol	*126.2*	*0*	*167*	*0*	*75.6*	*37 - 125*				
Surr: 4-Terphenyl-d14	*133.8*	*0*	*167*	*0*	*80.1*	*32 - 125*				
Surr: Nitrobenzene-d5	*169*	*0*	*167*	*0*	*101*	*37 - 125*				
Surr: Phenol-d6	*133.9*	*0*	*167*	*0*	*80.2*	*40 - 125*				

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
WorkOrder: HS16020138

QC BATCH REPORT

Batch ID: 101145 **Instrument: SV-7** **Method: SW8270**

MS Sample ID: **HS16011169-01MS** Units: **ug/Kg** Analysis Date: **04-Feb-2016 22:29**
Client ID: Run ID: **SV-7_268798** SeqNo: **3576100** PrepDate: **03-Feb-2016** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Diphenylhydrazine	174.3	66	166.1	0	105	50 - 135				
2,4-Dimethylphenol	177.8	66	166.1	0	107	45 - 120				
2,4-Dinitrotoluene	199.5	66	166.1	0	120	50 - 130				
2,6-Dinitrotoluene	227.9	66	166.1	0	137	50 - 125				S
2-Chloronaphthalene	191.4	66	166.1	0	115	50 - 145				
2-Methylnaphthalene	225.6	33	166.1	0	136	50 - 120				S
4,6-Dinitro-2-methylphenol	90.61	66	166.1	0	54.6	15 - 135				
4-Nitrophenol	54.84	130	166.1	0	33.0	40 - 147				JS
Acenaphthene	169.7	33	166.1	11.61	95.2	50 - 120				
Acenaphthylene	374.2	33	166.1	197.6	106	50 - 120				
Anthracene	475.6	33	166.1	344.3	79.1	50 - 123				
Benz(a)anthracene	315.6	33	166.1	226	53.9	50 - 131				
Benzo(a)pyrene	413.2	33	166.1	270.7	85.8	50 - 130				
Bis(2-chloroethoxy)methane	269.3	66	166.1	0	162	50 - 120				S
Bis(2-ethylhexyl)phthalate	234.3	66	166.1	0	141	21 - 148				
Chrysene	381.1	33	166.1	269.7	67.1	50 - 130				
Dibenzofuran	200.2	33	166.1	6.476	117	50 - 125				
Di-n-butyl phthalate	202.2	66	166.1	0	122	50 - 140				
Fluoranthene	371.3	33	166.1	186.5	111	50 - 131				
Fluorene	177.3	33	166.1	21.55	93.8	50 - 125				
Naphthalene	175.8	33	166.1	0	106	50 - 125				
Nitrobenzene	270.9	66	166.1	0	163	50 - 125				S
N-Nitrosodiphenylamine	175.6	66	166.1	0	106	50 - 130				
Pentachlorophenol	73.29	66	166.1	0	44.1	23 - 136				
Phenanthrene	207.1	33	166.1	56.69	90.6	50 - 125				
Phenol	64.52	66	166.1	0	38.9	45 - 130				JS
Pyrene	417.9	33	166.1	411.4	3.90	45 - 130				S
Surr: 2,4,6-Tribromophenol	*207.7*	*0*	*166.1*	*0*	*125*	*36 - 126*				
Surr: 2-Fluorobiphenyl	*195.6*	*0*	*166.1*	*0*	*118*	*43 - 125*				
Surr: 2-Fluorophenol	*163.2*	*0*	*166.1*	*0*	*98.3*	*37 - 125*				
Surr: 4-Terphenyl-d14	*205.9*	*0*	*166.1*	*0*	*124*	*32 - 125*				
Surr: Nitrobenzene-d5	*287.9*	*0*	*166.1*	*0*	*173*	*37 - 125*				S
Surr: Phenol-d6	*173*	*0*	*166.1*	*0*	*104*	*40 - 125*				

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
WorkOrder: HS16020138

QC BATCH REPORT

Batch ID: 101145 **Instrument: SV-7** **Method: SW8270**

MSD Sample ID: **HS16011169-01MSD** Units: **ug/Kg** Analysis Date: **04-Feb-2016 22:48**
Client ID: Run ID: **SV-7_268798** SeqNo: **3576101** PrepDate: **03-Feb-2016** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual
1,2-Diphenylhydrazine	206.3	66	165.9	0	124	50 - 135	174.3	16.8	30	
2,4-Dimethylphenol	205.1	66	165.9	0	124	45 - 120	177.8	14.2	30	S
2,4-Dinitrotoluene	239.3	66	165.9	0	144	50 - 130	199.5	18.1	30	S
2,6-Dinitrotoluene	274.3	66	165.9	0	165	50 - 125	227.9	18.5	30	S
2-Chloronaphthalene	198.7	66	165.9	0	120	50 - 145	191.4	3.74	30	
2-Methylnaphthalene	216.1	33	165.9	0	130	50 - 120	225.6	4.31	30	S
4,6-Dinitro-2-methylphenol	92.23	66	165.9	0	55.6	15 - 135	90.61	1.78	30	
4-Nitrophenol	U	130	165.9	0	0	40 - 147	54.84	0	30	S
Acenaphthene	176.3	33	165.9	11.61	99.3	50 - 120	169.7	3.81	30	
Acenaphthylene	381.7	33	165.9	197.6	111	50 - 120	374.2	2	30	
Anthracene	322.2	33	165.9	344.3	-13.3	50 - 123	475.6	38.5	30	SR
Benz(a)anthracene	257.3	33	165.9	226	18.8	50 - 131	315.6	20.4	30	S
Benzo(a)pyrene	375.9	33	165.9	270.7	63.4	50 - 130	413.2	9.45	30	
Bis(2-chloroethoxy)methane	303.6	66	165.9	0	183	50 - 120	269.3	12	30	S
Bis(2-ethylhexyl)phthalate	193.1	66	165.9	0	116	21 - 148	234.3	19.2	30	
Chrysene	328.3	33	165.9	269.7	35.4	50 - 130	381.1	14.9	30	S
Dibenzofuran	230.9	33	165.9	6.476	135	50 - 125	200.2	14.3	30	S
Di-n-butyl phthalate	169.5	66	165.9	0	102	50 - 140	202.2	17.6	30	
Fluoranthene	300.8	33	165.9	186.5	68.9	50 - 131	371.3	21	30	
Fluorene	185.8	33	165.9	21.55	99.0	50 - 125	177.3	4.68	30	
Naphthalene	176.5	33	165.9	0	106	50 - 125	175.8	0.416	30	
Nitrobenzene	239.2	66	165.9	0	144	50 - 125	270.9	12.4	30	S
N-Nitrosodiphenylamine	180.8	66	165.9	0	109	50 - 130	175.6	2.92	30	
Pentachlorophenol	83.02	66	165.9	0	50.0	23 - 136	73.29	12.4	30	
Phenanthrene	122.4	33	165.9	56.69	39.6	50 - 125	207.1	51.4	30	SR
Phenol	84.56	66	165.9	0	51.0	45 - 130	64.52	26.9	30	
Pyrene	311.2	33	165.9	411.4	-60.4	45 - 130	417.9	29.3	30	S
Surr: 2,4,6-Tribromophenol	*242.8*	*0*	*165.9*	*0*	*146*	*36 - 126*	*207.7*	*15.6*	*30*	S
Surr: 2-Fluorobiphenyl	*159.7*	*0*	*165.9*	*0*	*96.2*	*43 - 125*	*195.6*	*20.2*	*30*	
Surr: 2-Fluorophenol	*168.9*	*0*	*165.9*	*0*	*102*	*37 - 125*	*163.2*	*3.39*	*30*	
Surr: 4-Terphenyl-d14	*200.5*	*0*	*165.9*	*0*	*121*	*32 - 125*	*205.9*	*2.65*	*30*	
Surr: Nitrobenzene-d5	*271.9*	*0*	*165.9*	*0*	*164*	*37 - 125*	*287.9*	*5.72*	*30*	S
Surr: Phenol-d6	*143.5*	*0*	*165.9*	*0*	*86.5*	*40 - 125*	*173*	*18.6*	*30*	

The following samples were anayzed in this batch: HS16020138-01 HS16020138-02 HS16020138-03 HS16020138-04 HS16020138-05

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
WorkOrder: HS16020138

QC BATCH REPORT

Batch ID: R268754 **Instrument: Balance1** **Method: ASTM D2216**

DUP Sample ID: **HS16010858-13DUP** Units: **wt%** Analysis Date: **03-Feb-2016 09:15**
Client ID: Run ID: **Balance1_268754** SeqNo: **3574756** PrepDate: DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Percent Moisture	4.06	0.0100					4.16	2.43	20	

The following samples were anayzed in this batch: HS16020138-01 HS16020138-02 HS16020138-03 HS16020138-04 HS16020138-05

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
WorkOrder: **HS16020138**

QUALIFIERS, ACRONYMS, UNITS

Qualifier	Description
*	Value exceeds Regulatory Limit
a	Not accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte detected below quantitation limit
M	Manually integrated, see raw data for justification
n	Not offered for accreditation
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL/SDL

Acronym	Description
DCS	Detectability Check Study
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
MBLK	Method Blank
MDL	Method Detection Limit
MQL	Method Quantitation Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PDS	Post Digestion Spike
PQL	Practical Quantitaion Limit
SD	Serial Dilution
SDL	Sample Detection Limit
TRRP	Texas Risk Reduction Program

Unit Reported	Description
mg/Kg-dry	Milligrams per Kilogram- Dry weight corrected

CERTIFICATIONS,ACCREDITATIONS & LICENSES

Agency	Number	Expire Date
Arkansas	15-024-0	27-Mar-2016
California	2919	31-Jul-2016
Illinois	003622	09-May-2016
Kentucky	KY 2015-2016	30-Apr-2016
Louisiana	03087 2015/2016	30-Jun-2016
North Carolina	624 - 2016	31-Dec-2016
North Dakota	R-193 2015-2016	30-Apr-2016
Oklahoma	2015-047	31-Aug-2016
Texas	T104704231-15-15	30-Apr-2016

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
Work Order: HS16020138

SAMPLE TRACKING

Lab Samp ID	Client Sample ID	Action	Date	Person	New Location
HS16020138-01	SO-1620-CSBW1(0-5)-20160202	Login	2/3/2016 3:09:34 PM	RPG	13D
HS16020138-02	SO-1620-SB212(0-5)-20160203	Login	2/3/2016 3:09:34 PM	RPG	13D
HS16020138-03	SO-1620-SB213(0-5)-20160203	Login	2/3/2016 3:09:34 PM	RPG	13D
HS16020138-04	SO-1620-SB214(0-5)-20160203	Login	2/3/2016 3:09:34 PM	RPG	13D
HS16020138-05	SO-1620-SB215(0-5)-20160203	Login	2/3/2016 3:09:34 PM	RPG	13D

ALS Group USA, Corp Date: 05-Feb-16

Sample Receipt Checklist

Client Name: PBW Date/Time Received: **03-Feb-2016 15:25**

Work Order: HS16020138 Received by: **FBH**

Checklist completed by: *Raegen Giga* 3-Feb-2016
eSignature Date

Reviewed by: *Dane J. Wacasey* 3-Feb-2016
eSignature Date

Matrices: **soil** Carrier name: **ALS.HS**

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on shipping container/cooler?	Yes ☐	No ☐	Not Present ☑
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☑	No ☐	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
TX1005 solids received in hermetically sealed vials?	Yes ☐	No ☐	N/A ☑
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time?	Yes ☑	No ☐	
Container/Temp Blank temperature in compliance?	Yes ☑	No ☐	
Temperature(s)/Thermometer(s):	1.1c/1.3c uc/c	IR 4	
Cooler(s)/Kit(s):	RED		
Date/Time sample(s) sent to storage:	02/03/2016 15:37		
Water - VOA vials have zero headspace?	Yes ☐	No ☐	No VOA vials submitted ☑
Water - pH acceptable upon receipt?	Yes ☐	No ☐	N/A ☑
pH adjusted?	Yes ☐	No ☐	N/A ☑
pH adjusted by:			

Login Notes:

Client Contacted: Date Contacted: Person Contacted:

Contacted By: 0 Regarding:

Comments:

Corrective Action:

ALS Environmental

Cincinnati, OH +1 513 733 5336
Everett, WA +1 425 356 2600
Fort Collins, CO +1 970 490 1511
Holland, MI +1 616 399 6070

Chain of Custody Form

Page 1 of 1

COC ID: 135234

HS16020138

Pastor, Behling & Wheeler, LLC
1620-10-Rev1 HoustonTX-Wood

ALS Project Manager:

Customer Information		Project Information			
Purchase Order	UPRR	Project Name	1620-10-Rev1 HoustonTX-Wood	A	8270_LOW_S (5632532 SemiVolatiles)
Work Order		Project Number	1620-10-Rev1	B	ICP_S_Low (5636002 5652646 Metals - As, Pb)
Company Name	Pastor, Behling & Wheeler, LLC	Bill To Company	Union Pacific Railroad- A/P	C	MOIST_ASTM (5631931 Gen.Chem. MOIST%)
Send Report To	Eric Matzner	Invoice Attn	Accounts Payable	D	
Address	2201 Double Creek Drive Suite 4004	Address	1400 Douglas Street Stop 0750	E	
				F	
City/State/Zip	Round Rock, TX 78664	City/State/Zip	Omaha, NE 681790750	G	
Phone	(512) 671-3434	Phone		H	
Fax	(512) 671-3446	Fax		I	
e-Mail Address		e-Mail Address		J	

No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
1	SO-1620-CSBW1(0-5)-20160202	2-2-2016	1625	Soil	8	1	X	X	X								
2	SO-1620-SB212(0-5)-20160203	2-3-2016	1000	Soil	8	1	X	X	X								
3	SO-1620-SB213(0-5)-20160203	2-3-2016	1100	Soil	8	1	X	X	X								
4	SO-1620-SB214(0-5)-20160203	2-3-2016	1250	Soil	8	1	X	X	X								
5	SO-1620-SB215(0-5)-20160203	2-3-2016	1340	Soil	8	1	X	X	X								
6																	
7																	
8																	
9																	
10																	

All Rush 24-hr TAT

Sampler(s) Please Print & Sign: Stephen Grahmann

Shipment Method:

Required Turnaround Time: (Check Box) TAT 1 days Other

Results Due Date:

Relinquished by: Stephen Grahmann — Date: 2-3-2016 — Time: 1450 — Received by:

Relinquished by: — Date: 2-3-16 — Time: 15:25 — Received by (Laboratory):

Logged by (Laboratory): — Date: — Time: — Checked by (Laboratory):

Notes: (UPRR Houston MWPW)

Cooler ID	Cooler Temp.

QC Package: (Check One Box Below)

QC Level: TRRP LRC

Other:

Preservative Key: 1-HCl 2-HNO_3 3-H_2SO_4 4-NaOH 5-$Na_2S_2O_3$ 6-$NaHSO_4$ 7-Other 8-4°C 9-5035

Note:
1. Any changes must be made in writing once samples and COC Form have been submitted to ALS Environmental.
2. Unless otherwise agreed in a formal contract, services provided by ALS Environmental are expressly limited to the terms and conditions stated on the reverse.
3. The Chain of Custody is a legal document. All information must be completed accurately.

10450 Stancliff Rd. Suite 210
Houston, TX 77099
T: +1 281 530 5656
F: +1 281 530 5887
www.alsglobal.com

February 05, 2016

Eric Matzner
Pastor, Behling & Wheeler, LLC
2201 Double Creek Drive
Suite 4004
Round Rock, TX 78664

Work Order: **HS16020149**

Laboratory Results for: **1620-10-Rev1 HoustonTX-Wood**

Dear Eric,

ALS Environmental received 3 sample(s) on Feb 03, 2016 for the analysis presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested. Results are expressed as "as received" unless otherwise noted.

QC sample results for this data met EPA or laboratory specifications except as noted in the Case Narrative or as noted with qualifiers in the QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained by ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

If you have any questions regarding this report, please feel free to call me.

Sincerely,

Generated By: Dayna.Fisher
Dane J. Wacasey

Client:	Pastor, Behling & Wheeler, LLC	**TRRP Laboratory Data Package Cover Page**
Project:	1620-10-Rev1 HoustonTX-Wood	
WorkOrder:	**HS16020149**	

This data package consists of all or some of the following as applicable:

This signature page, the laboratory review checklist, and the following reportable data:

R1 Field chain-of-custody documentation;

R2 Sample identification cross-reference;

R3 Test reports (analytical data sheets) for each environmental sample that includes:

a) Items consistent with NELAC Chapter 5,
b) dilution factors,
c) preparation methods,
d) cleanup methods, and
e) if required for the project, tentatively identified compounds (TICs).

R4 Surrogate recovery data including:

a) Calculated recovery (%R), and
b) The laboratory's surrogate QC limits.

R5 Test reports/summary forms for blank samples;

R6 Test reports/summary forms for laboratory control samples (LCSs) including:

a) LCS spiking amounts,
b) Calculated %R for each analyte, and
c)The laboratory's LCS QC limits.

R7 Test reports for project matrix spike/matrix spike duplicates (MS/MSDs) including:

a) Samples associated with the MS/MSD clearly identified,
b) MS/MSD spiking amounts,
c) Concentration of each MS/MSD analyte measured in the parent and spiked samples,
d) Calculated %Rs and relative percent differences (RPDs), and
e) The laboratory's MS/MSD QC limits.

R8 Laboratory analytical duplicate (if applicable) recovery and precision:

a) the amount of analyte measured in the duplicate,
b) the calculated RPD, and
c) the laboratory's QC limits for analytical duplicates.

R9 List of method quantitation limits (MQLs) and detectability check sample results for each analyte for each method and matrix.

R10 Other problems or anomalies.
The Exception Report for each "No" or "Not Reviewed (NR)" item in Laboratory Review Checklist and for each analyte, matrix, and method for which the laboratory does not hold NELAC accreditation under the Texas Laboratory Accreditation Program.

Client:	Pastor, Behling & Wheeler, LLC
Project:	1620-10-Rev1 HoustonTX-Wood
WorkOrder:	**HS16020149**

TRRP Laboratory Data Package Cover Page

Release Statement: I am responsible for the release of this laboratory data package. This laboratory is NELAC accredited under the Texas Laboratory Accreditation Program for all the methods, analytes and matrices reported in this data package except as noted in the Exception Reports. The data have been reviewed and are technically compliant with the requirements of the methods used, except where noted by the laboratory in the attached exception reports. By my signature below, I affirm to the best of my knowledge, all problems/anomalies, observed by the laboratory have been identified by the laboratory in the Laboratory Review Checklist, and no information affecting the quality of the data has been knowingly withheld.

Check, if applicable: [NA] This laboratory meets an exception under 30 TAC §25.6 and was last inspected by [ ] TCEQ or [ ] _____ on (enter date of last inspection). Any findings affecting the data in this laboratory data package are noted in the Exception Reports herein. The official signing the cover page of the report in which these data are used is responsible for releasing this data package and is by signature affirming the above release statement is true.

Dane J. Wacasey

Laboratory Review Checklist: Reportable Data							
Laboratory Name: ALS Laboratory Group			LRC Date: 02/05/2016				
Project Name: 1620-10-Rev1 HoustonTX-Wood			Laboratory Job Number: HS16020149				
Reviewer Name: Dane Wacasey			Prep Batch Number(s): 101155, 101173a, R268819				
#[1]	A[2]	Description	Yes	No	NA[3]	NR[4]	ER#[5]
R1	OI	**Chain-of-custody (C-O-C)**					
		Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?	X				
		Were all departures from standard conditions described in an exception report?	X				
R2	OI	**Sample and quality control (QC) identification**					
		Are all field sample ID numbers cross-referenced to the laboratory ID numbers?	X				
		Are all laboratory ID numbers cross-referenced to the corresponding QC data?	X				
R3	OI	**Test reports**					
		Were all samples prepared and analyzed within holding times?	X				
		Other than those results < MQL, were all other raw values bracketed by calibration standards?	X				
		Were calculations checked by a peer or supervisor?	X				
		Were all analyte identifications checked by a peer or supervisor?	X				
		Were sample detection limits reported for all analytes not detected?	X				
		Were all results for soil and sediment samples reported on a dry weight basis?	X				
		Were % moisture (or solids) reported for all soil and sediment samples?	X				
		Were bulk soils/solids samples for volatile analysis extracted with methanol per SW-846 Method 5035?			X		
		If required for the project, TICs reported?			X		
R4	O	**Surrogate recovery data**					
		Were surrogates added prior to extraction?	X				
		Were surrogate percent recoveries in all samples within the laboratory QC limits?		X			1
R5	OI	**Test reports/summary forms for blank samples**					
		Were appropriate type(s) of blanks analyzed?	X				
		Were blanks analyzed at the appropriate frequency?	X				
		Were method blanks taken through the entire analytical process, including preparation and, if applicable, cleanup procedures?	X				
		Were blank concentrations < MQL?	X				
R6	OI	**Laboratory control samples (LCS):**					
		Were all COCs included in the LCS?	X				
		Was each LCS taken through the entire analytical procedure, including prep and cleanup steps?	X				
		Were LCSs analyzed at the required frequency?	X				
		Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?	X				
		Does the detectability data document the laboratory's capability to detect the COCs at the MDL used to calculate the SDLs?	X				
		Was the LCSD RPD within QC limits?	X				
R7	OI	**Matrix spike (MS) and matrix spike duplicate (MSD) data**					
		Were the project/method specified analytes included in the MS and MSD?	X				
		Were MS/MSD analyzed at the appropriate frequency?	X				
		Were MS (and MSD, if applicable) %Rs within the laboratory QC limits?		X			2
		Were MS/MSD RPDs within laboratory QC limits?		X			3
R8	OI	**Analytical duplicate data**					
		Were appropriate analytical duplicates analyzed for each matrix?	X				
		Were analytical duplicates analyzed at the appropriate frequency?	X				
		Were RPDs or relative standard deviations within the laboratory QC limits?	X				
R9	OI	**Method quantitation limits (MQLs):**					
		Are the MQLs for each method analyte included in the laboratory data package?	X				
		Do the MQLs correspond to the concentration of the lowest non-zero calibration standard?	X				
		Are unadjusted MQLs and DCSs included in the laboratory data package?	X				
R10	OI	**Other problems/anomalies**					
		Are all known problems/anomalies/special conditions noted in this LRC and ER?	X				
		Were all necessary corrective actions performed for the reported data?	X				
		Was applicable and available technology used to lower the SDL and minimize the matrix interference affects on the sample results?	X				
		Is the laboratory NELAC-accredited under the Texas Laboratory Program for the analytes, matrices and methods associated with this laboratory data package?	X				

Laboratory Review Checklist: Reportable Data							
Laboratory Name: ALS Laboratory Group			LRC Date: 02/05/2016				
Project Name: 1620-10-Rev1 HoustonTX-Wood			Laboratory Job Number: HS16020149				
Reviewer Name: Dane Wacasey			Prep Batch Number(s): 101155, 101173a, R268819				
#[1]	A[2]	Description	Yes	No	NA[3]	NR[4]	ER#[5]
S1	OI	**Initial calibration (ICAL)**					
		Were response factors and/or relative response factors for each analyte within QC limits?	X				
		Were percent RSDs or correlation coefficient criteria met?	X				
		Was the number of standards recommended in the method used for all analytes?	X				
		Were all points generated between the lowest and highest standard used to calculate the curve?	X				
		Are ICAL data available for all instruments used?	X				
		Has the initial calibration curve been verified using an appropriate second source standard?	X				
S2	OI	**Initial and continuing calibration verification (ICCV and CCV) and continuing calibration blank (CCB)**					
		Was the CCV analyzed at the method-required frequency?	X				
		Were percent differences for each analyte within the method-required QC limits?	X				
		Was the ICAL curve verified for each analyte?	X				
		Was the absolute value of the analyte concentration in the inorganic CCB < MDL?	X				
S3	O	**Mass spectral tuning:**					
		Was the appropriate compound for the method used for tuning?	X				
		Were ion abundance data within the method-required QC limits?	X				
S4	O	**Internal standards (IS):**					
		Were IS area counts and retention times within the method-required QC limits?		X			4
S5	OI	**Raw data** (NELAC section 1 appendix A glossary, and section 5.12 or ISO/IEC 17025 section					
		Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst?	X				
		Were data associated with manual integrations flagged on the raw data?	X				
S6	O	**Dual column confirmation**					
		Did dual column confirmation results meet the method-required QC?			X		
S7	O	**Tentatively identified compounds (TICs):**					
		If TICs were requested, were the mass spectra and TIC data subject to appropriate checks?			X		
S8	I	**Interference Check Sample (ICS) results:**					
		Were percent recoveries within method QC limits?	X				
S9	I	**Serial dilutions, post digestion spikes, and method of standard additions**					
		Were percent differences, recoveries, and the linearity within the QC limits specified in the method?	X				
S10	OI	**Method detection limit (MDL) studies**					
		Was a MDL study performed for each reported analyte?	X				
		Is the MDL either adjusted or supported by the analysis of DCSs?	X				
S11	OI	**Proficiency test reports:**					
		Was the laboratory's performance acceptable on the applicable proficiency tests or evaluation studies?	X				
S12	OI	**Standards documentation**					
		Are all standards used in the analyses NIST-traceable or obtained from other appropriate sources?	X				
S13	OI	**Compound/analyte identification procedures**					
		Are the procedures for compound/analyte identification documented?	X				
S14	OI	**Demonstration of analyst competency (DOC)**					
		Was DOC conducted consistent with NELAC Chapter 5C or ISO/IEC 4?	X				
		Is documentation of the analyst's competency up-to-date and on file?	X				
S15	OI	**Verification/validation documentation for methods** (NELAC Chap 5 or ISO/IEC 17025 Section 5)					
		Are all the methods used to generate the data documented, verified, and validated, where applicable?	X				
S16	OI	**Laboratory standard operating procedures (SOPs):**					
		Are laboratory SOPs current and on file for each method performed?	X				

Items identified by the letter "R" must be included in the laboratory data package submitted in the TRRP-required report(s). Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period.
O = Organic Analyses; I = Inorganic Analyses (and general chemistry, when applicable);
NA = Not Applicable;
NR = Not Reviewed;
R# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

Laboratory Review Checklist: Reportable Data	
Laboratory Name: ALS Laboratory Group	LRC Date: 02/05/2016
Project Name: 1620-10-Rev1 HoustonTX-Wood	Laboratory Job Number: HS16020149
Reviewer Name: Dane Wacasey	Prep Batch Number(s): 101155, 101173a, R268819

ER#[5]	Description
1	Batch 101173a, Low-Level Semivolatiles by Method SW8270, Sample SO-1620-CSAW3(0-5)-20160203: Surrogate recoveries were diluted out in the 10X and 50X dilutions.
2	Batch 101173a, Low-Level Semivolatiles by Method SW8270, Sample SO-1620-CSAW3(0-5)-20160203: MS and/or MSD recoveries were outside the control limits for several compounds, due to sample matrix interference.
3	Batch 101173a, Low-Level Semivolatiles by Method SW8270, Sample SO-1620-CSAW3(0-5)-20160203: MSD RPDs were outside control limits for several compounds due to non-homogeneity of the soil matrix and/or matrix interference.
4	Batch 101173a, Low-Level Semivolatiles by Method SW8270, Samples SO-1620-CSAW3(0-5)-20160203: One or more of the GCMS semi-volatile internal standards were recovered at <50%. The sample was reanalyzed with similar results indicating sample matrix interference.

Items identified by the letter "R" must be included in the laboratory data package submitted in the TRRP-required report(s). Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period.
O = Organic Analyses; I = Inorganic Analyses (and general chemistry, when applicable);
NA = Not Applicable;
NR = Not Reviewed;
R# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
Work Order: HS16020149

SAMPLE SUMMARY

Lab Samp ID	Client Sample ID	Matrix	TagNo	Collection Date	Date Received	Hold
HS16020149-01	SO-1620-CSAW1(0-5)-20160203	Soil		03-Feb-2016 16:20	03-Feb-2016 18:25	☐
HS16020149-02	SO-1620-CSAW2(0-5)-20160203	Soil		03-Feb-2016 16:25	03-Feb-2016 18:25	☐
HS16020149-03	SO-1620-CSAW3(0-5)-20160203	Soil		03-Feb-2016 16:30	03-Feb-2016 18:25	☐

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
Sample ID: SO-1620-CSAW1(0-5)-20160203
Collection Date: 03-Feb-2016 16:20

ANALYTICAL REPORT
WorkOrder:HS16020149
Lab ID:HS16020149-01
Matrix:Soil

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES	**Method:SW8270**				Prep:SW3541 / 04-Feb-2016		Analyst: ACN
1,2-Diphenylhydrazine	U		0.0012	0.0074	mg/Kg-dry	1	04-Feb-2016 16:50
2,4-Dimethylphenol	U		0.0037	0.0074	mg/Kg-dry	1	04-Feb-2016 16:50
2,4-Dinitrotoluene	U		0.0010	0.0074	mg/Kg-dry	1	04-Feb-2016 16:50
2,6-Dinitrotoluene	U		0.0037	0.0074	mg/Kg-dry	1	04-Feb-2016 16:50
2-Chloronaphthalene	U		0.0015	0.0074	mg/Kg-dry	1	04-Feb-2016 16:50
2-Methylnaphthalene	U		0.00056	0.0037	mg/Kg-dry	1	04-Feb-2016 16:50
4,6-Dinitro-2-methylphenol	U		0.0024	0.0074	mg/Kg-dry	1	04-Feb-2016 16:50
4-Nitrophenol	U		0.0021	0.015	mg/Kg-dry	1	04-Feb-2016 16:50
Acenaphthene	**0.032**		**0.00056**	**0.0037**	**mg/Kg-dry**	1	04-Feb-2016 16:50
Acenaphthylene	**0.12**		**0.0011**	**0.0037**	**mg/Kg-dry**	1	04-Feb-2016 16:50
Anthracene	**0.26**		**0.00056**	**0.0037**	**mg/Kg-dry**	1	04-Feb-2016 16:50
Benz(a)anthracene	**0.081**		**0.0018**	**0.0037**	**mg/Kg-dry**	1	04-Feb-2016 16:50
Benzo(a)pyrene	**0.078**		**0.0011**	**0.0037**	**mg/Kg-dry**	1	04-Feb-2016 16:50
Bis(2-chloroethoxy)methane	U		0.0010	0.0074	mg/Kg-dry	1	04-Feb-2016 16:50
Bis(2-ethylhexyl)phthalate	U		0.0019	0.0074	mg/Kg-dry	1	04-Feb-2016 16:50
Chrysene	**0.11**		**0.00090**	**0.0037**	**mg/Kg-dry**	1	04-Feb-2016 16:50
Dibenzofuran	U		0.00079	0.0037	mg/Kg-dry	1	04-Feb-2016 16:50
Di-n-butyl phthalate	U		0.0014	0.0074	mg/Kg-dry	1	04-Feb-2016 16:50
Fluoranthene	**0.19**		**0.0012**	**0.0037**	**mg/Kg-dry**	1	04-Feb-2016 16:50
Fluorene	**0.038**		**0.0012**	**0.0037**	**mg/Kg-dry**	1	04-Feb-2016 16:50
Naphthalene	**0.0064**		**0.00068**	**0.0037**	**mg/Kg-dry**	1	04-Feb-2016 16:50
Nitrobenzene	U		0.0010	0.0074	mg/Kg-dry	1	04-Feb-2016 16:50
N-Nitrosodiphenylamine	U		0.00079	0.0074	mg/Kg-dry	1	04-Feb-2016 16:50
Pentachlorophenol	U		0.0037	0.0074	mg/Kg-dry	1	04-Feb-2016 16:50
Phenanthrene	**0.046**		**0.0017**	**0.0037**	**mg/Kg-dry**	1	04-Feb-2016 16:50
Phenol	**0.0068**	J	**0.0012**	**0.0074**	**mg/Kg-dry**	1	04-Feb-2016 16:50
Pyrene	**0.21**		**0.00068**	**0.0037**	**mg/Kg-dry**	1	04-Feb-2016 16:50
Surr: 2,4,6-Tribromophenol	*70.2*			*36-126*	*%REC*	*1*	*04-Feb-2016 16:50*
Surr: 2-Fluorobiphenyl	*66.5*			*43-125*	*%REC*	*1*	*04-Feb-2016 16:50*
Surr: 2-Fluorophenol	*62.0*			*37-125*	*%REC*	*1*	*04-Feb-2016 16:50*
Surr: 4-Terphenyl-d14	*80.5*			*32-125*	*%REC*	*1*	*04-Feb-2016 16:50*
Surr: Nitrobenzene-d5	*74.1*			*37-125*	*%REC*	*1*	*04-Feb-2016 16:50*
Surr: Phenol-d6	*71.4*			*40-125*	*%REC*	*1*	*04-Feb-2016 16:50*
METALS BY SW6020A	**Method:SW6020**				Prep:SW3050A / 03-Feb-2016		Analyst: RPM
Arsenic	**1.28**		**0.106**	**0.530**	**mg/Kg-dry**	1	04-Feb-2016 11:39
Lead	**7.38**		**0.0530**	**0.530**	**mg/Kg-dry**	1	04-Feb-2016 11:39
MOISTURE - ASTM D2216	**Method:ASTM D2216**						Analyst: DFF
Percent Moisture	**11.3**		**0.0100**	**0.0100**	**wt%**	1	04-Feb-2016 07:49

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
Sample ID: SO-1620-CSAW2(0-5)-20160203
Collection Date: 03-Feb-2016 16:25

ANALYTICAL REPORT
WorkOrder:HS16020149
Lab ID:HS16020149-02
Matrix:Soil

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES		**Method:SW8270**			Prep:SW3541 / 04-Feb-2016		Analyst: ACN
1,2-Diphenylhydrazine	U		0.0060	0.036	mg/Kg-dry	1	04-Feb-2016 17:10
2,4-Dimethylphenol	U		0.018	0.036	mg/Kg-dry	1	04-Feb-2016 17:10
2,4-Dinitrotoluene	U		0.0049	0.036	mg/Kg-dry	1	04-Feb-2016 17:10
2,6-Dinitrotoluene	U		0.018	0.036	mg/Kg-dry	1	04-Feb-2016 17:10
2-Chloronaphthalene	U		0.0071	0.036	mg/Kg-dry	1	04-Feb-2016 17:10
2-Methylnaphthalene	**0.020**		**0.0027**	**0.018**	**mg/Kg-dry**	1	04-Feb-2016 17:10
4,6-Dinitro-2-methylphenol	U		0.011	0.036	mg/Kg-dry	1	04-Feb-2016 17:10
4-Nitrophenol	U		0.010	0.072	mg/Kg-dry	1	04-Feb-2016 17:10
Acenaphthene	**0.23**		**0.0027**	**0.018**	**mg/Kg-dry**	1	04-Feb-2016 17:10
Acenaphthylene	**0.31**		**0.0055**	**0.018**	**mg/Kg-dry**	1	04-Feb-2016 17:10
Anthracene	**0.96**		**0.0027**	**0.018**	**mg/Kg-dry**	1	04-Feb-2016 17:10
Benz(a)anthracene	**0.28**		**0.0087**	**0.018**	**mg/Kg-dry**	1	04-Feb-2016 17:10
Benzo(a)pyrene	**0.23**		**0.0055**	**0.018**	**mg/Kg-dry**	1	04-Feb-2016 17:10
Bis(2-chloroethoxy)methane	U		0.0049	0.036	mg/Kg-dry	1	04-Feb-2016 17:10
Bis(2-ethylhexyl)phthalate	U		0.0093	0.036	mg/Kg-dry	1	04-Feb-2016 17:10
Chrysene	**0.33**		**0.0044**	**0.018**	**mg/Kg-dry**	1	04-Feb-2016 17:10
Dibenzofuran	**0.040**		**0.0038**	**0.018**	**mg/Kg-dry**	1	04-Feb-2016 17:10
Di-n-butyl phthalate	U		0.0066	0.036	mg/Kg-dry	1	04-Feb-2016 17:10
Fluoranthene	**0.96**		**0.0060**	**0.018**	**mg/Kg-dry**	1	04-Feb-2016 17:10
Fluorene	**0.18**		**0.0060**	**0.018**	**mg/Kg-dry**	1	04-Feb-2016 17:10
Naphthalene	**0.035**		**0.0033**	**0.018**	**mg/Kg-dry**	1	04-Feb-2016 17:10
Nitrobenzene	U		0.0049	0.036	mg/Kg-dry	1	04-Feb-2016 17:10
N-Nitrosodiphenylamine	U		0.0038	0.036	mg/Kg-dry	1	04-Feb-2016 17:10
Pentachlorophenol	U		0.018	0.036	mg/Kg-dry	1	04-Feb-2016 17:10
Phenanthrene	**0.24**		**0.0082**	**0.018**	**mg/Kg-dry**	1	04-Feb-2016 17:10
Phenol	U		0.0060	0.036	mg/Kg-dry	1	04-Feb-2016 17:10
Pyrene	**0.71**		**0.0033**	**0.018**	**mg/Kg-dry**	1	04-Feb-2016 17:10
Surr: 2,4,6-Tribromophenol	*70.9*			*36-126*	*%REC*	*1*	*04-Feb-2016 17:10*
Surr: 2-Fluorobiphenyl	*69.5*			*43-125*	*%REC*	*1*	*04-Feb-2016 17:10*
Surr: 2-Fluorophenol	*73.0*			*37-125*	*%REC*	*1*	*04-Feb-2016 17:10*
Surr: 4-Terphenyl-d14	*93.6*			*32-125*	*%REC*	*1*	*04-Feb-2016 17:10*
Surr: Nitrobenzene-d5	*67.7*			*37-125*	*%REC*	*1*	*04-Feb-2016 17:10*
Surr: Phenol-d6	*65.5*			*40-125*	*%REC*	*1*	*04-Feb-2016 17:10*
METALS BY SW6020A		**Method:SW6020**			Prep:SW3050A / 03-Feb-2016		Analyst: RPM
Arsenic	**1.56**		**0.104**	**0.519**	**mg/Kg-dry**	1	04-Feb-2016 11:42
Lead	**44.0**		**0.0519**	**0.519**	**mg/Kg-dry**	1	04-Feb-2016 11:42
MOISTURE - ASTM D2216		**Method:ASTM D2216**					Analyst: DFF
Percent Moisture	**8.67**		**0.0100**	**0.0100**	**wt%**	1	04-Feb-2016 07:49

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
Sample ID: SO-1620-CSAW3(0-5)-20160203
Collection Date: 03-Feb-2016 16:30

ANALYTICAL REPORT
WorkOrder:HS16020149
Lab ID:HS16020149-03
Matrix:Soil

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES	**Method:SW8270**				Prep:SW3541 / 04-Feb-2016		Analyst: ACN
1,2-Diphenylhydrazine	U		0.012	0.073	mg/Kg-dry	1	04-Feb-2016 17:30
2,4-Dimethylphenol	U		0.036	0.073	mg/Kg-dry	1	04-Feb-2016 17:30
2,4-Dinitrotoluene	U		0.0099	0.073	mg/Kg-dry	1	04-Feb-2016 17:30
2,6-Dinitrotoluene	U		0.036	0.073	mg/Kg-dry	1	04-Feb-2016 17:30
2-Chloronaphthalene	U		0.014	0.073	mg/Kg-dry	1	04-Feb-2016 17:30
2-Methylnaphthalene	**20**		**0.055**	**0.36**	**mg/Kg-dry**	10	04-Feb-2016 18:32
4,6-Dinitro-2-methylphenol	U		0.023	0.073	mg/Kg-dry	1	04-Feb-2016 17:30
4-Nitrophenol	U		0.021	0.15	mg/Kg-dry	1	04-Feb-2016 17:30
Acenaphthene	**40**		**0.28**	**1.8**	**mg/Kg-dry**	50	04-Feb-2016 18:52
Acenaphthylene	**3.1**		**0.011**	**0.036**	**mg/Kg-dry**	1	04-Feb-2016 17:30
Anthracene	**50**		**0.28**	**1.8**	**mg/Kg-dry**	50	04-Feb-2016 18:52
Benz(a)anthracene	**22**		**0.18**	**0.36**	**mg/Kg-dry**	10	04-Feb-2016 18:32
Benzo(a)pyrene	**13**		**0.11**	**0.36**	**mg/Kg-dry**	10	04-Feb-2016 18:32
Bis(2-chloroethoxy)methane	U		0.0099	0.073	mg/Kg-dry	1	04-Feb-2016 17:30
Bis(2-ethylhexyl)phthalate	U		0.019	0.073	mg/Kg-dry	1	04-Feb-2016 17:30
Chrysene	**25**		**0.088**	**0.36**	**mg/Kg-dry**	10	04-Feb-2016 18:32
Dibenzofuran	**30**		**0.077**	**0.36**	**mg/Kg-dry**	10	04-Feb-2016 18:32
Di-n-butyl phthalate	U		0.013	0.073	mg/Kg-dry	1	04-Feb-2016 17:30
Fluoranthene	**140**		**0.61**	**1.8**	**mg/Kg-dry**	50	04-Feb-2016 18:52
Fluorene	**63**		**0.61**	**1.8**	**mg/Kg-dry**	50	04-Feb-2016 18:52
Naphthalene	**11**		**0.066**	**0.36**	**mg/Kg-dry**	10	04-Feb-2016 18:32
Nitrobenzene	U		0.0099	0.073	mg/Kg-dry	1	04-Feb-2016 17:30
N-Nitrosodiphenylamine	U		0.0077	0.073	mg/Kg-dry	1	04-Feb-2016 17:30
Pentachlorophenol	**0.81**		**0.036**	**0.073**	**mg/Kg-dry**	1	04-Feb-2016 17:30
Phenanthrene	**87**		**0.83**	**1.8**	**mg/Kg-dry**	50	04-Feb-2016 18:52
Phenol	U		0.012	0.073	mg/Kg-dry	1	04-Feb-2016 17:30
Pyrene	**100**		**0.33**	**1.8**	**mg/Kg-dry**	50	04-Feb-2016 18:52
Surr: 2,4,6-Tribromophenol	*123*			*36-126*	*%REC*	*1*	*04-Feb-2016 17:30*
Surr: 2,4,6-Tribromophenol	*0*	*S*		*36-126*	*%REC*	*10*	*04-Feb-2016 18:32*
Surr: 2,4,6-Tribromophenol	*0*	*S*		*36-126*	*%REC*	*50*	*04-Feb-2016 18:52*
Surr: 2-Fluorobiphenyl	*88.8*			*43-125*	*%REC*	*1*	*04-Feb-2016 17:30*
Surr: 2-Fluorobiphenyl	*0*	*S*		*43-125*	*%REC*	*10*	*04-Feb-2016 18:32*
Surr: 2-Fluorobiphenyl	*0*	*S*		*43-125*	*%REC*	*50*	*04-Feb-2016 18:52*
Surr: 2-Fluorophenol	*72.8*			*37-125*	*%REC*	*1*	*04-Feb-2016 17:30*
Surr: 2-Fluorophenol	*0*	*S*		*37-125*	*%REC*	*10*	*04-Feb-2016 18:32*
Surr: 2-Fluorophenol	*0*	*S*		*37-125*	*%REC*	*50*	*04-Feb-2016 18:52*
Surr: 4-Terphenyl-d14	*114*			*32-125*	*%REC*	*1*	*04-Feb-2016 17:30*
Surr: 4-Terphenyl-d14	*0*	*S*		*32-125*	*%REC*	*10*	*04-Feb-2016 18:32*
Surr: 4-Terphenyl-d14	*0*	*S*		*32-125*	*%REC*	*50*	*04-Feb-2016 18:52*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
Sample ID: SO-1620-CSAW3(0-5)-20160203
Collection Date: 03-Feb-2016 16:30

ANALYTICAL REPORT
WorkOrder:HS16020149
Lab ID:HS16020149-03
Matrix:Soil

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES		**Method:SW8270**			Prep:SW3541 / 04-Feb-2016		Analyst: ACN
Surr: Nitrobenzene-d5	*0*	*S*		*37-125*	*%REC*	*10*	*04-Feb-2016 18:32*
Surr: Nitrobenzene-d5	*114*			*37-125*	*%REC*	*1*	*04-Feb-2016 17:30*
Surr: Nitrobenzene-d5	*0*	*S*		*37-125*	*%REC*	*50*	*04-Feb-2016 18:52*
Surr: Phenol-d6	*0*	*S*		*40-125*	*%REC*	*50*	*04-Feb-2016 18:52*
Surr: Phenol-d6	*86.7*			*40-125*	*%REC*	*1*	*04-Feb-2016 17:30*
Surr: Phenol-d6	*0*	*S*		*40-125*	*%REC*	*10*	*04-Feb-2016 18:32*
METALS BY SW6020A		**Method:SW6020**			Prep:SW3050A / 03-Feb-2016		Analyst: RPM
Arsenic	**1.16**		**0.110**	**0.550**	**mg/Kg-dry**	1	04-Feb-2016 11:45
Lead	**27.3**		**0.0550**	**0.550**	**mg/Kg-dry**	1	04-Feb-2016 11:45
MOISTURE - ASTM D2216		**Method:ASTM D2216**					Analyst: DFF
Percent Moisture	**9.21**		**0.0100**	**0.0100**	**wt%**	1	04-Feb-2016 07:49

Note: See Qualifiers Page for a list of qualifiers and their explanation.

WEIGHT LOG

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
WorkOrder: HS16020149

Batch ID: 101155 **Method:** METALS BY SW6020A **Prep:** 3050_I_LOW

SampID	Container	Sample Wt/Vol	Final Volume	Prep Factor
HS16020149-01	1	0.5317	50 (mL)	94.04
HS16020149-02	1	0.5271	50 (mL)	94.86
HS16020149-03	1	0.501	50 (mL)	99.8

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
WorkOrder: HS16020149

DATES REPORT

Sample ID	Client Samp ID	Collection Date	TCLP Date	Prep Date	Analysis Date	DF
Batch ID 101155	**Test Name :** METALS BY SW6020A			**Matrix:** Soil		
HS16020149-01	SO-1620-CSAW1(0-5)-20160203	03 Feb 2016 16:20		03 Feb 2016 20:01	04 Feb 2016 11:39	1
HS16020149-02	SO-1620-CSAW2(0-5)-20160203	03 Feb 2016 16:25		03 Feb 2016 20:01	04 Feb 2016 11:42	1
HS16020149-03	SO-1620-CSAW3(0-5)-20160203	03 Feb 2016 16:30		03 Feb 2016 20:01	04 Feb 2016 11:45	1
Batch ID 101173a	**Test Name :** LOW-LEVEL SEMIVOLATILES			**Matrix:** Soil		
HS16020149-01	SO-1620-CSAW1(0-5)-20160203	03 Feb 2016 16:20		04 Feb 2016 08:41	04 Feb 2016 16:50	1
HS16020149-02	SO-1620-CSAW2(0-5)-20160203	03 Feb 2016 16:25		04 Feb 2016 08:41	04 Feb 2016 17:10	1
HS16020149-03	SO-1620-CSAW3(0-5)-20160203	03 Feb 2016 16:30		04 Feb 2016 08:41	04 Feb 2016 18:52	50
HS16020149-03	SO-1620-CSAW3(0-5)-20160203	03 Feb 2016 16:30		04 Feb 2016 08:41	04 Feb 2016 18:32	10
HS16020149-03	SO-1620-CSAW3(0-5)-20160203	03 Feb 2016 16:30		04 Feb 2016 08:41	04 Feb 2016 17:30	1
Batch ID R268819	**Test Name :** MOISTURE - ASTM D2216			**Matrix:** Soil		
HS16020149-01	SO-1620-CSAW1(0-5)-20160203	03 Feb 2016 16:20			04 Feb 2016 07:49	1
HS16020149-02	SO-1620-CSAW2(0-5)-20160203	03 Feb 2016 16:25			04 Feb 2016 07:49	1
HS16020149-03	SO-1620-CSAW3(0-5)-20160203	03 Feb 2016 16:30			04 Feb 2016 07:49	1

WorkOrder: HS16020149
InstrumentID: ICPMS05
Test Code: ICP_S_Low
Test Number: SW6020
Test Name: Metals by SW6020A

METHOD DETECTION / REPORTING LIMITS

Matrix: Solid **Units:** mg/Kg

Type	Analyte	CAS	DCS Spike	DCS	MDL	PQL
A	Arsenic	7440-38-2	0.100	0.114	0.100	0.500
A	Lead	7439-92-1	0.100	0.0971	0.0500	0.500

WorkOrder: HS16020149
InstrumentID: SV-7
Test Code: 8270_LOW_S
Test Number: SW8270
Test Name: Low-Level Semivolatiles

METHOD DETECTION / REPORTING LIMITS

Matrix: Solid **Units:** mg/Kg

Type	Analyte	CAS	DCS Spike	DCS	MDL	PQL
A	1,2-Diphenylhydrazine	122-66-7	0.0033	0.0029	0.0011	0.0066
A	2,4-Dimethylphenol	105-67-9	0.0033	0.00084	0.0033	0.0066
A	2,4-Dinitrotoluene	121-14-2	0.0033	0.0025	0.00090	0.0066
A	2,6-Dinitrotoluene	606-20-2	0.0033	0.0030	0.0033	0.0066
A	2-Chloronaphthalene	91-58-7	0.0033	0.0025	0.0013	0.0066
A	2-Methylnaphthalene	91-57-6	0.0033	0.0034	0.00050	0.0033
A	4,6-Dinitro-2-methylphenol	534-52-1	0.0033	0.0036	0.0021	0.0066
A	4-Nitrophenol	100-02-7	0.0033	0.0043	0.0019	0.013
A	Acenaphthene	83-32-9	0.0033	0.0029	0.00050	0.0033
A	Acenaphthylene	208-96-8	0.0017	0.0017	0.0010	0.0033
A	Anthracene	120-12-7	0.0033	0.0031	0.00050	0.0033
A	Benz(a)anthracene	56-55-3	0.0017	0.0020	0.0016	0.0033
A	Benzo(a)pyrene	50-32-8	0.0033	0.0032	0.0010	0.0033
A	Benzo(a)pyrene	50-32-8	0.0017	0.0018	0.0010	0.0033
A	Bis(2-chloroethoxy)methane	111-91-1	0.0033	0.0033	0.00090	0.0066
A	Bis(2-ethylhexyl)phthalate	117-81-7	0.0033	0.0060	0.0017	0.0066
A	Chrysene	218-01-9	0.0033	0.0044	0.00080	0.0033
A	Dibenzofuran	132-64-9	0.0033	0.0028	0.00070	0.0033
A	Di-n-butyl phthalate	84-74-2	0.0033	0.0038	0.0012	0.0066
A	Fluoranthene	206-44-0	0.0033	0.0038	0.0011	0.0033
A	Fluoranthene	206-44-0	0.0017	0.0019	0.0011	0.0033
A	Fluorene	86-73-7	0.0017	0.0015	0.0011	0.0033
A	Fluorene	86-73-7	0.0033	0.0027	0.0011	0.0033
A	Naphthalene	91-20-3	0.0017	0.0019	0.00060	0.0033
A	Naphthalene	91-20-3	0.0033	0.0034	0.00060	0.0033
A	Nitrobenzene	98-95-3	0.0033	0.0038	0.00090	0.0066
A	N-Nitrosodiphenylamine	86-30-6	0.0033	0.0037	0.00070	0.0066
A	Pentachlorophenol	87-86-5	0.0033	0.0023	0.0033	0.0066
A	Phenanthrene	85-01-8	0.0033	0.0031	0.0015	0.0033
A	Phenol	108-95-2	0.0033	0.0038	0.0011	0.0066
A	Pyrene	129-00-0	0.0033	0.0045	0.00060	0.0033
A	Pyrene	129-00-0	0.0017	0.0019	0.00060	0.0033
S	2,4,6-Tribromophenol	118-79-6	0	0	0	0
S	2-Fluorobiphenyl	321-60-8	0	0	0	0
S	2-Fluorophenol	367-12-4	0	0	0	0
S	4-Terphenyl-d14	1718-51-0	0	0	0	0
S	Nitrobenzene-d5	4165-60-0	0	0	0	0
S	Phenol-d6	13127-88-3	0	0	0	0

WorkOrder: HS16020149
InstrumentID: Balance1
Test Code: MOIST_ASTM
Test Number: ASTM D2216
Test Name: Moisture - ASTM D2216

METHOD DETECTION / REPORTING LIMITS

Matrix: Solid **Units:** wt%

Type	Analyte	CAS	DCS Spike	DCS	MDL	PQL
A	Percent Moisture	MOIST	0.0100	0.0100	0.0100	0.0100

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
WorkOrder: HS16020149

QC BATCH REPORT

Batch ID: 101155 **Instrument: ICPMS05** **Method: SW6020**

MBLK Sample ID: **MBLK-101155** Units: **mg/Kg** Analysis Date: **04-Feb-2016 10:59**
Client ID: Run ID: **ICPMS05_268752** SeqNo: **3575357** PrepDate: **03-Feb-2016** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	U	0.500								
Lead	U	0.500								

LCS Sample ID: **MLCS-101155** Units: **mg/Kg** Analysis Date: **04-Feb-2016 11:02**
Client ID: Run ID: **ICPMS05_268752** SeqNo: **3575358** PrepDate: **03-Feb-2016** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	8.772	0.500	10	0	87.7	80 - 120				
Lead	8.844	0.500	10	0	88.4	80 - 120				

MS Sample ID: **HS16020138-01MS** Units: **mg/Kg** Analysis Date: **04-Feb-2016 11:11**
Client ID: Run ID: **ICPMS05_268752** SeqNo: **3575361** PrepDate: **03-Feb-2016** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	13.77	0.494	9.874	6.089	77.8	75 - 125				
Lead	15.41	0.494	9.874	5.967	95.6	75 - 125				

MSD Sample ID: **HS16020138-01MSD** Units: **mg/Kg** Analysis Date: **04-Feb-2016 11:15**
Client ID: Run ID: **ICPMS05_268752** SeqNo: **3575362** PrepDate: **03-Feb-2016** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	15.03	0.487	9.748	6.089	91.7	75 - 125	13.77	8.69	20	
Lead	14.29	0.487	9.748	5.967	85.4	75 - 125	15.41	7.51	20	

PDS Sample ID: **HS16020138-01BS** Units: **mg/Kg** Analysis Date: **04-Feb-2016 11:24**
Client ID: Run ID: **ICPMS05_268752** SeqNo: **3575365** PrepDate: **03-Feb-2016** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	14.53	0.484	9.682	6.089	87.2	75 - 125				
Lead	14.03	0.484	9.682	5.967	83.2	75 - 125				

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
WorkOrder: HS16020149

QC BATCH REPORT

Batch ID: 101155 **Instrument: ICPMS05** **Method: SW6020**

SD Sample ID: **HS16020138-01 DIL SX** Units: **mg/Kg** Analysis Date: **04-Feb-2016 11:08**
Client ID: Run ID: **ICPMS05_268752** SeqNo: **3575360** PrepDate: **03-Feb-2016** DF: **5**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%D	%D Limit	Qual
Arsenic	5.986	2.42					6.089	1.69	10	
Lead	6.072	2.42					5.967	1.76	10	

The following samples were anayzed in this batch: HS16020149-01 HS16020149-02 HS16020149-03

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
WorkOrder: HS16020149

QC BATCH REPORT

Batch ID: 101173a **Instrument: SV-7** **Method: SW8270**

MBLK Sample ID: **MBLK-101173** Units: **ug/Kg** Analysis Date: **04-Feb-2016 15:47**
Client ID: Run ID: **SV-7_268826** SeqNo: **3576303** PrepDate: **04-Feb-2016** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Diphenylhydrazine	U	6.6								
2,4-Dimethylphenol	U	6.6								
2,4-Dinitrotoluene	U	6.6								
2,6-Dinitrotoluene	U	6.6								
2-Chloronaphthalene	U	6.6								
2-Methylnaphthalene	U	3.3								
4,6-Dinitro-2-methylphenol	U	6.6								
4-Nitrophenol	U	13								
Acenaphthene	U	3.3								
Acenaphthylene	U	3.3								
Anthracene	U	3.3								
Benz(a)anthracene	U	3.3								
Benzo(a)pyrene	U	3.3								
Bis(2-chloroethoxy)methane	U	6.6								
Bis(2-ethylhexyl)phthalate	U	6.6								
Chrysene	U	3.3								
Dibenzofuran	U	3.3								
Di-n-butyl phthalate	U	6.6								
Fluoranthene	U	3.3								
Fluorene	U	3.3								
Naphthalene	U	3.3								
Nitrobenzene	U	6.6								
N-Nitrosodiphenylamine	U	6.6								
Pentachlorophenol	U	6.6								
Phenanthrene	U	3.3								
Phenol	U	6.6								
Pyrene	U	3.3								
Surr: 2,4,6-Tribromophenol	*138.4*	*0*	*167*	*0*	*82.9*	*36 - 126*				
Surr: 2-Fluorobiphenyl	*148.5*	*0*	*167*	*0*	*88.9*	*43 - 125*				
Surr: 2-Fluorophenol	*156.9*	*0*	*167*	*0*	*94.0*	*37 - 125*				
Surr: 4-Terphenyl-d14	*181.5*	*0*	*167*	*0*	*109*	*32 - 125*				
Surr: Nitrobenzene-d5	*158.4*	*0*	*167*	*0*	*94.9*	*37 - 125*				
Surr: Phenol-d6	*172.4*	*0*	*167*	*0*	*103*	*40 - 125*				

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
WorkOrder: HS16020149

QC BATCH REPORT

Batch ID: 101173a **Instrument: SV-7** **Method: SW8270**

LCS Sample ID: **LCS-101173** Units: **ug/Kg** Analysis Date: **04-Feb-2016 16:06**
Client ID: Run ID: **SV-7_268826** SeqNo: **3576413** PrepDate: **04-Feb-2016** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Diphenylhydrazine	205.1	6.6	167	0	123	50 - 135				
2,4-Dimethylphenol	127.3	6.6	167	0	76.3	45 - 120				
2,4-Dinitrotoluene	141.4	6.6	167	0	84.7	50 - 130				
2,6-Dinitrotoluene	148	6.6	167	0	88.6	50 - 125				
2-Chloronaphthalene	162	6.6	167	0	97.0	50 - 145				
2-Methylnaphthalene	163.4	3.3	167	0	97.9	50 - 120				
4,6-Dinitro-2-methylphenol	140.9	6.6	167	0	84.4	15 - 135				
4-Nitrophenol	178.8	13	167	0	107	40 - 147				
Acenaphthene	130.8	3.3	167	0	78.3	50 - 120				
Acenaphthylene	125	3.3	167	0	74.8	50 - 120				
Anthracene	147.5	3.3	167	0	88.3	50 - 123				
Benz(a)anthracene	147.1	3.3	167	0	88.1	50 - 131				
Benzo(a)pyrene	136	3.3	167	0	81.4	50 - 130				
Bis(2-chloroethoxy)methane	156	6.6	167	0	93.4	50 - 120				
Bis(2-ethylhexyl)phthalate	140	6.6	167	0	83.8	21 - 148				
Chrysene	146.8	3.3	167	0	87.9	50 - 130				
Dibenzofuran	132.4	3.3	167	0	79.3	50 - 125				
Di-n-butyl phthalate	186.1	6.6	167	0	111	50 - 140				
Fluoranthene	157.7	3.3	167	0	94.5	50 - 131				
Fluorene	157.2	3.3	167	0	94.1	50 - 125				
Naphthalene	138.8	3.3	167	0	83.1	50 - 125				
Nitrobenzene	159.7	6.6	167	0	95.7	50 - 125				
N-Nitrosodiphenylamine	173	6.6	167	0	104	50 - 130				
Pentachlorophenol	120.6	6.6	167	0	72.2	23 - 136				
Phenanthrene	144.6	3.3	167	0	86.6	50 - 125				
Phenol	150.4	6.6	167	0	90.0	45 - 130				
Pyrene	128.8	3.3	167	0	77.1	45 - 130				
Surr: 2,4,6-Tribromophenol	*183.4*	*0*	*167*	*0*	*110*	*36 - 126*				
Surr: 2-Fluorobiphenyl	*160.8*	*0*	*167*	*0*	*96.3*	*43 - 125*				
Surr: 2-Fluorophenol	*127.8*	*0*	*167*	*0*	*76.5*	*37 - 125*				
Surr: 4-Terphenyl-d14	*139.5*	*0*	*167*	*0*	*83.5*	*32 - 125*				
Surr: Nitrobenzene-d5	*182.2*	*0*	*167*	*0*	*109*	*37 - 125*				
Surr: Phenol-d6	*138.9*	*0*	*167*	*0*	*83.2*	*40 - 125*				

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
WorkOrder: HS16020149

QC BATCH REPORT

Batch ID: 101173a **Instrument: SV-7** **Method: SW8270**

MS Sample ID: **HS16020149-03MS** Units: **ug/Kg** Analysis Date: **04-Feb-2016 17:50**
Client ID: **SO-1620-CSAW3(0-5)-20160203** Run ID: **SV-7_268826** SeqNo: **3576373** PrepDate: **04-Feb-2016** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Diphenylhydrazine	306.3	66	166.7	0	184	50 - 135				S
2,4-Dimethylphenol	74.22	66	166.7	0	44.5	45 - 120				S
2,4-Dinitrotoluene	713.1	66	166.7	0	428	50 - 130				S
2,6-Dinitrotoluene	237.2	66	166.7	0	142	50 - 125				S
2-Chloronaphthalene	133.7	66	166.7	0	80.2	50 - 145				
2-Methylnaphthalene	10740	33	166.7	20090	-5610	50 - 120				SEO
4,6-Dinitro-2-methylphenol	U	66	166.7	0	0	15 - 135				S
4-Nitrophenol	228.2	130	166.7	0	137	40 - 147				
Acenaphthene	30180	33	166.7	36030	-3510	50 - 120				SEO
Acenaphthylene	1924	33	166.7	0	1150	50 - 120				S
Anthracene	22240	33	166.7	45030	-13700	50 - 123				SEO
Benz(a)anthracene	19270	33	166.7	20190	-551	50 - 131				SEO
Benzo(a)pyrene	9108	33	166.7	16950	-4700	50 - 130				SEO
Bis(2-chloroethoxy)methane	146.3	66	166.7	0	87.7	50 - 120				
Bis(2-ethylhexyl)phthalate	127.3	66	166.7	0	76.4	21 - 148				
Chrysene	16610	33	166.7	19870	-1960	50 - 130				SEO
Dibenzofuran	16940	33	166.7	27880	-6560	50 - 125				SEO
Di-n-butyl phthalate	325.5	66	166.7	0	195	50 - 140				S
Fluoranthene	68260	33	166.7	128400	-36000	50 - 131				SEO
Fluorene	29250	33	166.7	57450	-16900	50 - 125				SEO
Naphthalene	7404	33	166.7	4342	1840	50 - 125				SEO
Nitrobenzene	228.8	66	166.7	0	137	50 - 125				S
N-Nitrosodiphenylamine	808.4	66	166.7	0	485	50 - 130				S
Pentachlorophenol	1013	66	166.7	0	608	23 - 136				S
Phenanthrene	44570	33	166.7	79180	-20800	50 - 125				SEO
Phenol	171.3	66	166.7	0	103	45 - 130				
Pyrene	57970	33	166.7	91430	-20100	45 - 130				SEO
Surr: 2,4,6-Tribromophenol	*169.1*	*0*	*166.7*	*0*	*101*	*36 - 126*				
Surr: 2-Fluorobiphenyl	*106.3*	*0*	*166.7*	*0*	*63.7*	*43 - 125*				
Surr: 2-Fluorophenol	*74.66*	*0*	*166.7*	*0*	*44.8*	*37 - 125*				
Surr: 4-Terphenyl-d14	*298.9*	*0*	*166.7*	*0*	*179*	*32 - 125*				S
Surr: Nitrobenzene-d5	*79.47*	*0*	*166.7*	*0*	*47.7*	*37 - 125*				
Surr: Phenol-d6	*106.1*	*0*	*166.7*	*0*	*63.7*	*40 - 125*				

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
WorkOrder: HS16020149

QC BATCH REPORT

Batch ID: 101173a **Instrument: SV-7** **Method: SW8270**

MSD Sample ID: **HS16020149-03MSD** Units: **ug/Kg** Analysis Date: **04-Feb-2016 18:10**
Client ID: **SO-1620-CSAW3(0-5)-20160203** Run ID: **SV-7_268826** SeqNo: **3576374** PrepDate: **04-Feb-2016** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual
1,2-Diphenylhydrazine	414.3	66	166.8	0	248	50 - 135	306.3	30	30	S
2,4-Dimethylphenol	134.4	66	166.8	0	80.5	45 - 120	74.22	57.7	30	R
2,4-Dinitrotoluene	572.3	66	166.8	0	343	50 - 130	713.1	21.9	30	S
2,6-Dinitrotoluene	244.8	66	166.8	0	147	50 - 125	237.2	3.16	30	S
2-Chloronaphthalene	101.7	66	166.8	0	61.0	50 - 145	133.7	27.1	30	
2-Methylnaphthalene	11960	33	166.8	20090	-4880	50 - 120	10740	10.7	30	SEO
4,6-Dinitro-2-methylphenol	U	66	166.8	0	0	15 - 135	0	0	30	S
4-Nitrophenol	291.5	130	166.8	0	175	40 - 147	228.2	24.3	30	S
Acenaphthene	30320	33	166.8	36030	-3420	50 - 120	30180	0.462	30	SEO
Acenaphthylene	1682	33	166.8	0	1010	50 - 120	1924	13.4	30	S
Anthracene	23230	33	166.8	45030	-13100	50 - 123	22240	4.35	30	SEO
Benz(a)anthracene	19400	33	166.8	20190	-476	50 - 131	19270	0.645	30	SEO
Benzo(a)pyrene	9528	33	166.8	16950	-4450	50 - 130	9108	4.5	30	SEO
Bis(2-chloroethoxy)methane	151.3	66	166.8	0	90.7	50 - 120	146.3	3.38	30	
Bis(2-ethylhexyl)phthalate	291.9	66	166.8	0	175	21 - 148	127.3	78.5	30	SR
Chrysene	18450	33	166.8	19870	-852	50 - 130	16610	10.5	30	SEO
Dibenzofuran	17110	33	166.8	27880	-6450	50 - 125	16940	0.985	30	SEO
Di-n-butyl phthalate	318.6	66	166.8	0	191	50 - 140	325.5	2.13	30	S
Fluoranthene	78060	33	166.8	128400	-30200	50 - 131	68260	13.4	30	SEO
Fluorene	29560	33	166.8	57450	-16700	50 - 125	29250	1.05	30	SEO
Naphthalene	7818	33	166.8	4342	2080	50 - 125	7404	5.44	30	SEO
Nitrobenzene	232.2	66	166.8	0	139	50 - 125	228.8	1.47	30	S
N-Nitrosodiphenylamine	1511	66	166.8	0	906	50 - 130	808.4	60.6	30	SR
Pentachlorophenol	1177	66	166.8	0	706	23 - 136	1013	15	30	S
Phenanthrene	53510	33	166.8	79180	-15400	50 - 125	44570	18.2	30	SEO
Phenol	161.6	66	166.8	0	96.9	45 - 130	171.3	5.8	30	
Pyrene	63530	33	166.8	91430	-16700	45 - 130	57970	9.16	30	SEO
Surr: 2,4,6-Tribromophenol	*130.7*	*0*	*166.8*	*0*	*78.3*	*36 - 126*	*169.1*	*25.6*	*30*	
Surr: 2-Fluorobiphenyl	*128.3*	*0*	*166.8*	*0*	*76.9*	*43 - 125*	*106.3*	*18.8*	*30*	
Surr: 2-Fluorophenol	*105.4*	*0*	*166.8*	*0*	*63.2*	*37 - 125*	*74.66*	*34.1*	*30*	R
Surr: 4-Terphenyl-d14	*302.5*	*0*	*166.8*	*0*	*181*	*32 - 125*	*298.9*	*1.2*	*30*	S
Surr: Nitrobenzene-d5	*116.7*	*0*	*166.8*	*0*	*69.9*	*37 - 125*	*79.47*	*37.9*	*30*	R
Surr: Phenol-d6	*146.5*	*0*	*166.8*	*0*	*87.8*	*40 - 125*	*106.1*	*32*	*30*	R

The following samples were anayzed in this batch: HS16020149-01 HS16020149-02 HS16020149-03

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
WorkOrder: HS16020149

QC BATCH REPORT

Batch ID: **R268819** **Instrument:** **Balance1** **Method:** **ASTM D2216**

DUP Sample ID: **HS16020149-02DUP** Units: **wt%** Analysis Date: **04-Feb-2016 07:49**
Client ID: **SO-1620-CSAW2(0-5)-20160203** Run ID: **Balance1_268819** SeqNo: **3576108** PrepDate: DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Percent Moisture	8.7	0.0100					8.67	0.345	20	

The following samples were anayzed in this batch: HS16020149-01 HS16020149-02 HS16020149-03

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
WorkOrder: **HS16020149**

QUALIFIERS, ACRONYMS, UNITS

Qualifier	Description
*	Value exceeds Regulatory Limit
a	Not accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte detected below quantitation limit
M	Manually integrated, see raw data for justification
n	Not offered for accreditation
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL/SDL

Acronym	Description
DCS	Detectability Check Study
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
MBLK	Method Blank
MDL	Method Detection Limit
MQL	Method Quantitation Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PDS	Post Digestion Spike
PQL	Practical Quantitaion Limit
SD	Serial Dilution
SDL	Sample Detection Limit
TRRP	Texas Risk Reduction Program

Unit Reported	Description
mg/Kg-dry	Milligrams per Kilogram- Dry weight corrected

CERTIFICATIONS,ACCREDITATIONS & LICENSES

Agency	Number	Expire Date
Arkansas	15-024-0	27-Mar-2016
California	2919	31-Jul-2016
Illinois	003622	09-May-2016
Kentucky	KY 2015-2016	30-Apr-2016
Louisiana	03087 2015/2016	30-Jun-2016
North Carolina	624 - 2016	31-Dec-2016
North Dakota	R-193 2015-2016	30-Apr-2016
Oklahoma	2015-047	31-Aug-2016
Texas	T104704231-15-15	30-Apr-2016

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
Work Order: HS16020149

SAMPLE TRACKING

Lab Samp ID	Client Sample ID	Action	Date	Person	New Location
HS16020149-01	SO-1620-CSAW1(0-5)-20160203	Login	2/3/2016 6:26:05 PM	PMG	13D
HS16020149-02	SO-1620-CSAW2(0-5)-20160203	Login	2/3/2016 6:26:05 PM	PMG	13D
HS16020149-03	SO-1620-CSAW3(0-5)-20160203	Login	2/3/2016 6:26:05 PM	PMG	13D

Sample Receipt Checklist

Client Name: PBW
Work Order: HS16020149

Date/Time Received: **03-Feb-2016 18:25**
Received by: **PMG**

Checklist completed by: *Paresh M. Giga* eSignature — 3-Feb-2016 Date

Reviewed by: *Dane J. Wacasey* eSignature — 4-Feb-2016 Date

Matrices: **Soil**

Carrier name: **Client**

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on shipping container/cooler?	Yes ☐	No ☐	Not Present ☑
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☑	No ☐	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
TX1005 solids received in hermetically sealed vials?	Yes ☐	No ☐	N/A ☑
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time?	Yes ☑	No ☐	
Container/Temp Blank temperature in compliance?	Yes ☐	No ☑	
Temperature(s)/Thermometer(s):	7.3c/7.5c U/C	IR4	
Cooler(s)/Kit(s):	Red		
Date/Time sample(s) sent to storage:	2/3/16 18:40		
Water - VOA vials have zero headspace?	Yes ☐	No ☐	No VOA vials submitted ☑
Water - pH acceptable upon receipt?	Yes ☐	No ☐	N/A ☑
pH adjusted?	Yes ☐	No ☑	N/A ☐
pH adjusted by:			

Login Notes: Samples on ice. Cooling process incomplete due to recent sampling.

Client Contacted: Date Contacted: Person Contacted:

Contacted By: 0 Regarding:

Comments:

Corrective Action:

ALS Environmental

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Everett, WA +1 425 356 2600
Fort Collins, CO +1 970 490 1511
Holland, MI +1 616 399 6070

Chain of Custody Form

Page 1 of 1

COC ID: 135238

HS16020149

Pastor, Behling & Wheeler, LLC

1620-10-Rev1 HoustonTX-Wood

ALS Project Manager:

Customer Information		Project Information			
Purchase Order	UPRR	Project Name	1620-10-Rev1 HoustonTX-Wood	A	8270_LOW_S (5632532 SemiVolatiles)
Work Order		Project Number	1620-10-Rev1	B	ICP_S_Low (5636002 5652646 Metals - As, Pb)
Company Name	Pastor, Behling & Wheeler, LLC	Bill To Company	Union Pacific Railroad- A/P	C	MOIST_ASTM (5631931 Gen.Chem. MOIST%)
Send Report To	Eric Matzner	Invoice Attn	Accounts Payable	D	
Address	2201 Double Creek Drive Suite 4004	Address	1400 Douglas Street Stop 0750	E F	
City/State/Zip	Round Rock, TX 78664	City/State/Zip	Omaha, NE 681790750	G	
Phone	(512) 671-3434	Phone		H	
Fax	(512) 671-3446	Fax		I	
e-Mail Address		e-Mail Address		J	

No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
1	SO-1620-CSAW1(0-5)-20160203	2-3-2016	1620	Soil	8	1	X	X	X								
2	SO-1620-CSAW2(0-5)-20160203	2-3-2016	1625	Soil	8	1	X	X	X								
3	SO-1620-CSAW3(0-5)-20160203	2-3-2016	1630	Soil	8	1	X	X	X								
4																	
5																	
6																	
7																	
8																	
9																	
10																	

Sampler(s) Please Print & Sign: Stephen Grahmann [signature]

Shipment Method:

Required Turnaround Time: (Check Box) TAT 1 days Other:

Results Due Date:

Relinquished by:	Date:	Time:	Received by:
[signature]	2-3-2016	1825	[signature]

Relinquished by:	Date:	Time:	Received by (Laboratory):
			2.3.16. 18:25

Logged by (Laboratory):	Date:	Time:	Checked by (Laboratory):

Notes: UPRR Houston MWPWI

Cooler ID	Cooler Temp.
R-D.	ok. 7.3 #4 ...

ON ICE.

QC Package: (Check One Box Below)

QC Level TRRP LRC

Other:

Preservative Key: 1-HCl 2-HNO_3 3-H_2SO_4 4-NaOH 5-$Na_2S_2O_3$ 6-$NaHSO_4$ 7-Other 8-4°C 9-5035

Note: 1. Any changes must be made in writing once samples and COC Form have been submitted to ALS Environmental.
2. Unless otherwise agreed in a formal contract, services provided by ALS Environmental are expressly limited to the terms and conditions stated on the reverse.
3. The Chain of Custody is a legal document. All information must be completed accurately.

10450 Stancliff Rd. Suite 210
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www.alsglobal.com

February 05, 2016

Eric Matzner
Pastor, Behling & Wheeler, LLC
2201 Double Creek Drive
Suite 4004
Round Rock, TX 78664

Work Order: **HS16020185**

Laboratory Results for: **1620-10-Rev1 HoustonTX-Wood**

Dear Eric,

ALS Environmental received 3 sample(s) on Feb 04, 2016 for the analysis presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested. Results are expressed as "as received" unless otherwise noted.

QC sample results for this data met EPA or laboratory specifications except as noted in the Case Narrative or as noted with qualifiers in the QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained by ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

If you have any questions regarding this report, please feel free to call me.

Sincerely,

Generated By: Jumoke.Lawal
Dane J. Wacasey

Client:	Pastor, Behling & Wheeler, LLC	**TRRP Laboratory Data Package Cover Page**
Project:	1620-10-Rev1 HoustonTX-Wood	
WorkOrder:	**HS16020185**	

This data package consists of all or some of the following as applicable:

This signature page, the laboratory review checklist, and the following reportable data:

R1 Field chain-of-custody documentation;

R2 Sample identification cross-reference;

R3 Test reports (analytical data sheets) for each environmental sample that includes:

a) Items consistent with NELAC Chapter 5,
b) dilution factors,
c) preparation methods,
d) cleanup methods, and
e) if required for the project, tentatively identified compounds (TICs).

R4 Surrogate recovery data including:

a) Calculated recovery (%R), and
b) The laboratory's surrogate QC limits.

R5 Test reports/summary forms for blank samples;

R6 Test reports/summary forms for laboratory control samples (LCSs) including:

a) LCS spiking amounts,
b) Calculated %R for each analyte, and
c)The laboratory's LCS QC limits.

R7 Test reports for project matrix spike/matrix spike duplicates (MS/MSDs) including:

a) Samples associated with the MS/MSD clearly identified,
b) MS/MSD spiking amounts,
c) Concentration of each MS/MSD analyte measured in the parent and spiked samples,
d) Calculated %Rs and relative percent differences (RPDs), and
e) The laboratory's MS/MSD QC limits.

R8 Laboratory analytical duplicate (if applicable) recovery and precision:

a) the amount of analyte measured in the duplicate,
b) the calculated RPD, and
c) the laboratory's QC limits for analytical duplicates.

R9 List of method quantitation limits (MQLs) and detectability check sample results for each analyte for each method and matrix.

R10 Other problems or anomalies.
The Exception Report for each "No" or "Not Reviewed (NR)" item in Laboratory Review Checklist and for each analyte, matrix, and method for which the laboratory does not hold NELAC accreditation under the Texas Laboratory Accreditation Program.

Client:	Pastor, Behling & Wheeler, LLC
Project:	1620-10-Rev1 HoustonTX-Wood
WorkOrder:	**HS16020185**

TRRP Laboratory Data Package Cover Page

Release Statement: I am responsible for the release of this laboratory data package. This laboratory is NELAC accredited under the Texas Laboratory Accreditation Program for all the methods, analytes and matrices reported in this data package except as noted in the Exception Reports. The data have been reviewed and are technically compliant with the requirements of the methods used, except where noted by the laboratory in the attached exception reports. By my signature below, I affirm to the best of my knowledge, all problems/anomalies, observed by the laboratory have been identified by the laboratory in the Laboratory Review Checklist, and no information affecting the quality of the data has been knowingly withheld.

Check, if applicable: [NA] This laboratory meets an exception under 30 TAC §25.6 and was last inspected by [ ] TCEQ or [ ] _____ on (enter date of last inspection). Any findings affecting the data in this laboratory data package are noted in the Exception Reports herein. The official signing the cover page of the report in which these data are used is responsible for releasing this data package and is by signature affirming the above release statement is true.

Dane J. Wacasey

Laboratory Review Checklist: Reportable Data							
Laboratory Name: ALS Laboratory Group			LRC Date: 02/05/2016				
Project Name: 1620-10-Rev1 HoustonTX-Wood			Laboratory Job Number: HS16020185				
Reviewer Name: Dane Wacasey			Prep Batch Number(s): 101156,101158,101173a,101179,R268790,R268819,R268853				
#[1]	A[2]	**Description**	**Yes**	**No**	**NA[3]**	**NR[4]**	**ER#[5]**
R1	OI	**Chain-of-custody (C-O-C)**					
		Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?	X				
		Were all departures from standard conditions described in an exception report?	X				
R2	OI	**Sample and quality control (QC) identification**					
		Are all field sample ID numbers cross-referenced to the laboratory ID numbers?	X				
		Are all laboratory ID numbers cross-referenced to the corresponding QC data?	X				
R3	OI	**Test reports**					
		Were all samples prepared and analyzed within holding times?	X				
		Other than those results < MQL, were all other raw values bracketed by calibration standards?	X				
		Were calculations checked by a peer or supervisor?	X				
		Were all analyte identifications checked by a peer or supervisor?	X				
		Were sample detection limits reported for all analytes not detected?	X				
		Were all results for soil and sediment samples reported on a dry weight basis?	X				
		Were % moisture (or solids) reported for all soil and sediment samples?	X				
		Were bulk soils/solids samples for volatile analysis extracted with methanol per SW-846 Method 5035?			X		
		If required for the project, TICs reported?			X		
R4	O	**Surrogate recovery data**					
		Were surrogates added prior to extraction?	X				
		Were surrogate percent recoveries in all samples within the laboratory QC limits?		X			1
R5	OI	**Test reports/summary forms for blank samples**					
		Were appropriate type(s) of blanks analyzed?	X				
		Were blanks analyzed at the appropriate frequency?	X				
		Were method blanks taken through the entire analytical process, including preparation and, if applicable, cleanup procedures?	X				
		Were blank concentrations < MQL?	X				
R6	OI	**Laboratory control samples (LCS):**					
		Were all COCs included in the LCS?	X				
		Was each LCS taken through the entire analytical procedure, including prep and cleanup steps?	X				
		Were LCSs analyzed at the required frequency?	X				
		Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?	X				
		Does the detectability data document the laboratory's capability to detect the COCs at the MDL used to calculate the SDLs?	X				
		Was the LCSD RPD within QC limits?		X			2
R7	OI	**Matrix spike (MS) and matrix spike duplicate (MSD) data**					
		Were the project/method specified analytes included in the MS and MSD?	X				
		Were MS/MSD analyzed at the appropriate frequency?		X			3
		Were MS (and MSD, if applicable) %Rs within the laboratory QC limits?		X			4
		Were MS/MSD RPDs within laboratory QC limits?		X			5
R8	OI	**Analytical duplicate data**					
		Were appropriate analytical duplicates analyzed for each matrix?	X				
		Were analytical duplicates analyzed at the appropriate frequency?	X				
		Were RPDs or relative standard deviations within the laboratory QC limits?	X				
R9	OI	**Method quantitation limits (MQLs):**					
		Are the MQLs for each method analyte included in the laboratory data package?	X				
		Do the MQLs correspond to the concentration of the lowest non-zero calibration standard?	X				
		Are unadjusted MQLs and DCSs included in the laboratory data package?	X				
R10	OI	**Other problems/anomalies**					
		Are all known problems/anomalies/special conditions noted in this LRC and ER?	X				
		Were all necessary corrective actions performed for the reported data?	X				
		Was applicable and available technology used to lower the SDL and minimize the matrix interference affects on the sample results?	X				
		Is the laboratory NELAC-accredited under the Texas Laboratory Program for the analytes, matrices and methods associated with this laboratory data package?	X				

Laboratory Review Checklist: Reportable Data							
Laboratory Name: ALS Laboratory Group			LRC Date: 02/05/2016				
Project Name: 1620-10-Rev1 HoustonTX-Wood			Laboratory Job Number: HS16020185				
Reviewer Name: Dane Wacasey			Prep Batch Number(s): 101156,101158,101173a,101179,R268790,R268819,R268853				
#[1]	**A[2]**	**Description**	**Yes**	**No**	**NA[3]**	**NR[4]**	**ER#[5]**
S1	OI	**Initial calibration (ICAL)**					
		Were response factors and/or relative response factors for each analyte within QC limits?	X				
		Were percent RSDs or correlation coefficient criteria met?	X				
		Was the number of standards recommended in the method used for all analytes?	X				
		Were all points generated between the lowest and highest standard used to calculate the curve?	X				
		Are ICAL data available for all instruments used?	X				
		Has the initial calibration curve been verified using an appropriate second source standard?	X				
S2	OI	**Initial and continuing calibration verification (ICCV and CCV) and continuing calibration blank (CCB)**					
		Was the CCV analyzed at the method-required frequency?	X				
		Were percent differences for each analyte within the method-required QC limits?	X				
		Was the ICAL curve verified for each analyte?	X				
		Was the absolute value of the analyte concentration in the inorganic CCB < MDL?	X				
S3	O	**Mass spectral tuning:**					
		Was the appropriate compound for the method used for tuning?	X				
		Were ion abundance data within the method-required QC limits?	X				
S4	O	**Internal standards (IS):**					
		Were IS area counts and retention times within the method-required QC limits?		X			6
S5	OI	**Raw data** (NELAC section 1 appendix A glossary, and section 5.12 or ISO/IEC 17025 section					
		Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst?	X				
		Were data associated with manual integrations flagged on the raw data?	X				
S6	O	**Dual column confirmation**					
		Did dual column confirmation results meet the method-required QC?			X		
S7	O	**Tentatively identified compounds (TICs):**					
		If TICs were requested, were the mass spectra and TIC data subject to appropriate checks?			X		
S8	I	**Interference Check Sample (ICS) results:**					
		Were percent recoveries within method QC limits?	X				
S9	I	**Serial dilutions, post digestion spikes, and method of standard additions**					
		Were percent differences, recoveries, and the linearity within the QC limits specified in the method?	X				
S10	OI	**Method detection limit (MDL) studies**					
		Was a MDL study performed for each reported analyte?	X				
		Is the MDL either adjusted or supported by the analysis of DCSs?	X				
S11	OI	**Proficiency test reports:**					
		Was the laboratory's performance acceptable on the applicable proficiency tests or evaluation studies?	X				
S12	OI	**Standards documentation**					
		Are all standards used in the analyses NIST-traceable or obtained from other appropriate sources?	X				
S13	OI	**Compound/analyte identification procedures**					
		Are the procedures for compound/analyte identification documented?	X				
S14	OI	**Demonstration of analyst competency (DOC)**					
		Was DOC conducted consistent with NELAC Chapter 5C or ISO/IEC 4?	X				
		Is documentation of the analyst's competency up-to-date and on file?	X				
S15	OI	**Verification/validation documentation for methods** (NELAC Chap 5 or ISO/IEC 17025 Section 5)					
		Are all the methods used to generate the data documented, verified, and validated, where applicable?	X				
S16	OI	**Laboratory standard operating procedures (SOPs):**					
		Are laboratory SOPs current and on file for each method performed?	X				

Items identified by the letter "R" must be included in the laboratory data package submitted in the TRRP-required report(s). Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period.
O = Organic Analyses; I = Inorganic Analyses (and general chemistry, when applicable);
NA = Not Applicable;
NR = Not Reviewed;
R# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

Laboratory Review Checklist: Reportable Data	
Laboratory Name: ALS Laboratory Group	LRC Date: 02/05/2016
Project Name: 1620-10-Rev1 HoustonTX-Wood	Laboratory Job Number: HS16020185
Reviewer Name: Dane Wacasey	Prep Batch Number(s): 101156,101158,101173a,101179,R268790,R268819,R268853

ER#[5]	Description
1	Semivolatile Organics Method SW8270, sample SO-1620-CSBS1R(0-5)-20160204; The surrogate recoveries could not be determined in the 10x/100x due to dilution below the calibration range.
2	Batch 101158, Semivolatile Organics Method SW8270, LCS/LCSD RPD was above the RPD limits for some target compounds. The individual recoveries were in control.
3	Batch 101158, Semivolatile Organics Method SW8270, Insufficient sample to perform MS/MSD. LCS/LCSD provided as batch quality control.
4	Batch 101156 Metals Method SW6020, sample HS16011178-45, MS and MSD were performed on unrelated sample. Batch 101179, Metals Method SW6020, sample HS16020191-01, MS and MSD were performed on unrelated sample. Batch 101173a, Semivolatile Organics Method SW8270, sample HS16020149-03, MS and MSD were performed on unrelated sample.
5	Batch 101156 Metals Method SW6020, sample HS16011178-45, MSD RPD is for an unrelated sample. Batch 101173a, Semivolatile Organics Method SW8270, sample HS16020149-03, MSD RPD is for an unrelated sample.
6	Batch 101173a, Semivolatile Organics Method SW8270, sample SO-1620-CSBS1R(0-5)-20160204: One or more of the GCMS semi-volatile internal standards were recovered at <50%. The sample was reanalyzed with similar results indicating a sample matrix interference.

Items identified by the letter "R" must be included in the laboratory data package submitted in the TRRP-required report(s). Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period.
O = Organic Analyses; I = Inorganic Analyses (and general chemistry, when applicable);
NA = Not Applicable;
NR = Not Reviewed;
R# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
Work Order: HS16020185

SAMPLE SUMMARY

Lab Samp ID	Client Sample ID	Matrix	TagNo	Collection Date	Date Received	Hold
HS16020185-01	SO-1620-CSBS1R(0-5)-20160204	Soil		04-Feb-2016 08:45	04-Feb-2016 12:53	☐
HS16020185-02	WS-1620-Ditch-20160204	Water		04-Feb-2016 11:45	04-Feb-2016 12:53	☐
HS16020185-03	Trip Blank 012716-56	Water		04-Feb-2016 00:00	04-Feb-2016 12:53	☐

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
Sample ID: SO-1620-CSBS1R(0-5)-20160204
Collection Date: 04-Feb-2016 08:45

ANALYTICAL REPORT
WorkOrder:HS16020185
Lab ID:HS16020185-01
Matrix:Soil

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES	**Method:SW8270**				Prep:SW3541 / 04-Feb-2016		Analyst: ACN
1,2-Diphenylhydrazine	U		0.0063	0.038	mg/Kg-dry	1	04-Feb-2016 19:53
2,4-Dimethylphenol	U		0.019	0.038	mg/Kg-dry	1	04-Feb-2016 19:53
2,4-Dinitrotoluene	U		0.0051	0.038	mg/Kg-dry	1	04-Feb-2016 19:53
2,6-Dinitrotoluene	U		0.019	0.038	mg/Kg-dry	1	04-Feb-2016 19:53
2-Chloronaphthalene	U		0.0074	0.038	mg/Kg-dry	1	04-Feb-2016 19:53
2-Methylnaphthalene	**1.9**		**0.028**	**0.19**	**mg/Kg-dry**	10	04-Feb-2016 20:33
4,6-Dinitro-2-methylphenol	U		0.012	0.038	mg/Kg-dry	1	04-Feb-2016 19:53
4-Nitrophenol	U		0.011	0.075	mg/Kg-dry	1	04-Feb-2016 19:53
Acenaphthene	**8.1**		**0.028**	**0.19**	**mg/Kg-dry**	10	04-Feb-2016 20:33
Acenaphthylene	**0.32**		**0.0057**	**0.019**	**mg/Kg-dry**	1	04-Feb-2016 19:53
Anthracene	**21**		**0.28**	**1.9**	**mg/Kg-dry**	100	05-Feb-2016 14:17
Benz(a)anthracene	**17**		**0.091**	**0.19**	**mg/Kg-dry**	10	04-Feb-2016 20:33
Benzo(a)pyrene	**8.9**		**0.057**	**0.19**	**mg/Kg-dry**	10	04-Feb-2016 20:33
Bis(2-chloroethoxy)methane	U		0.0051	0.038	mg/Kg-dry	1	04-Feb-2016 19:53
Bis(2-ethylhexyl)phthalate	U		0.0097	0.038	mg/Kg-dry	1	04-Feb-2016 19:53
Chrysene	**31**		**0.46**	**1.9**	**mg/Kg-dry**	100	05-Feb-2016 14:17
Dibenzofuran	**7.1**		**0.040**	**0.19**	**mg/Kg-dry**	10	04-Feb-2016 20:33
Di-n-butyl phthalate	U		0.0068	0.038	mg/Kg-dry	1	04-Feb-2016 19:53
Fluoranthene	**120**		**0.63**	**1.9**	**mg/Kg-dry**	100	05-Feb-2016 14:17
Fluorene	**15**		**0.063**	**0.19**	**mg/Kg-dry**	10	04-Feb-2016 20:33
Naphthalene	**2.8**		**0.034**	**0.19**	**mg/Kg-dry**	10	04-Feb-2016 20:33
Nitrobenzene	U		0.0051	0.038	mg/Kg-dry	1	04-Feb-2016 19:53
N-Nitrosodiphenylamine	**0.29**		**0.0040**	**0.038**	**mg/Kg-dry**	1	04-Feb-2016 19:53
Pentachlorophenol	U		0.019	0.038	mg/Kg-dry	1	04-Feb-2016 19:53
Phenanthrene	**120**		**0.85**	**1.9**	**mg/Kg-dry**	100	05-Feb-2016 14:17
Phenol	U		0.0063	0.038	mg/Kg-dry	1	04-Feb-2016 19:53
Pyrene	**85**		**0.34**	**1.9**	**mg/Kg-dry**	100	05-Feb-2016 14:17
Surr: 2,4,6-Tribromophenol	*0*	*S*		*36-126*	*%REC*	*10*	*04-Feb-2016 20:33*
Surr: 2,4,6-Tribromophenol	*0*	*S*		*36-126*	*%REC*	*100*	*05-Feb-2016 14:17*
Surr: 2,4,6-Tribromophenol	*72.8*			*36-126*	*%REC*	*1*	*04-Feb-2016 19:53*
Surr: 2-Fluorobiphenyl	*0*	*S*		*43-125*	*%REC*	*100*	*05-Feb-2016 14:17*
Surr: 2-Fluorobiphenyl	*61.7*			*43-125*	*%REC*	*1*	*04-Feb-2016 19:53*
Surr: 2-Fluorobiphenyl	*0*	*S*		*43-125*	*%REC*	*10*	*04-Feb-2016 20:33*
Surr: 2-Fluorophenol	*0*	*S*		*37-125*	*%REC*	*10*	*04-Feb-2016 20:33*
Surr: 2-Fluorophenol	*48.4*			*37-125*	*%REC*	*1*	*04-Feb-2016 19:53*
Surr: 2-Fluorophenol	*0*	*S*		*37-125*	*%REC*	*100*	*05-Feb-2016 14:17*
Surr: 4-Terphenyl-d14	*0*	*S*		*32-125*	*%REC*	*100*	*05-Feb-2016 14:17*
Surr: 4-Terphenyl-d14	*73.2*			*32-125*	*%REC*	*1*	*04-Feb-2016 19:53*
Surr: 4-Terphenyl-d14	*0*	*S*		*32-125*	*%REC*	*10*	*04-Feb-2016 20:33*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
Sample ID: SO-1620-CSBS1R(0-5)-20160204
Collection Date: 04-Feb-2016 08:45

ANALYTICAL REPORT
WorkOrder:HS16020185
Lab ID:HS16020185-01
Matrix:Soil

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES		**Method:SW8270**			Prep:SW3541 / 04-Feb-2016		Analyst: ACN
Surr: Nitrobenzene-d5	*0*	*S*		*37-125*	*%REC*	*10*	*04-Feb-2016 20:33*
Surr: Nitrobenzene-d5	*0*	*S*		*37-125*	*%REC*	*100*	*05-Feb-2016 14:17*
Surr: Nitrobenzene-d5	*57.7*			*37-125*	*%REC*	*1*	*04-Feb-2016 19:53*
Surr: Phenol-d6	*0*	*S*		*40-125*	*%REC*	*100*	*05-Feb-2016 14:17*
Surr: Phenol-d6	*0*	*S*		*40-125*	*%REC*	*10*	*04-Feb-2016 20:33*
Surr: Phenol-d6	*61.9*			*40-125*	*%REC*	*1*	*04-Feb-2016 19:53*
METALS BY SW6020A		**Method:SW6020**			Prep:SW3050A / 04-Feb-2016		Analyst: JDE
Arsenic	**1.80**		**0.111**	**0.557**	**mg/Kg-dry**	1	04-Feb-2016 16:22
Lead	**11.2**		**0.0557**	**0.557**	**mg/Kg-dry**	1	04-Feb-2016 16:22
MOISTURE - ASTM D2216		**Method:ASTM D2216**					Analyst: DFF
Percent Moisture	**12.2**		**0.0100**	**0.0100**	**wt%**	1	04-Feb-2016 14:00

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
Sample ID: WS-1620-Ditch-20160204
Collection Date: 04-Feb-2016 11:45

ANALYTICAL REPORT
WorkOrder:HS16020185
Lab ID:HS16020185-02
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C		**Method:SW8260**					Analyst: AKP
1,2-Dichloroethane		U	0.00020	0.0010	mg/L	1	04-Feb-2016 15:22
Benzene		U	0.00020	0.0010	mg/L	1	04-Feb-2016 15:22
Chlorobenzene		U	0.00030	0.0010	mg/L	1	04-Feb-2016 15:22
Ethylbenzene		U	0.00030	0.0010	mg/L	1	04-Feb-2016 15:22
Methylene chloride		U	0.0010	0.0020	mg/L	1	04-Feb-2016 15:22
Toluene	**0.0011**		**0.00020**	**0.0010**	**mg/L**	1	04-Feb-2016 15:22
Vinyl chloride		U	0.00020	0.0010	mg/L	1	04-Feb-2016 15:22
Xylenes, Total		U	0.00050	0.0030	mg/L	1	04-Feb-2016 15:22
Surr: 1,2-Dichloroethane-d4	*108*			*71-125*	*%REC*	*1*	*04-Feb-2016 15:22*
Surr: 4-Bromofluorobenzene	*110*			*70-125*	*%REC*	*1*	*04-Feb-2016 15:22*
Surr: Dibromofluoromethane	*108*			*74-125*	*%REC*	*1*	*04-Feb-2016 15:22*
Surr: Toluene-d8	*112*			*75-125*	*%REC*	*1*	*04-Feb-2016 15:22*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
Sample ID: WS-1620-Ditch-20160204
Collection Date: 04-Feb-2016 11:45

ANALYTICAL REPORT
WorkOrder:HS16020185
Lab ID:HS16020185-02
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES		**Method:SW8270**			Prep:SW3510 / 04-Feb-2016		Analyst: ACN
1,2-Diphenylhydrazine	U		0.000021	0.00020	mg/L	1	04-Feb-2016 16:29
2,4-Dimethylphenol	U		0.000040	0.00020	mg/L	1	04-Feb-2016 16:29
2,4-Dinitrotoluene	U		0.000058	0.00020	mg/L	1	04-Feb-2016 16:29
2,6-Dinitrotoluene	U		0.000042	0.00020	mg/L	1	04-Feb-2016 16:29
2-Chloronaphthalene	U		0.000021	0.00020	mg/L	1	04-Feb-2016 16:29
2-Methylnaphthalene	U		0.000019	0.00010	mg/L	1	04-Feb-2016 16:29
4,6-Dinitro-2-methylphenol	U		0.000020	0.00020	mg/L	1	04-Feb-2016 16:29
4-Nitrophenol	U		0.000047	0.0010	mg/L	1	04-Feb-2016 16:29
Acenaphthene	U		0.000027	0.00010	mg/L	1	04-Feb-2016 16:29
Acenaphthylene	**0.00033**		**0.000015**	**0.00010**	**mg/L**	1	04-Feb-2016 16:29
Anthracene	**0.00061**		**0.000014**	**0.00010**	**mg/L**	1	04-Feb-2016 16:29
Benz(a)anthracene	**0.00053**		**0.000050**	**0.00010**	**mg/L**	1	04-Feb-2016 16:29
Benzo(a)pyrene	**0.00093**		**0.000020**	**0.00010**	**mg/L**	1	04-Feb-2016 16:29
Bis(2-chloroethoxy)methane	U		0.000030	0.00020	mg/L	1	04-Feb-2016 16:29
Bis(2-ethylhexyl)phthalate	**0.00027**		**0.000037**	**0.00020**	**mg/L**	1	04-Feb-2016 16:29
Chrysene	**0.00076**		**0.000021**	**0.00010**	**mg/L**	1	04-Feb-2016 16:29
Dibenzofuran	U		0.000020	0.00010	mg/L	1	04-Feb-2016 16:29
Di-n-butyl phthalate	U		0.000020	0.00020	mg/L	1	04-Feb-2016 16:29
Fluoranthene	**0.00054**		**0.000010**	**0.00010**	**mg/L**	1	04-Feb-2016 16:29
Fluorene	U		0.000030	0.00010	mg/L	1	04-Feb-2016 16:29
Naphthalene	U		0.000020	0.00010	mg/L	1	04-Feb-2016 16:29
Nitrobenzene	U		0.000024	0.00020	mg/L	1	04-Feb-2016 16:29
N-Nitrosodiphenylamine	U		0.000025	0.00020	mg/L	1	04-Feb-2016 16:29
Pentachlorophenol	U		0.000079	0.00020	mg/L	1	04-Feb-2016 16:29
Phenanthrene	**0.000079**	J	**0.000021**	**0.00010**	**mg/L**	1	04-Feb-2016 16:29
Phenol	**0.000062**	J	**0.000035**	**0.00020**	**mg/L**	1	04-Feb-2016 16:29
Pyrene	**0.00096**		**0.000019**	**0.00010**	**mg/L**	1	04-Feb-2016 16:29
Surr: 2,4,6-Tribromophenol	*77.2*			*34-129*	*%REC*	*1*	*04-Feb-2016 16:29*
Surr: 2-Fluorobiphenyl	*78.2*			*40-125*	*%REC*	*1*	*04-Feb-2016 16:29*
Surr: 2-Fluorophenol	*54.7*			*20-120*	*%REC*	*1*	*04-Feb-2016 16:29*
Surr: 4-Terphenyl-d14	*78.4*			*40-135*	*%REC*	*1*	*04-Feb-2016 16:29*
Surr: Nitrobenzene-d5	*84.9*			*41-120*	*%REC*	*1*	*04-Feb-2016 16:29*
Surr: Phenol-d6	*65.8*			*20-120*	*%REC*	*1*	*04-Feb-2016 16:29*
ICP-MS METALS BY SW6020A		**Method:SW6020**			Prep:SW3010A / 04-Feb-2016		Analyst: RPM
Arsenic	**0.0223**		**0.000400**	**0.00500**	**mg/L**	1	05-Feb-2016 08:24
Lead	**0.0339**		**0.000600**	**0.00500**	**mg/L**	1	05-Feb-2016 08:24

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
Sample ID: Trip Blank 012716-56
Collection Date: 04-Feb-2016 00:00

ANALYTICAL REPORT
WorkOrder:HS16020185
Lab ID:HS16020185-03
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C		**Method:SW8260**					Analyst: AKP
1,2-Dichloroethane		U	0.00020	0.0010	mg/L	1	05-Feb-2016 11:09
Benzene		U	0.00020	0.0010	mg/L	1	05-Feb-2016 11:09
Chlorobenzene		U	0.00030	0.0010	mg/L	1	05-Feb-2016 11:09
Ethylbenzene		U	0.00030	0.0010	mg/L	1	05-Feb-2016 11:09
Methylene chloride		U	0.0010	0.0020	mg/L	1	05-Feb-2016 11:09
Toluene		U	0.00020	0.0010	mg/L	1	05-Feb-2016 11:09
Vinyl chloride		U	0.00020	0.0010	mg/L	1	05-Feb-2016 11:09
Xylenes, Total		U	0.00050	0.0030	mg/L	1	05-Feb-2016 11:09
Surr: 1,2-Dichloroethane-d4	*100*			*71-125*	*%REC*	*1*	*05-Feb-2016 11:09*
Surr: 4-Bromofluorobenzene	*100*			*70-125*	*%REC*	*1*	*05-Feb-2016 11:09*
Surr: Dibromofluoromethane	*106*			*74-125*	*%REC*	*1*	*05-Feb-2016 11:09*
Surr: Toluene-d8	*101*			*75-125*	*%REC*	*1*	*05-Feb-2016 11:09*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

WEIGHT LOG

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
WorkOrder: HS16020185

Batch ID: 101156 **Method:** METALS BY SW6020A **Prep:** 3050_I_LOW

SampID	Container	Sample Wt/Vol	Final Volume	Prep Factor
HS16020185-01	1	0.5114	50 (mL)	97.77

Batch ID: 101158 **Method:** LOW-LEVEL SEMIVOLATILES **Prep:** 3510_B_LOW

SampID	Container	Sample Wt/Vol	Final Volume	Prep Factor
HS16020185-02	1	1000	1 (mL)	0.001

Batch ID: 101179 **Method:** ICP-MS METALS BY SW6020A **Prep:** 3010A

SampID	Container	Sample Wt/Vol	Final Volume	Prep Factor
HS16020185-02	1	50	50 (mL)	1

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
WorkOrder: HS16020185

DATES REPORT

Sample ID	Client Samp ID	Collection Date	TCLP Date	Prep Date	Analysis Date	DF
Batch ID 101156	**Test Name :** METALS BY SW6020A			**Matrix:** Soil		
HS16020185-01	SO-1620-CSBS1R(0-5)-20160204	04 Feb 2016 08:45		04 Feb 2016 10:00	04 Feb 2016 16:22	1
Batch ID 101158	**Test Name :** LOW-LEVEL SEMIVOLATILES			**Matrix:** Water		
HS16020185-02	WS-1620-Ditch-20160204	04 Feb 2016 11:45		04 Feb 2016 07:17	04 Feb 2016 16:29	1
Batch ID 101173a	**Test Name :** LOW-LEVEL SEMIVOLATILES			**Matrix:** Soil		
HS16020185-01	SO-1620-CSBS1R(0-5)-20160204	04 Feb 2016 08:45		04 Feb 2016 08:41	05 Feb 2016 14:17	100
HS16020185-01	SO-1620-CSBS1R(0-5)-20160204	04 Feb 2016 08:45		04 Feb 2016 08:41	04 Feb 2016 20:33	10
HS16020185-01	SO-1620-CSBS1R(0-5)-20160204	04 Feb 2016 08:45		04 Feb 2016 08:41	04 Feb 2016 19:53	1
Batch ID 101179	**Test Name :** ICP-MS METALS BY SW6020A			**Matrix:** Water		
HS16020185-02	WS-1620-Ditch-20160204	04 Feb 2016 11:45		04 Feb 2016 15:17	05 Feb 2016 08:24	1
Batch ID R268790	**Test Name :** LOW LEVEL VOLATILES BY SW8260C			**Matrix:** Water		
HS16020185-02	WS-1620-Ditch-20160204	04 Feb 2016 11:45			04 Feb 2016 15:22	1
Batch ID R268819	**Test Name :** MOISTURE - ASTM D2216			**Matrix:** Soil		
HS16020185-01	SO-1620-CSBS1R(0-5)-20160204	04 Feb 2016 08:45			04 Feb 2016 14:00	1
Batch ID R268853	**Test Name :** LOW LEVEL VOLATILES BY SW8260C			**Matrix:** Water		
HS16020185-03	Trip Blank 012716-56	04 Feb 2016 00:00			05 Feb 2016 11:09	1

WorkOrder: HS16020185
InstrumentID: ICPMS03
Test Code: ICP_S_Low
Test Number: SW6020
Test Name: Metals by SW6020A

METHOD DETECTION / REPORTING LIMITS

Matrix: Solid **Units:** mg/Kg

Type	Analyte	CAS	DCS Spike	DCS	MDL	PQL
A	Arsenic	7440-38-2	0.100	0.134	0.100	0.500
A	Lead	7439-92-1	0.100	0.101	0.0500	0.500

WorkOrder: HS16020185
InstrumentID: ICPMS05
Test Code: ICP_TW
Test Number: SW6020
Test Name: ICP-MS Metals by SW6020A

METHOD DETECTION / REPORTING LIMITS

Matrix: Aqueous **Units:** mg/L

Type	Analyte	CAS	DCS Spike	DCS	MDL	PQL
A	Arsenic	7440-38-2	0.00100	0.000883	0.000400	0.00500
A	Lead	7439-92-1	0.00100	0.00102	0.000600	0.00500

WorkOrder: HS16020185
InstrumentID: SV-7
Test Code: 8270_LOW_S
Test Number: SW8270
Test Name: Low-Level Semivolatiles

METHOD DETECTION / REPORTING LIMITS

Matrix: Solid **Units:** mg/Kg

Type	Analyte	CAS	DCS Spike	DCS	MDL	PQL
A	1,2-Diphenylhydrazine	122-66-7	0.0033	0.0029	0.0011	0.0066
A	2,4-Dimethylphenol	105-67-9	0.0033	0.00084	0.0033	0.0066
A	2,4-Dinitrotoluene	121-14-2	0.0033	0.0025	0.00090	0.0066
A	2,6-Dinitrotoluene	606-20-2	0.0033	0.0030	0.0033	0.0066
A	2-Chloronaphthalene	91-58-7	0.0033	0.0025	0.0013	0.0066
A	2-Methylnaphthalene	91-57-6	0.0033	0.0034	0.00050	0.0033
A	4,6-Dinitro-2-methylphenol	534-52-1	0.0033	0.0036	0.0021	0.0066
A	4-Nitrophenol	100-02-7	0.0033	0.0043	0.0019	0.013
A	Acenaphthene	83-32-9	0.0033	0.0029	0.00050	0.0033
A	Acenaphthylene	208-96-8	0.0033	0.0023	0.0010	0.0033
A	Anthracene	120-12-7	0.0017	0.0017	0.00050	0.0033
A	Benz(a)anthracene	56-55-3	0.0017	0.0020	0.0016	0.0033
A	Benzo(a)pyrene	50-32-8	0.0033	0.0032	0.0010	0.0033
A	Bis(2-chloroethoxy)methane	111-91-1	0.0033	0.0033	0.00090	0.0066
A	Bis(2-ethylhexyl)phthalate	117-81-7	0.0033	0.0060	0.0017	0.0066
A	Chrysene	218-01-9	0.0017	0.0017	0.00080	0.0033
A	Dibenzofuran	132-64-9	0.0033	0.0028	0.00070	0.0033
A	Di-n-butyl phthalate	84-74-2	0.0033	0.0038	0.0012	0.0066
A	Fluoranthene	206-44-0	0.0033	0.0038	0.0011	0.0033
A	Fluorene	86-73-7	0.0033	0.0027	0.0011	0.0033
A	Naphthalene	91-20-3	0.0033	0.0034	0.00060	0.0033
A	Nitrobenzene	98-95-3	0.0033	0.0038	0.00090	0.0066
A	N-Nitrosodiphenylamine	86-30-6	0.0033	0.0037	0.00070	0.0066
A	Pentachlorophenol	87-86-5	0.0033	0.0023	0.0033	0.0066
A	Phenanthrene	85-01-8	0.0017	0.0017	0.0015	0.0033
A	Phenol	108-95-2	0.0033	0.0038	0.0011	0.0066
A	Pyrene	129-00-0	0.0033	0.0045	0.00060	0.0033
S	2,4,6-Tribromophenol	118-79-6	0	0	0	0
S	2-Fluorobiphenyl	321-60-8	0	0	0	0
S	2-Fluorophenol	367-12-4	0	0	0	0
S	4-Terphenyl-d14	1718-51-0	0	0	0	0
S	Nitrobenzene-d5	4165-60-0	0	0	0	0
S	Phenol-d6	13127-88-3	0	0	0	0

WorkOrder: HS16020185
InstrumentID: SV-7
Test Code: 8270_LOW_W
Test Number: SW8270
Test Name: Low-Level Semivolatiles

METHOD DETECTION / REPORTING LIMITS

Matrix: Aqueous **Units:** mg/L

Type	Analyte	CAS	DCS Spike	DCS	MDL	PQL
A	1,2-Diphenylhydrazine	122-66-7	0.00010	0.000078	0.000021	0.00020
A	2,4-Dimethylphenol	105-67-9	0.00010	0.000047	0.000040	0.00020
A	2,4-Dinitrotoluene	121-14-2	0.00010	0.000071	0.000058	0.00020
A	2,6-Dinitrotoluene	606-20-2	0.00010	0.000073	0.000042	0.00020
A	2-Chloronaphthalene	91-58-7	0.00010	0.00011	0.000021	0.00020
A	2-Methylnaphthalene	91-57-6	0.00010	0.000066	0.000019	0.00010
A	4,6-Dinitro-2-methylphenol	534-52-1	0.00010	0.000060	0.000020	0.00020
A	4-Nitrophenol	100-02-7	0.00010	0.00015	0.000047	0.0010
A	Acenaphthene	83-32-9	0.00010	0.000074	0.000027	0.00010
A	Acenaphthylene	208-96-8	0.000050	0.000038	0.000015	0.00010
A	Anthracene	120-12-7	0.00010	0.000074	0.000014	0.00010
A	Benz(a)anthracene	56-55-3	0.000050	0.000056	0.000050	0.00010
A	Benzo(a)pyrene	50-32-8	0.00010	0.000097	0.000020	0.00010
A	Bis(2-chloroethoxy)methane	111-91-1	0.00010	0.000087	0.000030	0.00020
A	Bis(2-ethylhexyl)phthalate	117-81-7	0.00010	0.00012	0.000037	0.00020
A	Chrysene	218-01-9	0.000050	0.000045	0.000021	0.00010
A	Dibenzofuran	132-64-9	0.00010	0.000094	0.000020	0.00010
A	Di-n-butyl phthalate	84-74-2	0.00010	0.000089	0.000020	0.00020
A	Fluoranthene	206-44-0	0.000050	0.000059	0.000010	0.00010
A	Fluorene	86-73-7	0.00010	0.000086	0.000030	0.00010
A	Naphthalene	91-20-3	0.00010	0.000076	0.000020	0.00010
A	Nitrobenzene	98-95-3	0.00010	0.00011	0.000024	0.00020
A	N-Nitrosodiphenylamine	86-30-6	0.00010	0.00010	0.000025	0.00020
A	Pentachlorophenol	87-86-5	0.00010	0.000039	0.000079	0.00020
A	Phenanthrene	85-01-8	0.00010	0.00011	0.000021	0.00010
A	Phenol	108-95-2	0.00010	0.000085	0.000035	0.00020
A	Pyrene	129-00-0	0.000050	0.000096	0.000019	0.00010
S	2,4,6-Tribromophenol	118-79-6	0	0	0	0.00020
S	2-Fluorobiphenyl	321-60-8	0	0	0	0.00020
S	2-Fluorophenol	367-12-4	0	0	0	0.00020
S	4-Terphenyl-d14	1718-51-0	0	0	0	0.00020
S	Nitrobenzene-d5	4165-60-0	0	0	0	0.00020
S	Phenol-d6	13127-88-3	0	0	0	0.00020

WorkOrder: HS16020185
InstrumentID: VOA4
Test Code: 8260_LL_W
Test Number: SW8260
Test Name: Low Level Volatiles by SW8260C

METHOD DETECTION / REPORTING LIMITS

Matrix: Aqueous **Units:** mg/L

Type	Analyte	CAS	DCS Spike	DCS	MDL	PQL
A	1,2-Dichloroethane	107-06-2	0.00050	0.00077	0.00020	0.0010
A	Benzene	71-43-2	0.00050	0.00065	0.00020	0.0010
A	Chlorobenzene	108-90-7	0.00050	0.00064	0.00030	0.0010
A	Ethylbenzene	100-41-4	0.00050	0.00061	0.00030	0.0010
A	Methylene chloride	75-09-2	0.00050	0.00087	0.0010	0.0020
A	Toluene	108-88-3	0.00050	0.00067	0.00020	0.0010
A	Vinyl chloride	75-01-4	0.00050	0.00067	0.00020	0.0010
A	Xylenes, Total	1330-20-7	0.0015	0.0018	0.00050	0.0030
S	1,2-Dichloroethane-d4	17060-07-0	0	0	0	0.0010
S	4-Bromofluorobenzene	460-00-4	0	0	0	0.0010
S	Dibromofluoromethane	1868-53-7	0	0	0	0.0010
S	Toluene-d8	2037-26-5	0	0	0	0.0010

WorkOrder: HS16020185
InstrumentID: VOA2
Test Code: 8260_LL_W
Test Number: SW8260
Test Name: Low Level Volatiles by SW8260C

METHOD DETECTION / REPORTING LIMITS

Matrix: Aqueous **Units:** mg/L

Type	Analyte	CAS	DCS Spike	DCS	MDL	PQL
A	1,2-Dichloroethane	107-06-2	0.00050	0.00074	0.00020	0.0010
A	Benzene	71-43-2	0.00050	0.0011	0.00020	0.0010
A	Chlorobenzene	108-90-7	0.00050	0.00072	0.00030	0.0010
A	Ethylbenzene	100-41-4	0.00050	0.00073	0.00030	0.0010
A	Methylene chloride	75-09-2	0.00050	0.00065	0.0010	0.0020
A	Toluene	108-88-3	0.00050	0.00072	0.00020	0.0010
A	Vinyl chloride	75-01-4	0.00050	0.00059	0.00020	0.0010
A	Xylenes, Total	1330-20-7	0.0015	0.0025	0.00050	0.0030
S	1,2-Dichloroethane-d4	17060-07-0	0	0	0	0.0010
S	4-Bromofluorobenzene	460-00-4	0	0	0	0.0010
S	Dibromofluoromethane	1868-53-7	0	0	0	0.0010
S	Toluene-d8	2037-26-5	0	0	0	0.0010

WorkOrder: HS16020185
InstrumentID: Balance1
Test Code: MOIST_ASTM
Test Number: ASTM D2216
Test Name: Moisture - ASTM D2216

METHOD DETECTION / REPORTING LIMITS

Matrix: Solid **Units:** wt%

Type	Analyte	CAS	DCS Spike	DCS	MDL	PQL
A	Percent Moisture	MOIST	0.0100	0.0100	0.0100	0.0100

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
WorkOrder: HS16020185

QC BATCH REPORT

Batch ID: 101156 **Instrument: ICPMS03** **Method: SW6020**

MBLK Sample ID: **MBLKB-101156** Units: **mg/Kg** Analysis Date: **04-Feb-2016 16:13**
Client ID: Run ID: **ICPMS03_268795** SeqNo: **3575971** PrepDate: **03-Feb-2016** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	U	0.576								
Lead	U	0.576								

LCS Sample ID: **MLCS-101156** Units: **mg/Kg** Analysis Date: **04-Feb-2016 16:17**
Client ID: Run ID: **ICPMS03_268795** SeqNo: **3575972** PrepDate: **03-Feb-2016** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	9.834	0.568	11.36	0	86.6	80 - 120				
Lead	10.08	0.568	11.36	0	88.8	80 - 120				

MS Sample ID: **HS16011178-45MS** Units: **mg/Kg** Analysis Date: **04-Feb-2016 16:34**
Client ID: Run ID: **ICPMS03_268795** SeqNo: **3575976** PrepDate: **03-Feb-2016** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	19.6	0.474	9.479	6.498	138	75 - 125				S
Lead	29.95	0.474	9.479	12.47	184	75 - 125				S

MSD Sample ID: **HS16011178-45MSD** Units: **mg/Kg** Analysis Date: **04-Feb-2016 16:39**
Client ID: Run ID: **ICPMS03_268795** SeqNo: **3575977** PrepDate: **03-Feb-2016** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	16.69	0.469	9.379	6.498	109	75 - 125	19.6	16	20	
Lead	23.8	0.469	9.379	12.47	121	75 - 125	29.95	22.9	20	R

PDS Sample ID: **HS16011178-45BS** Units: **mg/Kg** Analysis Date: **04-Feb-2016 16:43**
Client ID: Run ID: **ICPMS03_268795** SeqNo: **3575978** PrepDate: **03-Feb-2016** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	14.94	0.478	9.562	6.498	88.2	75 - 125				
Lead	20.52	0.478	9.562	12.47	84.2	75 - 125				

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
WorkOrder: HS16020185

QC BATCH REPORT

Batch ID: 101156 **Instrument: ICPMS03** **Method: SW6020**

SD Sample ID: **HS16011178-45 DIL SX** Units: **mg/Kg** Analysis Date: **04-Feb-2016 16:30**
Client ID: Run ID: **ICPMS03_268795** SeqNo: **3575975** PrepDate: **03-Feb-2016** DF: **5**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%D	%D Limit	Qual
Arsenic	6.593	2.39					6.498	1.46	10	
Lead	12.78	2.39					12.47	2.49	10	

The following samples were anayzed in this batch: HS16020185-01

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
WorkOrder: HS16020185

QC BATCH REPORT

Batch ID: 101179 **Instrument: ICPMS05** **Method: SW6020**

MBLK Sample ID: **MBLK-101179** Units: **mg/L** Analysis Date: **05-Feb-2016 08:00**
Client ID: Run ID: **ICPMS05_268816** SeqNo: **3576178** PrepDate: **04-Feb-2016** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	U	0.00500								
Lead	U	0.00500								

LCS Sample ID: **MLCS-101179** Units: **mg/L** Analysis Date: **05-Feb-2016 09:12**
Client ID: Run ID: **ICPMS05_268816** SeqNo: **3576211** PrepDate: **04-Feb-2016** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	0.0429	0.00500	0.05	0	85.8	80 - 120				

LCS Sample ID: **MLCS-101179** Units: **mg/L** Analysis Date: **05-Feb-2016 08:03**
Client ID: Run ID: **ICPMS05_268816** SeqNo: **3576179** PrepDate: **04-Feb-2016** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Lead	0.04114	0.00500	0.05	0	82.3	80 - 120				

MS Sample ID: **HS16020191-01MS** Units: **mg/L** Analysis Date: **05-Feb-2016 08:33**
Client ID: Run ID: **ICPMS05_268816** SeqNo: **3576189** PrepDate: **04-Feb-2016** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	0.0886	0.00500	0.05	0.04779	81.6	80 - 120				
Lead	0.04038	0.00500	0.05	0.000205	80.3	80 - 120				

MSD Sample ID: **HS16020191-01MSD** Units: **mg/L** Analysis Date: **05-Feb-2016 08:36**
Client ID: Run ID: **ICPMS05_268816** SeqNo: **3576190** PrepDate: **04-Feb-2016** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	0.08785	0.00500	0.05	0.04779	80.1	80 - 120	0.0886	0.852	20	
Lead	0.03957	0.00500	0.05	0.000205	78.7	80 - 120	0.04038	2.01	20	S

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
WorkOrder: HS16020185

QC BATCH REPORT

Batch ID: 101179 **Instrument: ICPMS05** **Method: SW6020**

PDS Sample ID: **HS16020191-01BS** Units: **mg/L** Analysis Date: **05-Feb-2016 08:39**
Client ID: Run ID: **ICPMS05_268816** SeqNo: **3576191** PrepDate: **04-Feb-2016** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	0.1636	0.00500	0.1	0.04779	116	75 - 125				
Lead	0.1094	0.00500	0.1	0.000205	109	75 - 125				

SD Sample ID: **HS16020191-01 DIL SX** Units: **mg/L** Analysis Date: **05-Feb-2016 08:30**
Client ID: Run ID: **ICPMS05_268816** SeqNo: **3576188** PrepDate: **04-Feb-2016** DF: **5**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%D	%D Limit	Qual
Arsenic	0.04776	0.0250					0.04779	0.0502	10	
Lead	U	0.0250					0	0	10	

The following samples were anayzed in this batch: HS16020185-02

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
WorkOrder: HS16020185

QC BATCH REPORT

Batch ID: 101158 **Instrument: SV-7** **Method: SW8270**

MBLK Sample ID: **MBLK-101158** Units: **ug/L** Analysis Date: **04-Feb-2016 16:26**
Client ID: Run ID: **SV-7_268829** SeqNo: **3576309** PrepDate: **04-Feb-2016** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Diphenylhydrazine	U	0.20								
2,4-Dimethylphenol	U	0.20								
2,4-Dinitrotoluene	U	0.20								
2,6-Dinitrotoluene	U	0.20								
2-Chloronaphthalene	U	0.20								
2-Methylnaphthalene	U	0.10								
4,6-Dinitro-2-methylphenol	U	0.20								
4-Nitrophenol	U	1.0								
Acenaphthene	U	0.10								
Acenaphthylene	U	0.10								
Anthracene	U	0.10								
Benz(a)anthracene	U	0.10								
Benzo(a)pyrene	U	0.10								
Bis(2-chloroethoxy)methane	U	0.20								
Bis(2-ethylhexyl)phthalate	U	0.20								
Chrysene	U	0.10								
Dibenzofuran	U	0.10								
Di-n-butyl phthalate	U	0.20								
Fluoranthene	U	0.10								
Fluorene	U	0.10								
Naphthalene	U	0.10								
Nitrobenzene	U	0.20								
N-Nitrosodiphenylamine	U	0.20								
Pentachlorophenol	U	0.20								
Phenanthrene	U	0.10								
Phenol	U	0.20								
Pyrene	U	0.10								
Surr: 2,4,6-Tribromophenol	*3.844*	*0.20*	*5*	*0*	*76.9*	*34 - 129*				
Surr: 2-Fluorobiphenyl	*3.289*	*0.20*	*5*	*0*	*65.8*	*40 - 125*				
Surr: 2-Fluorophenol	*3.405*	*0.20*	*5*	*0*	*68.1*	*20 - 120*				
Surr: 4-Terphenyl-d14	*4.721*	*0.20*	*5*	*0*	*94.4*	*40 - 135*				
Surr: Nitrobenzene-d5	*5.263*	*0.20*	*5*	*0*	*105*	*41 - 120*				
Surr: Phenol-d6	*4.513*	*0.20*	*5*	*0*	*90.3*	*20 - 120*				

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
WorkOrder: HS16020185

QC BATCH REPORT

Batch ID: 101158 **Instrument: SV-7** **Method: SW8270**

LCS Sample ID: **LCS-101158** Units: **ug/L** Analysis Date: **04-Feb-2016 16:45**
Client ID: Run ID: **SV-7_268829** SeqNo: **3576310** PrepDate: **04-Feb-2016** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Diphenylhydrazine	4.221	0.20	5	0	84.4	39 - 127				
2,4-Dimethylphenol	3.785	0.20	5	0	75.7	35 - 120				
2,4-Dinitrotoluene	2.904	0.20	5	0	58.1	50 - 122				
2,6-Dinitrotoluene	3.964	0.20	5	0	79.3	50 - 120				
2-Chloronaphthalene	3.165	0.20	5	0	63.3	50 - 120				
2-Methylnaphthalene	3.391	0.10	5	0	67.8	50 - 120				
4,6-Dinitro-2-methylphenol	3.332	0.20	5	0	66.6	25 - 121				
4-Nitrophenol	3.3	1.0	5	0	66.0	30 - 130				
Acenaphthene	3.345	0.10	5	0	66.9	45 - 120				
Acenaphthylene	3.27	0.10	5	0	65.4	47 - 120				
Anthracene	3.881	0.10	5	0	77.6	45 - 120				
Benz(a)anthracene	3.969	0.10	5	0	79.4	40 - 120				
Benzo(a)pyrene	3.983	0.10	5	0	79.7	45 - 120				
Bis(2-chloroethoxy)methane	4.821	0.20	5	0	96.4	45 - 120				
Bis(2-ethylhexyl)phthalate	4.41	0.20	5	0	88.2	40 - 139				
Chrysene	3.729	0.10	5	0	74.6	43 - 120				
Dibenzofuran	2.778	0.10	5	0	55.6	50 - 120				
Di-n-butyl phthalate	4.04	0.20	5	0	80.8	45 - 123				
Fluoranthene	4.112	0.10	5	0	82.2	45 - 125				
Fluorene	2.531	0.10	5	0	50.6	49 - 120				
Naphthalene	3.516	0.10	5	0	70.3	45 - 120				
Nitrobenzene	5.301	0.20	5	0	106	44 - 120				
N-Nitrosodiphenylamine	3.791	0.20	5	0	75.8	40 - 125				
Pentachlorophenol	2.297	0.20	5	0	45.9	19 - 121				
Phenanthrene	3.682	0.10	5	0	73.6	45 - 121				
Phenol	3.204	0.20	5	0	64.1	20 - 124				
Pyrene	3.764	0.10	5	0	75.3	40 - 130				
Surr: 2,4,6-Tribromophenol	*3.38*	*0.20*	*5*	*0*	*67.6*	*34 - 129*				
Surr: 2-Fluorobiphenyl	*3.051*	*0.20*	*5*	*0*	*61.0*	*40 - 125*				
Surr: 2-Fluorophenol	*3.978*	*0.20*	*5*	*0*	*79.6*	*20 - 120*				
Surr: 4-Terphenyl-d14	*3.976*	*0.20*	*5*	*0*	*79.5*	*40 - 135*				
Surr: Nitrobenzene-d5	*5.645*	*0.20*	*5*	*0*	*113*	*41 - 120*				
Surr: Phenol-d6	*3.251*	*0.20*	*5*	*0*	*65.0*	*20 - 120*				

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
WorkOrder: HS16020185

QC BATCH REPORT

Batch ID: 101158 **Instrument: SV-7** **Method: SW8270**

LCSD Sample ID: **LCSD-101158** Units: **ug/L** Analysis Date: **04-Feb-2016 17:04**
Client ID: Run ID: **SV-7_268829** SeqNo: **3576311** PrepDate: **04-Feb-2016** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual
1,2-Diphenylhydrazine	3.845	0.20	5	0	76.9	39 - 127	4.221	9.34	20	
2,4-Dimethylphenol	3.348	0.20	5	0	67.0	35 - 120	3.785	12.3	20	
2,4-Dinitrotoluene	3.907	0.20	5	0	78.1	50 - 122	2.904	29.5	20	R
2,6-Dinitrotoluene	4.217	0.20	5	0	84.3	50 - 120	3.964	6.17	20	
2-Chloronaphthalene	3.474	0.20	5	0	69.5	50 - 120	3.165	9.31	20	
2-Methylnaphthalene	3.201	0.10	5	0	64.0	50 - 120	3.391	5.79	20	
4,6-Dinitro-2-methylphenol	3.248	0.20	5	0	65.0	25 - 121	3.332	2.56	30	
4-Nitrophenol	3.446	1.0	5	0	68.9	30 - 130	3.3	4.34	20	
Acenaphthene	2.812	0.10	5	0	56.2	45 - 120	3.345	17.3	20	
Acenaphthylene	3.324	0.10	5	0	66.5	47 - 120	3.27	1.64	20	
Anthracene	3.466	0.10	5	0	69.3	45 - 120	3.881	11.3	20	
Benz(a)anthracene	4.025	0.10	5	0	80.5	40 - 120	3.969	1.39	20	
Benzo(a)pyrene	3.761	0.10	5	0	75.2	45 - 120	3.983	5.73	20	
Bis(2-chloroethoxy)methane	3.698	0.20	5	0	74.0	45 - 120	4.821	26.4	20	R
Bis(2-ethylhexyl)phthalate	4.195	0.20	5	0	83.9	40 - 139	4.41	5	20	
Chrysene	3.71	0.10	5	0	74.2	43 - 120	3.729	0.52	20	
Dibenzofuran	3.641	0.10	5	0	72.8	50 - 120	2.778	39	20	R
Di-n-butyl phthalate	3.546	0.20	5	0	70.9	45 - 123	4.04	13	20	
Fluoranthene	3.48	0.10	5	0	69.6	45 - 125	4.112	16.6	20	
Fluorene	3.381	0.10	5	0	67.6	49 - 120	2.531	28.8	20	R
Naphthalene	3.454	0.10	5	0	69.1	45 - 120	3.516	1.78	20	
Nitrobenzene	4.361	0.20	5	0	87.2	44 - 120	5.301	19.5	20	
N-Nitrosodiphenylamine	3.634	0.20	5	0	72.7	40 - 125	3.791	4.24	20	
Pentachlorophenol	2.013	0.20	5	0	40.3	19 - 121	2.297	13.2	20	
Phenanthrene	3.576	0.10	5	0	71.5	45 - 121	3.682	2.92	20	
Phenol	3.163	0.20	5	0	63.3	20 - 124	3.204	1.27	20	
Pyrene	3.477	0.10	5	0	69.5	40 - 130	3.764	7.93	20	
Surr: 2,4,6-Tribromophenol	*4.329*	*0.20*	*5*	*0*	*86.6*	*34 - 129*	*3.38*	*24.6*	*20*	R
Surr: 2-Fluorobiphenyl	*3.351*	*0.20*	*5*	*0*	*67.0*	*40 - 125*	*3.051*	*9.39*	*20*	
Surr: 2-Fluorophenol	*2.877*	*0.20*	*5*	*0*	*57.5*	*20 - 120*	*3.978*	*32.1*	*20*	R
Surr: 4-Terphenyl-d14	*3.485*	*0.20*	*5*	*0*	*69.7*	*40 - 135*	*3.976*	*13.2*	*20*	
Surr: Nitrobenzene-d5	*4.647*	*0.20*	*5*	*0*	*92.9*	*41 - 120*	*5.645*	*19.4*	*20*	
Surr: Phenol-d6	*4.29*	*0.20*	*5*	*0*	*85.8*	*20 - 120*	*3.251*	*27.6*	*20*	R

The following samples were anayzed in this batch: HS16020185-02

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
WorkOrder: HS16020185

QC BATCH REPORT

Batch ID: 101173a **Instrument: SV-7** **Method: SW8270**

MBLK Sample ID: **MBLK-101173** Units: **ug/Kg** Analysis Date: **04-Feb-2016 15:47**
Client ID: Run ID: **SV-7_268826** SeqNo: **3576303** PrepDate: **04-Feb-2016** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Diphenylhydrazine	U	6.6								
2,4-Dimethylphenol	U	6.6								
2,4-Dinitrotoluene	U	6.6								
2,6-Dinitrotoluene	U	6.6								
2-Chloronaphthalene	U	6.6								
2-Methylnaphthalene	U	3.3								
4,6-Dinitro-2-methylphenol	U	6.6								
4-Nitrophenol	U	13								
Acenaphthene	U	3.3								
Acenaphthylene	U	3.3								
Anthracene	U	3.3								
Benz(a)anthracene	U	3.3								
Benzo(a)pyrene	U	3.3								
Bis(2-chloroethoxy)methane	U	6.6								
Bis(2-ethylhexyl)phthalate	U	6.6								
Chrysene	U	3.3								
Dibenzofuran	U	3.3								
Di-n-butyl phthalate	U	6.6								
Fluoranthene	U	3.3								
Fluorene	U	3.3								
Naphthalene	U	3.3								
Nitrobenzene	U	6.6								
N-Nitrosodiphenylamine	U	6.6								
Pentachlorophenol	U	6.6								
Phenanthrene	U	3.3								
Phenol	U	6.6								
Pyrene	U	3.3								
Surr: 2,4,6-Tribromophenol	*138.4*	*0*	*167*	*0*	*82.9*	*36 - 126*				
Surr: 2-Fluorobiphenyl	*148.5*	*0*	*167*	*0*	*88.9*	*43 - 125*				
Surr: 2-Fluorophenol	*156.9*	*0*	*167*	*0*	*94.0*	*37 - 125*				
Surr: 4-Terphenyl-d14	*181.5*	*0*	*167*	*0*	*109*	*32 - 125*				
Surr: Nitrobenzene-d5	*158.4*	*0*	*167*	*0*	*94.9*	*37 - 125*				
Surr: Phenol-d6	*172.4*	*0*	*167*	*0*	*103*	*40 - 125*				

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
WorkOrder: HS16020185

QC BATCH REPORT

Batch ID: 101173a **Instrument: SV-7** **Method: SW8270**

LCS Sample ID: **LCS-101173** Units: **ug/Kg** Analysis Date: **04-Feb-2016 16:06**
Client ID: Run ID: **SV-7_268826** SeqNo: **3576413** PrepDate: **04-Feb-2016** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Diphenylhydrazine	205.1	6.6	167	0	123	50 - 135				
2,4-Dimethylphenol	127.3	6.6	167	0	76.3	45 - 120				
2,4-Dinitrotoluene	141.4	6.6	167	0	84.7	50 - 130				
2,6-Dinitrotoluene	148	6.6	167	0	88.6	50 - 125				
2-Chloronaphthalene	162	6.6	167	0	97.0	50 - 145				
2-Methylnaphthalene	163.4	3.3	167	0	97.9	50 - 120				
4,6-Dinitro-2-methylphenol	140.9	6.6	167	0	84.4	15 - 135				
4-Nitrophenol	178.8	13	167	0	107	40 - 147				
Acenaphthene	130.8	3.3	167	0	78.3	50 - 120				
Acenaphthylene	125	3.3	167	0	74.8	50 - 120				
Anthracene	147.5	3.3	167	0	88.3	50 - 123				
Benz(a)anthracene	147.1	3.3	167	0	88.1	50 - 131				
Benzo(a)pyrene	136	3.3	167	0	81.4	50 - 130				
Bis(2-chloroethoxy)methane	156	6.6	167	0	93.4	50 - 120				
Bis(2-ethylhexyl)phthalate	140	6.6	167	0	83.8	21 - 148				
Chrysene	146.8	3.3	167	0	87.9	50 - 130				
Dibenzofuran	132.4	3.3	167	0	79.3	50 - 125				
Di-n-butyl phthalate	186.1	6.6	167	0	111	50 - 140				
Fluoranthene	157.7	3.3	167	0	94.5	50 - 131				
Fluorene	157.2	3.3	167	0	94.1	50 - 125				
Naphthalene	138.8	3.3	167	0	83.1	50 - 125				
Nitrobenzene	159.7	6.6	167	0	95.7	50 - 125				
N-Nitrosodiphenylamine	173	6.6	167	0	104	50 - 130				
Pentachlorophenol	120.6	6.6	167	0	72.2	23 - 136				
Phenanthrene	144.6	3.3	167	0	86.6	50 - 125				
Phenol	150.4	6.6	167	0	90.0	45 - 130				
Pyrene	128.8	3.3	167	0	77.1	45 - 130				
Surr: 2,4,6-Tribromophenol	*183.4*	*0*	*167*	*0*	*110*	*36 - 126*				
Surr: 2-Fluorobiphenyl	*160.8*	*0*	*167*	*0*	*96.3*	*43 - 125*				
Surr: 2-Fluorophenol	*127.8*	*0*	*167*	*0*	*76.5*	*37 - 125*				
Surr: 4-Terphenyl-d14	*139.5*	*0*	*167*	*0*	*83.5*	*32 - 125*				
Surr: Nitrobenzene-d5	*182.2*	*0*	*167*	*0*	*109*	*37 - 125*				
Surr: Phenol-d6	*138.9*	*0*	*167*	*0*	*83.2*	*40 - 125*				

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
WorkOrder: HS16020185

QC BATCH REPORT

Batch ID: 101173a **Instrument: SV-7** **Method: SW8270**

MS Sample ID: **HS16020149-03MS** Units: **ug/Kg** Analysis Date: **04-Feb-2016 17:50**
Client ID: Run ID: **SV-7_268826** SeqNo: **3576373** PrepDate: **04-Feb-2016** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Diphenylhydrazine	306.3	66	166.7	0	184	50 - 135				S
2,4-Dimethylphenol	74.22	66	166.7	0	44.5	45 - 120				S
2,4-Dinitrotoluene	713.1	66	166.7	0	428	50 - 130				S
2,6-Dinitrotoluene	237.2	66	166.7	0	142	50 - 125				S
2-Chloronaphthalene	133.7	66	166.7	0	80.2	50 - 145				
2-Methylnaphthalene	10740	33	166.7	20090	-5610	50 - 120				SEO
4,6-Dinitro-2-methylphenol	U	66	166.7	0	0	15 - 135				S
4-Nitrophenol	228.2	130	166.7	0	137	40 - 147				
Acenaphthene	30180	33	166.7	36030	-3510	50 - 120				SEO
Acenaphthylene	1924	33	166.7	0	1150	50 - 120				S
Anthracene	22240	33	166.7	45030	-13700	50 - 123				SEO
Benz(a)anthracene	19270	33	166.7	20190	-551	50 - 131				SEO
Benzo(a)pyrene	9108	33	166.7	16950	-4700	50 - 130				SEO
Bis(2-chloroethoxy)methane	146.3	66	166.7	0	87.7	50 - 120				
Bis(2-ethylhexyl)phthalate	127.3	66	166.7	0	76.4	21 - 148				
Chrysene	16610	33	166.7	19870	-1960	50 - 130				SEO
Dibenzofuran	16940	33	166.7	27880	-6560	50 - 125				SEO
Di-n-butyl phthalate	325.5	66	166.7	0	195	50 - 140				S
Fluoranthene	68260	33	166.7	128400	-36000	50 - 131				SEO
Fluorene	29250	33	166.7	57450	-16900	50 - 125				SEO
Naphthalene	7404	33	166.7	4342	1840	50 - 125				SEO
Nitrobenzene	228.8	66	166.7	0	137	50 - 125				S
N-Nitrosodiphenylamine	808.4	66	166.7	0	485	50 - 130				S
Pentachlorophenol	1013	66	166.7	0	608	23 - 136				S
Phenanthrene	44570	33	166.7	79180	-20800	50 - 125				SEO
Phenol	171.3	66	166.7	0	103	45 - 130				
Pyrene	57970	33	166.7	91430	-20100	45 - 130				SEO
Surr: 2,4,6-Tribromophenol	*169.1*	*0*	*166.7*	*0*	*101*	*36 - 126*				
Surr: 2-Fluorobiphenyl	*106.3*	*0*	*166.7*	*0*	*63.7*	*43 - 125*				
Surr: 2-Fluorophenol	*74.66*	*0*	*166.7*	*0*	*44.8*	*37 - 125*				
Surr: 4-Terphenyl-d14	*298.9*	*0*	*166.7*	*0*	*179*	*32 - 125*				S
Surr: Nitrobenzene-d5	*79.47*	*0*	*166.7*	*0*	*47.7*	*37 - 125*				
Surr: Phenol-d6	*106.1*	*0*	*166.7*	*0*	*63.7*	*40 - 125*				

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
WorkOrder: HS16020185

QC BATCH REPORT

Batch ID: 101173a **Instrument: SV-7** **Method: SW8270**

MSD Sample ID: **HS16020149-03MSD** Units: **ug/Kg** Analysis Date: **04-Feb-2016 18:10**
Client ID: Run ID: **SV-7_268826** SeqNo: **3576374** PrepDate: **04-Feb-2016** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual
1,2-Diphenylhydrazine	414.3	66	166.8	0	248	50 - 135	306.3	30	30	S
2,4-Dimethylphenol	134.4	66	166.8	0	80.5	45 - 120	74.22	57.7	30	R
2,4-Dinitrotoluene	572.3	66	166.8	0	343	50 - 130	713.1	21.9	30	S
2,6-Dinitrotoluene	244.8	66	166.8	0	147	50 - 125	237.2	3.16	30	S
2-Chloronaphthalene	101.7	66	166.8	0	61.0	50 - 145	133.7	27.1	30	
2-Methylnaphthalene	11960	33	166.8	20090	-4880	50 - 120	10740	10.7	30	SEO
4,6-Dinitro-2-methylphenol	U	66	166.8	0	0	15 - 135	0	0	30	S
4-Nitrophenol	291.5	130	166.8	0	175	40 - 147	228.2	24.3	30	S
Acenaphthene	30320	33	166.8	36030	-3420	50 - 120	30180	0.462	30	SEO
Acenaphthylene	1682	33	166.8	0	1010	50 - 120	1924	13.4	30	S
Anthracene	23230	33	166.8	45030	-13100	50 - 123	22240	4.35	30	SEO
Benz(a)anthracene	19400	33	166.8	20190	-476	50 - 131	19270	0.645	30	SEO
Benzo(a)pyrene	9528	33	166.8	16950	-4450	50 - 130	9108	4.5	30	SEO
Bis(2-chloroethoxy)methane	151.3	66	166.8	0	90.7	50 - 120	146.3	3.38	30	
Bis(2-ethylhexyl)phthalate	291.9	66	166.8	0	175	21 - 148	127.3	78.5	30	SR
Chrysene	18450	33	166.8	19870	-852	50 - 130	16610	10.5	30	SEO
Dibenzofuran	17110	33	166.8	27880	-6450	50 - 125	16940	0.985	30	SEO
Di-n-butyl phthalate	318.6	66	166.8	0	191	50 - 140	325.5	2.13	30	S
Fluoranthene	78060	33	166.8	128400	-30200	50 - 131	68260	13.4	30	SEO
Fluorene	29560	33	166.8	57450	-16700	50 - 125	29250	1.05	30	SEO
Naphthalene	7818	33	166.8	4342	2080	50 - 125	7404	5.44	30	SEO
Nitrobenzene	232.2	66	166.8	0	139	50 - 125	228.8	1.47	30	S
N-Nitrosodiphenylamine	1511	66	166.8	0	906	50 - 130	808.4	60.6	30	SR
Pentachlorophenol	1177	66	166.8	0	706	23 - 136	1013	15	30	S
Phenanthrene	53510	33	166.8	79180	-15400	50 - 125	44570	18.2	30	SEO
Phenol	161.6	66	166.8	0	96.9	45 - 130	171.3	5.8	30	
Pyrene	63530	33	166.8	91430	-16700	45 - 130	57970	9.16	30	SEO
Surr: 2,4,6-Tribromophenol	*130.7*	*0*	*166.8*	*0*	*78.3*	*36 - 126*	*169.1*	*25.6*	*30*	
Surr: 2-Fluorobiphenyl	*128.3*	*0*	*166.8*	*0*	*76.9*	*43 - 125*	*106.3*	*18.8*	*30*	
Surr: 2-Fluorophenol	*105.4*	*0*	*166.8*	*0*	*63.2*	*37 - 125*	*74.66*	*34.1*	*30*	R
Surr: 4-Terphenyl-d14	*302.5*	*0*	*166.8*	*0*	*181*	*32 - 125*	*298.9*	*1.2*	*30*	S
Surr: Nitrobenzene-d5	*116.7*	*0*	*166.8*	*0*	*69.9*	*37 - 125*	*79.47*	*37.9*	*30*	R
Surr: Phenol-d6	*146.5*	*0*	*166.8*	*0*	*87.8*	*40 - 125*	*106.1*	*32*	*30*	R

The following samples were anayzed in this batch: HS16020185-01

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
WorkOrder: HS16020185

QC BATCH REPORT

Batch ID: R268790 **Instrument: VOA4** **Method: SW8260**

MBLK Sample ID: **VBLKW-160204** Units: **ug/L** Analysis Date: **04-Feb-2016 10:46**
Client ID: Run ID: **VOA4_268790** SeqNo: **3575470** PrepDate: DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Dichloroethane	U	1.0								
Benzene	U	1.0								
Chlorobenzene	U	1.0								
Ethylbenzene	U	1.0								
Methylene chloride	U	2.0								
Toluene	U	1.0								
Vinyl chloride	U	1.0								
Xylenes, Total	U	3.0								
Surr: 1,2-Dichloroethane-d4	*52.25*	*1.0*	*50*	*0*	*104*	*71 - 125*				
Surr: 4-Bromofluorobenzene	*53.76*	*1.0*	*50*	*0*	*108*	*70 - 125*				
Surr: Dibromofluoromethane	*52.5*	*1.0*	*50*	*0*	*105*	*74 - 125*				
Surr: Toluene-d8	*55.55*	*1.0*	*50*	*0*	*111*	*75 - 125*				

LCS Sample ID: **VLCSW-160204** Units: **ug/L** Analysis Date: **04-Feb-2016 09:56**
Client ID: Run ID: **VOA4_268790** SeqNo: **3575469** PrepDate: DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Dichloroethane	55.01	1.0	50	0	110	76 - 120				
Benzene	51.84	1.0	50	0	104	75 - 122				
Chlorobenzene	50.94	1.0	50	0	102	80 - 120				
Ethylbenzene	50.06	1.0	50	0	100	80 - 120				
Methylene chloride	48.77	2.0	50	0	97.5	65 - 133				
Toluene	52.59	1.0	50	0	105	75 - 121				
Vinyl chloride	54.94	1.0	50	0	110	70 - 135				
Xylenes, Total	159.3	3.0	150	0	106	79 - 124				
Surr: 1,2-Dichloroethane-d4	*54*	*1.0*	*50*	*0*	*108*	*71 - 125*				
Surr: 4-Bromofluorobenzene	*59.18*	*1.0*	*50*	*0*	*118*	*70 - 125*				
Surr: Dibromofluoromethane	*54.67*	*1.0*	*50*	*0*	*109*	*74 - 125*				
Surr: Toluene-d8	*54.7*	*1.0*	*50*	*0*	*109*	*75 - 125*				

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
WorkOrder: HS16020185

QC BATCH REPORT

Batch ID: R268790 **Instrument: VOA4** **Method: SW8260**

MS Sample ID: **HS16011171-10MS** Units: **ug/L** Analysis Date: **04-Feb-2016 13:17**
Client ID: Run ID: **VOA4_268790** SeqNo: **3575624** PrepDate: DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual
1,2-Dichloroethane	48.74	1.0	50	0	97.5	76 - 120				
Benzene	49.5	1.0	50	0	99.0	75 - 122				
Chlorobenzene	47.82	1.0	50	0	95.6	80 - 120				
Ethylbenzene	49.98	1.0	50	0	100.0	80 - 120				
Methylene chloride	43.54	2.0	50	0	87.1	65 - 133				
Toluene	50.48	1.0	50	0	101	75 - 121				
Vinyl chloride	50.49	1.0	50	0	101	70 - 135				
Xylenes, Total	153.1	3.0	150	0	102	80 - 124				
Surr: 1,2-Dichloroethane-d4	*53.89*	*1.0*	*50*	*0*	*108*	*71 - 125*				
Surr: 4-Bromofluorobenzene	*62.27*	*1.0*	*50*	*0*	*125*	*70 - 125*				
Surr: Dibromofluoromethane	*55.32*	*1.0*	*50*	*0*	*111*	*74 - 125*				
Surr: Toluene-d8	*56.69*	*1.0*	*50*	*0*	*113*	*75 - 125*				

MSD Sample ID: **HS16011171-10MSD** Units: **ug/L** Analysis Date: **04-Feb-2016 13:43**
Client ID: Run ID: **VOA4_268790** SeqNo: **3575625** PrepDate: DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual
1,2-Dichloroethane	48	1.0	50	0	96.0	76 - 120	48.74	1.53	20	
Benzene	49.43	1.0	50	0	98.9	75 - 122	49.5	0.143	20	
Chlorobenzene	45.92	1.0	50	0	91.8	80 - 120	47.82	4.07	20	
Ethylbenzene	47.3	1.0	50	0	94.6	80 - 120	49.98	5.5	20	
Methylene chloride	42.97	2.0	50	0	85.9	65 - 133	43.54	1.32	20	
Toluene	49.02	1.0	50	0	98.0	75 - 121	50.48	2.93	20	
Vinyl chloride	50.07	1.0	50	0	100	70 - 135	50.49	0.823	20	
Xylenes, Total	150.5	3.0	150	0	100	80 - 124	153.1	1.76	20	
Surr: 1,2-Dichloroethane-d4	*51.8*	*1.0*	*50*	*0*	*104*	*71 - 125*	*53.89*	*3.96*	*20*	
Surr: 4-Bromofluorobenzene	*59.02*	*1.0*	*50*	*0*	*118*	*70 - 125*	*62.27*	*5.37*	*20*	
Surr: Dibromofluoromethane	*54.11*	*1.0*	*50*	*0*	*108*	*74 - 125*	*55.32*	*2.22*	*20*	
Surr: Toluene-d8	*54.14*	*1.0*	*50*	*0*	*108*	*75 - 125*	*56.69*	*4.6*	*20*	

The following samples were anayzed in this batch: HS16020185-02

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
WorkOrder: HS16020185

QC BATCH REPORT

Batch ID: R268853 **Instrument: VOA2** **Method: SW8260**

MBLK Sample ID: **VBLKW-160205** Units: **ug/L** Analysis Date: **05-Feb-2016 10:44**
Client ID: Run ID: **VOA2_268853** SeqNo: **3576677** PrepDate: DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Dichloroethane	U	1.0								
Benzene	U	1.0								
Chlorobenzene	U	1.0								
Ethylbenzene	U	1.0								
Methylene chloride	U	2.0								
Toluene	U	1.0								
Vinyl chloride	U	1.0								
Xylenes, Total	U	3.0								
Surr: 1,2-Dichloroethane-d4	*49.9*	*1.0*	*50*	*0*	*99.8*	*71 - 125*				
Surr: 4-Bromofluorobenzene	*50.34*	*1.0*	*50*	*0*	*101*	*70 - 125*				
Surr: Dibromofluoromethane	*54.13*	*1.0*	*50*	*0*	*108*	*74 - 125*				
Surr: Toluene-d8	*50.67*	*1.0*	*50*	*0*	*101*	*75 - 125*				

LCS Sample ID: **VLCSW-160205** Units: **ug/L** Analysis Date: **05-Feb-2016 09:54**
Client ID: Run ID: **VOA2_268853** SeqNo: **3576676** PrepDate: DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Dichloroethane	50.73	1.0	50	0	101	76 - 120				
Benzene	45.59	1.0	50	0	91.2	75 - 122				
Chlorobenzene	46.56	1.0	50	0	93.1	80 - 120				
Ethylbenzene	46.19	1.0	50	0	92.4	80 - 120				
Methylene chloride	47.12	2.0	50	0	94.2	65 - 133				
Toluene	45.88	1.0	50	0	91.8	75 - 121				
Vinyl chloride	51.49	1.0	50	0	103	70 - 135				
Xylenes, Total	152.1	3.0	150	0	101	79 - 124				
Surr: 1,2-Dichloroethane-d4	*49.84*	*1.0*	*50*	*0*	*99.7*	*71 - 125*				
Surr: 4-Bromofluorobenzene	*50.6*	*1.0*	*50*	*0*	*101*	*70 - 125*				
Surr: Dibromofluoromethane	*50.35*	*1.0*	*50*	*0*	*101*	*74 - 125*				
Surr: Toluene-d8	*49.22*	*1.0*	*50*	*0*	*98.4*	*75 - 125*				

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
WorkOrder: HS16020185

QC BATCH REPORT

Batch ID: R268853 **Instrument: VOA2** **Method: SW8260**

MS Sample ID: **HS16020179-06MS** Units: **ug/L** Analysis Date: **05-Feb-2016 13:18**
Client ID: Run ID: **VOA2_268853** SeqNo: **3576680** PrepDate: DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual
1,2-Dichloroethane	48.3	1.0	50	0	96.6	76 - 120				
Benzene	43.76	1.0	50	0	87.5	75 - 122				
Chlorobenzene	44.74	1.0	50	0	89.5	80 - 120				
Ethylbenzene	45.14	1.0	50	0.3213	89.6	80 - 120				
Methylene chloride	42.54	2.0	50	0	85.1	65 - 133				
Toluene	45.3	1.0	50	0	90.6	75 - 121				
Vinyl chloride	52.87	1.0	50	0	106	70 - 135				
Xylenes, Total	150.3	3.0	150	2.219	98.7	80 - 124				
Surr: 1,2-Dichloroethane-d4	*48.6*	*1.0*	*50*	*0*	*97.2*	*71 - 125*				
Surr: 4-Bromofluorobenzene	*50.87*	*1.0*	*50*	*0*	*102*	*70 - 125*				
Surr: Dibromofluoromethane	*48.34*	*1.0*	*50*	*0*	*96.7*	*74 - 125*				
Surr: Toluene-d8	*49.13*	*1.0*	*50*	*0*	*98.3*	*75 - 125*				

MSD Sample ID: **HS16020179-06MSD** Units: **ug/L** Analysis Date: **05-Feb-2016 13:43**
Client ID: Run ID: **VOA2_268853** SeqNo: **3576681** PrepDate: DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual
1,2-Dichloroethane	44.68	1.0	50	0	89.4	76 - 120	48.3	7.8	20	
Benzene	42.34	1.0	50	0	84.7	75 - 122	43.76	3.29	20	
Chlorobenzene	43.37	1.0	50	0	86.7	80 - 120	44.74	3.12	20	
Ethylbenzene	43.6	1.0	50	0.3213	86.5	80 - 120	45.14	3.49	20	
Methylene chloride	43.59	2.0	50	0	87.2	65 - 133	42.54	2.45	20	
Toluene	43.7	1.0	50	0	87.4	75 - 121	45.3	3.58	20	
Vinyl chloride	49.61	1.0	50	0	99.2	70 - 135	52.87	6.35	20	
Xylenes, Total	144.9	3.0	150	2.219	95.1	80 - 124	150.3	3.68	20	
Surr: 1,2-Dichloroethane-d4	*49.11*	*1.0*	*50*	*0*	*98.2*	*71 - 125*	*48.6*	*1.04*	*20*	
Surr: 4-Bromofluorobenzene	*50.61*	*1.0*	*50*	*0*	*101*	*70 - 125*	*50.87*	*0.522*	*20*	
Surr: Dibromofluoromethane	*49.57*	*1.0*	*50*	*0*	*99.1*	*74 - 125*	*48.34*	*2.52*	*20*	
Surr: Toluene-d8	*48.69*	*1.0*	*50*	*0*	*97.4*	*75 - 125*	*49.13*	*0.892*	*20*	

The following samples were anayzed in this batch: HS16020185-03

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
WorkOrder: HS16020185

QC BATCH REPORT

Batch ID: R268819 **Instrument: Balance1** **Method: ASTM D2216**

DUP Sample ID: **HS16020149-02DUP** Units: **wt%** Analysis Date: **04-Feb-2016 07:49**
Client ID: Run ID: **Balance1_268819** SeqNo: **3576108** PrepDate: DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Percent Moisture	8.7	0.0100					8.67	0.345	20	

The following samples were anayzed in this batch: HS16020185-01

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
WorkOrder: **HS16020185**

QUALIFIERS, ACRONYMS, UNITS

Qualifier	Description
*	Value exceeds Regulatory Limit
a	Not accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte detected below quantitation limit
M	Manually integrated, see raw data for justification
n	Not offered for accreditation
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL/SDL

Acronym	Description
DCS	Detectability Check Study
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
MBLK	Method Blank
MDL	Method Detection Limit
MQL	Method Quantitation Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PDS	Post Digestion Spike
PQL	Practical Quantitaion Limit
SD	Serial Dilution
SDL	Sample Detection Limit
TRRP	Texas Risk Reduction Program

Unit Reported	Description
mg/Kg-dry	Milligrams per Kilogram- Dry weight corrected
mg/L	Milligrams per Liter

CERTIFICATIONS,ACCREDITATIONS & LICENSES

Agency	Number	Expire Date
Arkansas	15-024-0	27-Mar-2016
California	2919	31-Jul-2016
Illinois	003622	09-May-2016
Kentucky	KY 2015-2016	30-Apr-2016
Louisiana	03087 2015/2016	30-Jun-2016
North Carolina	624 - 2016	31-Dec-2016
North Dakota	R-193 2015-2016	30-Apr-2016
Oklahoma	2015-047	31-Aug-2016
Texas	T104704231-15-15	30-Apr-2016

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
Work Order: HS16020185

SAMPLE TRACKING

Lab Samp ID	Client Sample ID	Action	Date	Person	New Location
HS16020185-01	SO-1620-CSBS1R(0-5)-20160204	Login	2/4/2016 1:12:55 PM	RPG	13D
HS16020185-02	WS-1620-Ditch-20160204	Login	2/4/2016 1:18:52 PM	RPG	5F
HS16020185-02	WS-1620-Ditch-20160204	Login	2/4/2016 1:18:52 PM	RPG	14A
HS16020185-02	WS-1620-Ditch-20160204	Login	2/4/2016 1:18:52 PM	RPG	VW-3
HS16020185-03	Trip Blank 012716-56	Login	2/4/2016 1:41:45 PM	RPG	VW-3

Sample Receipt Checklist

Client Name: PBW
Work Order: HS16020185

Date/Time Received: **04-Feb-2016 12:53**
Received by: **KRM**

Checklist completed by: *Raegen Giga* eSignature 4-Feb-2016 Date

Reviewed by: *Dane J. Wacasey* eSignature 4-Feb-2016 Date

Matrices: **soil/Water**

Carrier name: **ALS.HS**

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on shipping container/cooler?	Yes ☐	No ☐	Not Present ☑
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☑	No ☐	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
TX1005 solids received in hermetically sealed vials?	Yes ☐	No ☐	N/A ☑
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time?	Yes ☑	No ☐	
Container/Temp Blank temperature in compliance?	Yes ☑	No ☐	
Temperature(s)/Thermometer(s):	0.4/0.9 uc/c	IR 5	
Cooler(s)/Kit(s):	24061		
Date/Time sample(s) sent to storage:	02/04/2016 13:25		
Water - VOA vials have zero headspace?	Yes ☑	No ☐	No VOA vials submitted ☐
Water - pH acceptable upon receipt?	Yes ☑	No ☐	N/A ☐
pH adjusted?	Yes ☐	No ☑	N/A ☐
pH adjusted by:			

Login Notes:

Client Contacted: Date Contacted: Person Contacted:

Contacted By: 0 Regarding:

Comments:

Corrective Action:

ALS Environmental

Cincinnati, OH +1 513 733 5336 | Everett, WA +1 425 356 2600 | Fort Collins, CO +1 970 490 1511 | Holland, MI +1 616 399 6070

Chain of Custody Form

Page _____ of _____

COC ID: 135237

HS16020185

Pastor, Behling & Wheeler, LLC

1620-10-Rev1 HoustonTX-Wood

ALS Project Manager:

Customer Information		Project Information			
Purchase Order	UPRR	Project Name	1620-10-Rev1 HoustonTX-Wood	A	8270_LOW_S (5632532 SemiVolatiles)
Work Order		Project Number	1620-10-Rev1	B	ICP_S_Low (5636002 5652646 Metals - As, Pb)
Company Name	Pastor, Behling & Wheeler, LLC	Bill To Company	Union Pacific Railroad- A/P	C	MOIST_ASTM (5631931 Gen.Chem. MOIST%)
Send Report To	Eric Matzner	Invoice Attn	Accounts Payable	D	8260 LL W (5632528 VOCs)
Address	2201 Double Creek Drive Suite 4004	Address	1400 Douglas Street Stop 0750	E	8270 LL W (5632532 SVOCs)
City/State/Zip	Round Rock, TX 78664	City/State/Zip	Omaha, NE 681790750	F	ICP TW (5636002 5652646 – As, Pb)
Phone	(512) 671-3434	Phone		G	
Fax	(512) 671-3446	Fax		H	
e-Mail Address		e-Mail Address		I	
				J	

No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
1	SO - 1620 - CSBSIR (0-5) - 20160204	2/4/16	845	Soil	8	1	X	X	X								
2	WS - 1620 - Ditch - 20160204	2/4/16	1145	WATER	2, 8	7				X	X	X					
3																	
4																	
5																	
6																	
7																	
8																	
9																	
10																	

Sampler(s) Please Print & Sign: Kevin Dworsky

Shipment Method: Pickup

Required Turnaround Time: (Check Box) TAT 1 days Other

Results Due Date:

Relinquished by:		Date: 2/4/16	Time: 1215	Received by: Krupta Mathis	
Relinquished by: Krupta Mathis		Date: 2/4/16	Time: 12:53	Received by (Laboratory): Krupta Mathis	
Logged by (Laboratory):		Date:	Time:	Checked by (Laboratory):	

Preservative Key: 1-HCl 2-HNO_3 3-H_2SO_4 4-NaOH 5-$Na_2S_2O_3$ 6-$NaHSO_4$ 7-Other 8-4°C 9-5035

Notes: IUPPR Houston MW/PW1

Cooler ID	Cooler Temp.
2406 (R#5 CF 0.5)	0.4

QC Package: (Check One Box Below)

QC Level: TRRP LRC

Other:

Note: 1. Any changes must be made in writing once samples and COC Form have been submitted to ALS Environmental.
2. Unless otherwise agreed in a formal contract, services provided by ALS Environmental are expressly limited to the terms and conditions stated on the reverse.
3. The Chain of Custody is a legal document. All information must be completed accurately.

10450 Stancliff Rd. Suite 210
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F: +1 281 530 5887
www.alsglobal.com

February 08, 2016

Eric Matzner
Pastor, Behling & Wheeler, LLC
2201 Double Creek Drive
Suite 4004
Round Rock, TX 78664

Work Order: **HS16020208**

Laboratory Results for: **1620-10-Rev1 HoustonTX-Wood**

Dear Eric,

ALS Environmental received 2 sample(s) on Feb 04, 2016 for the analysis presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested. Results are expressed as "as received" unless otherwise noted.

QC sample results for this data met EPA or laboratory specifications except as noted in the Case Narrative or as noted with qualifiers in the QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained by ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

If you have any questions regarding this report, please feel free to call me.

Sincerely,

Generated By: Jumoke.Lawal
Dane J. Wacasey

Client:	Pastor, Behling & Wheeler, LLC	**TRRP Laboratory Data Package Cover Page**
Project:	1620-10-Rev1 HoustonTX-Wood	
WorkOrder:	**HS16020208**	

This data package consists of all or some of the following as applicable:

This signature page, the laboratory review checklist, and the following reportable data:

R1 Field chain-of-custody documentation;

R2 Sample identification cross-reference;

R3 Test reports (analytical data sheets) for each environmental sample that includes:

a) Items consistent with NELAC Chapter 5,
b) dilution factors,
c) preparation methods,
d) cleanup methods, and
e) if required for the project, tentatively identified compounds (TICs).

R4 Surrogate recovery data including:

a) Calculated recovery (%R), and
b) The laboratory's surrogate QC limits.

R5 Test reports/summary forms for blank samples;

R6 Test reports/summary forms for laboratory control samples (LCSs) including:

a) LCS spiking amounts,
b) Calculated %R for each analyte, and
c)The laboratory's LCS QC limits.

R7 Test reports for project matrix spike/matrix spike duplicates (MS/MSDs) including:

a) Samples associated with the MS/MSD clearly identified,
b) MS/MSD spiking amounts,
c) Concentration of each MS/MSD analyte measured in the parent and spiked samples,
d) Calculated %Rs and relative percent differences (RPDs), and
e) The laboratory's MS/MSD QC limits.

R8 Laboratory analytical duplicate (if applicable) recovery and precision:

a) the amount of analyte measured in the duplicate,
b) the calculated RPD, and
c) the laboratory's QC limits for analytical duplicates.

R9 List of method quantitation limits (MQLs) and detectability check sample results for each analyte for each method and matrix.

R10 Other problems or anomalies.
The Exception Report for each "No" or "Not Reviewed (NR)" item in Laboratory Review Checklist and for each analyte, matrix, and method for which the laboratory does not hold NELAC accreditation under the Texas Laboratory Accreditation Program.

Client:	Pastor, Behling & Wheeler, LLC
Project:	1620-10-Rev1 HoustonTX-Wood
WorkOrder:	**HS16020208**

TRRP Laboratory Data Package Cover Page

Release Statement: I am responsible for the release of this laboratory data package. This laboratory is NELAC accredited under the Texas Laboratory Accreditation Program for all the methods, analytes and matrices reported in this data package except as noted in the Exception Reports. The data have been reviewed and are technically compliant with the requirements of the methods used, except where noted by the laboratory in the attached exception reports. By my signature below, I affirm to the best of my knowledge, all problems/anomalies, observed by the laboratory have been identified by the laboratory in the Laboratory Review Checklist, and no information affecting the quality of the data has been knowingly withheld.

Check, if applicable: [NA] This laboratory meets an exception under 30 TAC §25.6 and was last inspected by [ ] TCEQ or [ ] _____ on (enter date of last inspection). Any findings affecting the data in this laboratory data package are noted in the Exception Reports herein. The official signing the cover page of the report in which these data are used is responsible for releasing this data package and is by signature affirming the above release statement is true.

Dane J. Wacasey

Laboratory Review Checklist: Reportable Data								
Laboratory Name: ALS Laboratory Group			LRC Date: 02/08/2016					
Project Name: 1620-10-Rev1 HoustonTX-Wood			Laboratory Job Number: HS16020208					
Reviewer Name: Dane Wacasey			Prep Batch Number(s): 101194,101208,R268849					
#[1]	**A[2]**	**Description**	**Yes**	**No**	**NA[3]**	**NR[4]**	**ER#[5]**
R1	OI	**Chain-of-custody (C-O-C)**					
		Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?	X				
		Were all departures from standard conditions described in an exception report?	X				
R2	OI	**Sample and quality control (QC) identification**					
		Are all field sample ID numbers cross-referenced to the laboratory ID numbers?	X				
		Are all laboratory ID numbers cross-referenced to the corresponding QC data?	X				
R3	OI	**Test reports**					
		Were all samples prepared and analyzed within holding times?	X				
		Other than those results < MQL, were all other raw values bracketed by calibration standards?	X				
		Were calculations checked by a peer or supervisor?	X				
		Were all analyte identifications checked by a peer or supervisor?	X				
		Were sample detection limits reported for all analytes not detected?	X				
		Were all results for soil and sediment samples reported on a dry weight basis?	X				
		Were % moisture (or solids) reported for all soil and sediment samples?	X				
		Were bulk soils/solids samples for volatile analysis extracted with methanol per SW-846 Method 5035?			X		
		If required for the project, TICs reported?			X		
R4	O	**Surrogate recovery data**					
		Were surrogates added prior to extraction?	X				
		Were surrogate percent recoveries in all samples within the laboratory QC limits?	X				
R5	OI	**Test reports/summary forms for blank samples**					
		Were appropriate type(s) of blanks analyzed?	X				
		Were blanks analyzed at the appropriate frequency?	X				
		Were method blanks taken through the entire analytical process, including preparation and, if applicable, cleanup procedures?	X				
		Were blank concentrations < MQL?	X				
R6	OI	**Laboratory control samples (LCS):**					
		Were all COCs included in the LCS?	X				
		Was each LCS taken through the entire analytical procedure, including prep and cleanup steps?	X				
		Were LCSs analyzed at the required frequency?	X				
		Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?	X				
		Does the detectability data document the laboratory's capability to detect the COCs at the MDL used to calculate the SDLs?	X				
		Was the LCSD RPD within QC limits?	X				
R7	OI	**Matrix spike (MS) and matrix spike duplicate (MSD) data**					
		Were the project/method specified analytes included in the MS and MSD?	X				
		Were MS/MSD analyzed at the appropriate frequency?	X				
		Were MS (and MSD, if applicable) %Rs within the laboratory QC limits?		X			1
		Were MS/MSD RPDs within laboratory QC limits?		X			2
R8	OI	**Analytical duplicate data**					
		Were appropriate analytical duplicates analyzed for each matrix?	X				
		Were analytical duplicates analyzed at the appropriate frequency?	X				
		Were RPDs or relative standard deviations within the laboratory QC limits?	X				
R9	OI	**Method quantitation limits (MQLs):**					
		Are the MQLs for each method analyte included in the laboratory data package?	X				
		Do the MQLs correspond to the concentration of the lowest non-zero calibration standard?	X				
		Are unadjusted MQLs and DCSs included in the laboratory data package?	X				
R10	OI	**Other problems/anomalies**					
		Are all known problems/anomalies/special conditions noted in this LRC and ER?	X				
		Were all necessary corrective actions performed for the reported data?	X				
		Was applicable and available technology used to lower the SDL and minimize the matrix interference affects on the sample results?	X				
		Is the laboratory NELAC-accredited under the Texas Laboratory Program for the analytes, matrices and methods associated with this laboratory data package?	X				

Laboratory Review Checklist: Reportable Data							
Laboratory Name: ALS Laboratory Group			LRC Date: 02/08/2016				
Project Name: 1620-10-Rev1 HoustonTX-Wood			Laboratory Job Number: HS16020208				
Reviewer Name: Dane Wacasey			Prep Batch Number(s): 101194,101208,R268849				
#[1]	A[2]	Description	Yes	No	NA[3]	NR[4]	ER#[5]
S1	OI	**Initial calibration (ICAL)**					
		Were response factors and/or relative response factors for each analyte within QC limits?	X				
		Were percent RSDs or correlation coefficient criteria met?	X				
		Was the number of standards recommended in the method used for all analytes?	X				
		Were all points generated between the lowest and highest standard used to calculate the curve?	X				
		Are ICAL data available for all instruments used?	X				
		Has the initial calibration curve been verified using an appropriate second source standard?	X				
S2	OI	**Initial and continuing calibration verification (ICCV and CCV) and continuing calibration blank (CCB)**					
		Was the CCV analyzed at the method-required frequency?	X				
		Were percent differences for each analyte within the method-required QC limits?	X				
		Was the ICAL curve verified for each analyte?	X				
		Was the absolute value of the analyte concentration in the inorganic CCB < MDL?	X				
S3	O	**Mass spectral tuning:**					
		Was the appropriate compound for the method used for tuning?	X				
		Were ion abundance data within the method-required QC limits?	X				
S4	O	**Internal standards (IS):**					
		Were IS area counts and retention times within the method-required QC limits?	X				
S5	OI	**Raw data** (NELAC section 1 appendix A glossary, and section 5.12 or ISO/IEC 17025 section					
		Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst?	X				
		Were data associated with manual integrations flagged on the raw data?	X				
S6	O	**Dual column confirmation**					
		Did dual column confirmation results meet the method-required QC?			X		
S7	O	**Tentatively identified compounds (TICs):**					
		If TICs were requested, were the mass spectra and TIC data subject to appropriate checks?			X		
S8	I	**Interference Check Sample (ICS) results:**					
		Were percent recoveries within method QC limits?	X				
S9	I	**Serial dilutions, post digestion spikes, and method of standard additions**					
		Were percent differences, recoveries, and the linearity within the QC limits specified in the method?	X				
S10	OI	**Method detection limit (MDL) studies**					
		Was a MDL study performed for each reported analyte?	X				
		Is the MDL either adjusted or supported by the analysis of DCSs?	X				
S11	OI	**Proficiency test reports:**					
		Was the laboratory's performance acceptable on the applicable proficiency tests or evaluation studies?	X				
S12	OI	**Standards documentation**					
		Are all standards used in the analyses NIST-traceable or obtained from other appropriate sources?	X				
S13	OI	**Compound/analyte identification procedures**					
		Are the procedures for compound/analyte identification documented?	X				
S14	OI	**Demonstration of analyst competency (DOC)**					
		Was DOC conducted consistent with NELAC Chapter 5C or ISO/IEC 4?	X				
		Is documentation of the analyst's competency up-to-date and on file?	X				
S15	OI	**Verification/validation documentation for methods** (NELAC Chap 5 or ISO/IEC 17025 Section 5)					
		Are all the methods used to generate the data documented, verified, and validated, where applicable?	X				
S16	OI	**Laboratory standard operating procedures (SOPs):**					
		Are laboratory SOPs current and on file for each method performed?	X				

Items identified by the letter "R" must be included in the laboratory data package submitted in the TRRP-required report(s). Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period.
O = Organic Analyses; I = Inorganic Analyses (and general chemistry, when applicable);
NA = Not Applicable;
NR = Not Reviewed;
R# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

Laboratory Review Checklist: Reportable Data	
Laboratory Name: ALS Laboratory Group	LRC Date: 02/08/2016
Project Name: 1620-10-Rev1 HoustonTX-Wood	Laboratory Job Number: HS16020208
Reviewer Name: Dane Wacasey	Prep Batch Number(s): 101194,101208,R268849

ER#[5]	Description
1	Batch 101208, Semivolatile Organics Method SW8270, sample SO-1620-CSBB2(5.0-5.5)-20160204, MS recovered above the upper control limit for Fluoranthene due to suspect matrix interference.
2	Batch 101208, Semivolatile Organics Method SW8270, sample SO-1620-CSBB2(5.0-5.5)-20160204, MSD RPD criterion was exceeded for some target compounds in the sample due to non-homogeneity of the soil matrix and or matrix effect.

Items identified by the letter "R" must be included in the laboratory data package submitted in the TRRP-required report(s). Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period.
O = Organic Analyses; I = Inorganic Analyses (and general chemistry, when applicable);
NA = Not Applicable;
NR = Not Reviewed;
R# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
Work Order: HS16020208

SAMPLE SUMMARY

Lab Samp ID	Client Sample ID	Matrix	TagNo	Collection Date	Date Received	Hold
HS16020208-01	SO-1620-CSBB1(5.0-5.5)-20160204	Soil		04-Feb-2016 16:10	04-Feb-2016 18:02	☐
HS16020208-02	SO-1620-CSBB2(5.0-5.5)-20160204	Soil		04-Feb-2016 16:15	04-Feb-2016 18:02	☐

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
Sample ID: SO-1620-CSBB1(5.0-5.5)-20160204
Collection Date: 04-Feb-2016 16:10

ANALYTICAL REPORT
WorkOrder:HS16020208
Lab ID:HS16020208-01
Matrix:Soil

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES		**Method:SW8270**			Prep:SW3541 / 05-Feb-2016		Analyst: ACN
1,2-Diphenylhydrazine	U		0.0013	0.0079	mg/Kg-dry	1	05-Feb-2016 15:33
2,4-Dimethylphenol	U		0.0039	0.0079	mg/Kg-dry	1	05-Feb-2016 15:33
2,4-Dinitrotoluene	U		0.0011	0.0079	mg/Kg-dry	1	05-Feb-2016 15:33
2,6-Dinitrotoluene	U		0.0039	0.0079	mg/Kg-dry	1	05-Feb-2016 15:33
2-Chloronaphthalene	U		0.0015	0.0079	mg/Kg-dry	1	05-Feb-2016 15:33
2-Methylnaphthalene	U		0.00060	0.0039	mg/Kg-dry	1	05-Feb-2016 15:33
4,6-Dinitro-2-methylphenol	U		0.0025	0.0079	mg/Kg-dry	1	05-Feb-2016 15:33
4-Nitrophenol	U		0.0023	0.016	mg/Kg-dry	1	05-Feb-2016 15:33
Acenaphthene	**0.0023**	J	**0.00060**	**0.0039**	**mg/Kg-dry**	1	05-Feb-2016 15:33
Acenaphthylene	U		0.0012	0.0039	mg/Kg-dry	1	05-Feb-2016 15:33
Anthracene	U		0.00060	0.0039	mg/Kg-dry	1	05-Feb-2016 15:33
Benz(a)anthracene	U		0.0019	0.0039	mg/Kg-dry	1	05-Feb-2016 15:33
Benzo(a)pyrene	U		0.0012	0.0039	mg/Kg-dry	1	05-Feb-2016 15:33
Bis(2-chloroethoxy)methane	U		0.0011	0.0079	mg/Kg-dry	1	05-Feb-2016 15:33
Bis(2-ethylhexyl)phthalate	U		0.0020	0.0079	mg/Kg-dry	1	05-Feb-2016 15:33
Chrysene	U		0.00095	0.0039	mg/Kg-dry	1	05-Feb-2016 15:33
Dibenzofuran	U		0.00083	0.0039	mg/Kg-dry	1	05-Feb-2016 15:33
Di-n-butyl phthalate	U		0.0014	0.0079	mg/Kg-dry	1	05-Feb-2016 15:33
Fluoranthene	**0.0031**	J	**0.0013**	**0.0039**	**mg/Kg-dry**	1	05-Feb-2016 15:33
Fluorene	U		0.0013	0.0039	mg/Kg-dry	1	05-Feb-2016 15:33
Naphthalene	U		0.00071	0.0039	mg/Kg-dry	1	05-Feb-2016 15:33
Nitrobenzene	U		0.0011	0.0079	mg/Kg-dry	1	05-Feb-2016 15:33
N-Nitrosodiphenylamine	U		0.00083	0.0079	mg/Kg-dry	1	05-Feb-2016 15:33
Pentachlorophenol	U		0.0039	0.0079	mg/Kg-dry	1	05-Feb-2016 15:33
Phenanthrene	**0.0033**	J	**0.0018**	**0.0039**	**mg/Kg-dry**	1	05-Feb-2016 15:33
Phenol	U		0.0013	0.0079	mg/Kg-dry	1	05-Feb-2016 15:33
Pyrene	U		0.00071	0.0039	mg/Kg-dry	1	05-Feb-2016 15:33
Surr: 2,4,6-Tribromophenol	*113*			*36-126*	*%REC*	*1*	*05-Feb-2016 15:33*
Surr: 2-Fluorobiphenyl	*75.5*			*43-125*	*%REC*	*1*	*05-Feb-2016 15:33*
Surr: 2-Fluorophenol	*65.2*			*37-125*	*%REC*	*1*	*05-Feb-2016 15:33*
Surr: 4-Terphenyl-d14	*88.5*			*32-125*	*%REC*	*1*	*05-Feb-2016 15:33*
Surr: Nitrobenzene-d5	*111*			*37-125*	*%REC*	*1*	*05-Feb-2016 15:33*
Surr: Phenol-d6	*69.2*			*40-125*	*%REC*	*1*	*05-Feb-2016 15:33*
METALS BY SW6020A		**Method:SW6020**			Prep:SW3050A / 04-Feb-2016		Analyst: JDE
Arsenic	**1.21**		**0.110**	**0.548**	**mg/Kg-dry**	1	05-Feb-2016 14:59
Lead	**6.60**		**0.0548**	**0.548**	**mg/Kg-dry**	1	05-Feb-2016 14:59
MOISTURE - ASTM D2216		**Method:ASTM D2216**					Analyst: DFF
Percent Moisture	**16.5**		**0.0100**	**0.0100**	**wt%**	1	05-Feb-2016 08:20

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
Sample ID: SO-1620-CSBB2(5.0-5.5)-20160204
Collection Date: 04-Feb-2016 16:15

ANALYTICAL REPORT
WorkOrder:HS16020208
Lab ID:HS16020208-02
Matrix:Soil

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES		**Method:SW8270**			Prep:SW3541 / 05-Feb-2016		Analyst: ACN
1,2-Diphenylhydrazine	U		0.0013	0.0078	mg/Kg-dry	1	05-Feb-2016 15:52
2,4-Dimethylphenol	U		0.0039	0.0078	mg/Kg-dry	1	05-Feb-2016 15:52
2,4-Dinitrotoluene	U		0.0011	0.0078	mg/Kg-dry	1	05-Feb-2016 15:52
2,6-Dinitrotoluene	U		0.0039	0.0078	mg/Kg-dry	1	05-Feb-2016 15:52
2-Chloronaphthalene	U		0.0015	0.0078	mg/Kg-dry	1	05-Feb-2016 15:52
2-Methylnaphthalene	**0.0038**	J	**0.00059**	**0.0039**	**mg/Kg-dry**	1	05-Feb-2016 15:52
4,6-Dinitro-2-methylphenol	U		0.0025	0.0078	mg/Kg-dry	1	05-Feb-2016 15:52
4-Nitrophenol	U		0.0022	0.016	mg/Kg-dry	1	05-Feb-2016 15:52
Acenaphthene	**0.0040**		**0.00059**	**0.0039**	**mg/Kg-dry**	1	05-Feb-2016 15:52
Acenaphthylene	U		0.0012	0.0039	mg/Kg-dry	1	05-Feb-2016 15:52
Anthracene	U		0.00059	0.0039	mg/Kg-dry	1	05-Feb-2016 15:52
Benz(a)anthracene	U		0.0019	0.0039	mg/Kg-dry	1	05-Feb-2016 15:52
Benzo(a)pyrene	U		0.0012	0.0039	mg/Kg-dry	1	05-Feb-2016 15:52
Bis(2-chloroethoxy)methane	U		0.0011	0.0078	mg/Kg-dry	1	05-Feb-2016 15:52
Bis(2-ethylhexyl)phthalate	U		0.0020	0.0078	mg/Kg-dry	1	05-Feb-2016 15:52
Chrysene	**0.0020**	J	**0.00094**	**0.0039**	**mg/Kg-dry**	1	05-Feb-2016 15:52
Dibenzofuran	**0.0027**	J	**0.00082**	**0.0039**	**mg/Kg-dry**	1	05-Feb-2016 15:52
Di-n-butyl phthalate	U		0.0014	0.0078	mg/Kg-dry	1	05-Feb-2016 15:52
Fluoranthene	**0.0063**		**0.0013**	**0.0039**	**mg/Kg-dry**	1	05-Feb-2016 15:52
Fluorene	**0.0032**	J	**0.0013**	**0.0039**	**mg/Kg-dry**	1	05-Feb-2016 15:52
Naphthalene	**0.0093**		**0.00071**	**0.0039**	**mg/Kg-dry**	1	05-Feb-2016 15:52
Nitrobenzene	U		0.0011	0.0078	mg/Kg-dry	1	05-Feb-2016 15:52
N-Nitrosodiphenylamine	U		0.00082	0.0078	mg/Kg-dry	1	05-Feb-2016 15:52
Pentachlorophenol	U		0.0039	0.0078	mg/Kg-dry	1	05-Feb-2016 15:52
Phenanthrene	**0.0063**		**0.0018**	**0.0039**	**mg/Kg-dry**	1	05-Feb-2016 15:52
Phenol	U		0.0013	0.0078	mg/Kg-dry	1	05-Feb-2016 15:52
Pyrene	**0.0042**		**0.00071**	**0.0039**	**mg/Kg-dry**	1	05-Feb-2016 15:52
Surr: 2,4,6-Tribromophenol	*87.1*			*36-126*	*%REC*	*1*	*05-Feb-2016 15:52*
Surr: 2-Fluorobiphenyl	*68.3*			*43-125*	*%REC*	*1*	*05-Feb-2016 15:52*
Surr: 2-Fluorophenol	*57.7*			*37-125*	*%REC*	*1*	*05-Feb-2016 15:52*
Surr: 4-Terphenyl-d14	*90.7*			*32-125*	*%REC*	*1*	*05-Feb-2016 15:52*
Surr: Nitrobenzene-d5	*97.8*			*37-125*	*%REC*	*1*	*05-Feb-2016 15:52*
Surr: Phenol-d6	*69.7*			*40-125*	*%REC*	*1*	*05-Feb-2016 15:52*
METALS BY SW6020A		**Method:SW6020**			Prep:SW3050A / 04-Feb-2016		Analyst: JDE
Arsenic	**1.12**		**0.115**	**0.575**	**mg/Kg-dry**	1	05-Feb-2016 15:21
Lead	**5.84**		**0.0575**	**0.575**	**mg/Kg-dry**	1	05-Feb-2016 15:21
MOISTURE - ASTM D2216		**Method:ASTM D2216**					Analyst: DFF
Percent Moisture	**15.5**		**0.0100**	**0.0100**	**wt%**	1	05-Feb-2016 08:20

Note: See Qualifiers Page for a list of qualifiers and their explanation.

WEIGHT LOG

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
WorkOrder: HS16020208

Batch ID: 101194 **Method:** METALS BY SW6020A **Prep:** 3050_I_LOW

SampID	Container	Sample Wt/Vol	Final Volume	Prep Factor
HS16020208-01	1	0.5461	50 (mL)	91.56
HS16020208-02	1	0.5148	50 (mL)	97.13

Batch ID: 101208 **Method:** LOW-LEVEL SEMIVOLATILES **Prep:** 3541_B_LOW

SampID	Container	Sample Wt/Vol	Final Volume	Prep Factor
HS16020208-01	1	30.15	1 (mL)	0.03317
HS16020208-02	1	30.19	1 (mL)	0.03312

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
WorkOrder: HS16020208

DATES REPORT

Sample ID	Client Samp ID	Collection Date	TCLP Date	Prep Date	Analysis Date	DF
Batch ID 101194	**Test Name :** METALS BY SW6020A			**Matrix:** Soil		
HS16020208-01	SO-1620-CSBB1(5.0-5.5)-20160204	04 Feb 2016 16:10		04 Feb 2016 20:03	05 Feb 2016 14:59	1
HS16020208-02	SO-1620-CSBB2(5.0-5.5)-20160204	04 Feb 2016 16:15		04 Feb 2016 20:03	05 Feb 2016 15:21	1
Batch ID 101208	**Test Name :** LOW-LEVEL SEMIVOLATILES			**Matrix:** Soil		
HS16020208-01	SO-1620-CSBB1(5.0-5.5)-20160204	04 Feb 2016 16:10		05 Feb 2016 09:56	05 Feb 2016 15:33	1
HS16020208-02	SO-1620-CSBB2(5.0-5.5)-20160204	04 Feb 2016 16:15		05 Feb 2016 09:56	05 Feb 2016 15:52	1
Batch ID R268849	**Test Name :** MOISTURE - ASTM D2216			**Matrix:** Soil		
HS16020208-01	SO-1620-CSBB1(5.0-5.5)-20160204	04 Feb 2016 16:10			05 Feb 2016 08:20	1
HS16020208-02	SO-1620-CSBB2(5.0-5.5)-20160204	04 Feb 2016 16:15			05 Feb 2016 08:20	1

WorkOrder: HS16020208
InstrumentID: ICPMS03
Test Code: ICP_S_Low
Test Number: SW6020
Test Name: Metals by SW6020A

METHOD DETECTION / REPORTING LIMITS

Matrix: Solid **Units:** mg/Kg

Type	Analyte	CAS	DCS Spike	DCS	MDL	PQL
A	Arsenic	7440-38-2	0.100	0.134	0.100	0.500
A	Lead	7439-92-1	0.100	0.101	0.0500	0.500

WorkOrder: HS16020208
InstrumentID: SV-7
Test Code: 8270_LOW_S
Test Number: SW8270
Test Name: Low-Level Semivolatiles

METHOD DETECTION / REPORTING LIMITS

Matrix: Solid **Units:** mg/Kg

Type	Analyte	CAS	DCS Spike	DCS	MDL	PQL
A	1,2-Diphenylhydrazine	122-66-7	0.0033	0.0029	0.0011	0.0066
A	2,4-Dimethylphenol	105-67-9	0.0033	0.00084	0.0033	0.0066
A	2,4-Dinitrotoluene	121-14-2	0.0033	0.0025	0.00090	0.0066
A	2,6-Dinitrotoluene	606-20-2	0.0033	0.0030	0.0033	0.0066
A	2-Chloronaphthalene	91-58-7	0.0033	0.0025	0.0013	0.0066
A	2-Methylnaphthalene	91-57-6	0.0033	0.0034	0.00050	0.0033
A	4,6-Dinitro-2-methylphenol	534-52-1	0.0033	0.0036	0.0021	0.0066
A	4-Nitrophenol	100-02-7	0.0033	0.0043	0.0019	0.013
A	Acenaphthene	83-32-9	0.0033	0.0029	0.00050	0.0033
A	Acenaphthylene	208-96-8	0.0017	0.0017	0.0010	0.0033
A	Anthracene	120-12-7	0.0033	0.0031	0.00050	0.0033
A	Benz(a)anthracene	56-55-3	0.0017	0.0020	0.0016	0.0033
A	Benzo(a)pyrene	50-32-8	0.0033	0.0032	0.0010	0.0033
A	Bis(2-chloroethoxy)methane	111-91-1	0.0033	0.0033	0.00090	0.0066
A	Bis(2-ethylhexyl)phthalate	117-81-7	0.0033	0.0060	0.0017	0.0066
A	Chrysene	218-01-9	0.0033	0.0044	0.00080	0.0033
A	Dibenzofuran	132-64-9	0.0033	0.0028	0.00070	0.0033
A	Di-n-butyl phthalate	84-74-2	0.0033	0.0038	0.0012	0.0066
A	Fluoranthene	206-44-0	0.0033	0.0038	0.0011	0.0033
A	Fluorene	86-73-7	0.0017	0.0015	0.0011	0.0033
A	Naphthalene	91-20-3	0.0017	0.0019	0.00060	0.0033
A	Naphthalene	91-20-3	0.0033	0.0034	0.00060	0.0033
A	Nitrobenzene	98-95-3	0.0033	0.0038	0.00090	0.0066
A	N-Nitrosodiphenylamine	86-30-6	0.0033	0.0037	0.00070	0.0066
A	Pentachlorophenol	87-86-5	0.0033	0.0023	0.0033	0.0066
A	Phenanthrene	85-01-8	0.0017	0.0017	0.0015	0.0033
A	Phenanthrene	85-01-8	0.0033	0.0031	0.0015	0.0033
A	Phenol	108-95-2	0.0033	0.0038	0.0011	0.0066
A	Pyrene	129-00-0	0.0033	0.0045	0.00060	0.0033
S	2,4,6-Tribromophenol	118-79-6	0	0	0	0
S	2-Fluorobiphenyl	321-60-8	0	0	0	0
S	2-Fluorophenol	367-12-4	0	0	0	0
S	4-Terphenyl-d14	1718-51-0	0	0	0	0
S	Nitrobenzene-d5	4165-60-0	0	0	0	0
S	Phenol-d6	13127-88-3	0	0	0	0

WorkOrder: HS16020208
InstrumentID: Balance1
Test Code: MOIST_ASTM
Test Number: ASTM D2216
Test Name: Moisture - ASTM D2216

METHOD DETECTION / REPORTING LIMITS

Matrix: Solid **Units:** wt%

Type	Analyte	CAS	DCS Spike	DCS	MDL	PQL
A	Percent Moisture	MOIST	0.0100	0.0100	0.0100	0.0100

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
WorkOrder: HS16020208

QC BATCH REPORT

Batch ID: 101194 **Instrument: ICPMS03** **Method: SW6020**

MBLK Sample ID: **MBLK-101194** Units: **mg/Kg** Analysis Date: **05-Feb-2016 14:50**
Client ID: Run ID: **ICPMS03_268841** SeqNo: **3576804** PrepDate: **04-Feb-2016** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	U	0.500								
Lead	U	0.500								

LCS Sample ID: **MLCS-101194** Units: **mg/Kg** Analysis Date: **05-Feb-2016 14:55**
Client ID: Run ID: **ICPMS03_268841** SeqNo: **3576805** PrepDate: **04-Feb-2016** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	8.419	0.500	10	0	84.2	80 - 120				
Lead	8.659	0.500	10	0	86.6	80 - 120				

MS Sample ID: **HS16020208-01MS** Units: **mg/Kg** Analysis Date: **05-Feb-2016 15:08**
Client ID: **SO-1620-CSBB1(5.0-5.5)-20160204** Run ID: **ICPMS03_268841** SeqNo: **3576808** PrepDate: **04-Feb-2016** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	8.498	0.458	9.166	1.01	81.7	75 - 125				
Lead	14.39	0.458	9.166	5.511	96.9	75 - 125				

MSD Sample ID: **HS16020208-01MSD** Units: **mg/Kg** Analysis Date: **05-Feb-2016 15:12**
Client ID: **SO-1620-CSBB1(5.0-5.5)-20160204** Run ID: **ICPMS03_268841** SeqNo: **3576809** PrepDate: **04-Feb-2016** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	8.877	0.467	9.33	1.01	84.3	75 - 125	8.498	4.36	20	
Lead	14.66	0.467	9.33	5.511	98.0	75 - 125	14.39	1.84	20	

PDS Sample ID: **HS16020208-01BS** Units: **mg/Kg** Analysis Date: **05-Feb-2016 15:16**
Client ID: **SO-1620-CSBB1(5.0-5.5)-20160204** Run ID: **ICPMS03_268841** SeqNo: **3576810** PrepDate: **04-Feb-2016** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	8.645	0.458	9.156	1.01	83.4	75 - 125				
Lead	13.6	0.458	9.156	5.511	88.3	75 - 125				

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
WorkOrder: HS16020208

QC BATCH REPORT

Batch ID: 101194 **Instrument: ICPMS03** **Method: SW6020**

SD Sample ID: **HS16020208-01 DIL SX** Units: **mg/Kg** Analysis Date: **05-Feb-2016 15:04**
Client ID: **SO-1620-CSBB1(5.0-5.5)-20160204** Run ID: **ICPMS03_268841** SeqNo: **3576807** PrepDate: **04-Feb-2016** DF: **5**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%D	%D Limit	Qual
Arsenic	0.9939	2.29					1.01	0	10	J
Lead	5.64	2.29					5.511	2.34	10	

The following samples were anayzed in this batch: HS16020208-01 HS16020208-02

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
WorkOrder: HS16020208

QC BATCH REPORT

Batch ID: 101208 **Instrument: SV-7** **Method: SW8270**

MBLK Sample ID: **MBLK-101208** Units: **ug/Kg** Analysis Date: **05-Feb-2016 14:53**
Client ID: Run ID: **SV-7_268877** SeqNo: **3577011** PrepDate: **05-Feb-2016** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Diphenylhydrazine	U	6.6								
2,4-Dimethylphenol	U	6.6								
2,4-Dinitrotoluene	U	6.6								
2,6-Dinitrotoluene	U	6.6								
2-Chloronaphthalene	U	6.6								
2-Methylnaphthalene	U	3.3								
4,6-Dinitro-2-methylphenol	U	6.6								
4-Nitrophenol	U	13								
Acenaphthene	U	3.3								
Acenaphthylene	U	3.3								
Anthracene	U	3.3								
Benz(a)anthracene	U	3.3								
Benzo(a)pyrene	U	3.3								
Bis(2-chloroethoxy)methane	U	6.6								
Bis(2-ethylhexyl)phthalate	U	6.6								
Chrysene	U	3.3								
Dibenzofuran	U	3.3								
Di-n-butyl phthalate	U	6.6								
Fluoranthene	U	3.3								
Fluorene	U	3.3								
Naphthalene	U	3.3								
Nitrobenzene	U	6.6								
N-Nitrosodiphenylamine	U	6.6								
Pentachlorophenol	U	6.6								
Phenanthrene	U	3.3								
Phenol	U	6.6								
Pyrene	U	3.3								
Surr: 2,4,6-Tribromophenol	*180.1*	*0*	*167*	*0*	*108*	*36 - 126*				
Surr: 2-Fluorobiphenyl	*137.6*	*0*	*167*	*0*	*82.4*	*43 - 125*				
Surr: 2-Fluorophenol	*116.1*	*0*	*167*	*0*	*69.5*	*37 - 125*				
Surr: 4-Terphenyl-d14	*117.5*	*0*	*167*	*0*	*70.4*	*32 - 125*				
Surr: Nitrobenzene-d5	*197.9*	*0*	*167*	*0*	*119*	*37 - 125*				
Surr: Phenol-d6	*162.7*	*0*	*167*	*0*	*97.4*	*40 - 125*				

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
WorkOrder: HS16020208

QC BATCH REPORT

Batch ID: 101208 **Instrument: SV-7** **Method: SW8270**

LCS Sample ID: **LCS-101208** Units: **ug/Kg** Analysis Date: **05-Feb-2016 15:12**
Client ID: Run ID: **SV-7_268877** SeqNo: **3577012** PrepDate: **05-Feb-2016** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Diphenylhydrazine	123.1	6.6	167	0	73.7	50 - 135				
2,4-Dimethylphenol	148.6	6.6	167	0	89.0	45 - 120				
2,4-Dinitrotoluene	142.6	6.6	167	0	85.4	50 - 130				
2,6-Dinitrotoluene	154.3	6.6	167	0	92.4	50 - 125				
2-Chloronaphthalene	123.5	6.6	167	0	74.0	50 - 145				
2-Methylnaphthalene	148.6	3.3	167	0	89.0	50 - 120				
4,6-Dinitro-2-methylphenol	122.5	6.6	167	0	73.4	15 - 135				
4-Nitrophenol	192.6	13	167	0	115	40 - 147				
Acenaphthene	124.2	3.3	167	0	74.3	50 - 120				
Acenaphthylene	122.7	3.3	167	0	73.4	50 - 120				
Anthracene	135.5	3.3	167	0	81.1	50 - 123				
Benz(a)anthracene	155.4	3.3	167	0	93.1	50 - 131				
Benzo(a)pyrene	144.4	3.3	167	0	86.5	50 - 130				
Bis(2-chloroethoxy)methane	164.5	6.6	167	0	98.5	50 - 120				
Bis(2-ethylhexyl)phthalate	162.3	6.6	167	0	97.2	21 - 148				
Chrysene	133.7	3.3	167	0	80.1	50 - 130				
Dibenzofuran	128.1	3.3	167	0	76.7	50 - 125				
Di-n-butyl phthalate	126.2	6.6	167	0	75.6	50 - 140				
Fluoranthene	142.7	3.3	167	0	85.4	50 - 131				
Fluorene	122.3	3.3	167	0	73.2	50 - 125				
Naphthalene	120.7	3.3	167	0	72.3	50 - 125				
Nitrobenzene	168.3	6.6	167	0	101	50 - 125				
N-Nitrosodiphenylamine	112.4	6.6	167	0	67.3	50 - 130				
Pentachlorophenol	110.3	6.6	167	0	66.0	23 - 136				
Phenanthrene	128.7	3.3	167	0	77.1	50 - 125				
Phenol	119.3	6.6	167	0	71.4	45 - 130				
Pyrene	153.7	3.3	167	0	92.1	45 - 130				
Surr: 2,4,6-Tribromophenol	*177.1*	*0*	*167*	*0*	*106*	*36 - 126*				
Surr: 2-Fluorobiphenyl	*137.4*	*0*	*167*	*0*	*82.3*	*43 - 125*				
Surr: 2-Fluorophenol	*118.1*	*0*	*167*	*0*	*70.7*	*37 - 125*				
Surr: 4-Terphenyl-d14	*155.7*	*0*	*167*	*0*	*93.3*	*32 - 125*				
Surr: Nitrobenzene-d5	*175.4*	*0*	*167*	*0*	*105*	*37 - 125*				
Surr: Phenol-d6	*118.9*	*0*	*167*	*0*	*71.2*	*40 - 125*				

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
WorkOrder: HS16020208

QC BATCH REPORT

Batch ID: 101208 **Instrument: SV-7** **Method: SW8270**

MS Sample ID: **HS16020208-02MS** Units: **ug/Kg** Analysis Date: **05-Feb-2016 16:11**
Client ID: **SO-1620-CSBB2(5.0-5.5)-20160204** Run ID: **SV-7_268877** SeqNo: **3577015** PrepDate: **05-Feb-2016** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Diphenylhydrazine	149.6	6.6	166	0	90.1	50 - 135				
2,4-Dimethylphenol	134.9	6.6	166	0	81.2	45 - 120				
2,4-Dinitrotoluene	126.7	6.6	166	0	76.3	50 - 130				
2,6-Dinitrotoluene	146.6	6.6	166	0	88.3	50 - 125				
2-Chloronaphthalene	128.5	6.6	166	0	77.4	50 - 145				
2-Methylnaphthalene	133.6	3.3	166	3.208	78.5	50 - 120				
4,6-Dinitro-2-methylphenol	182.4	6.6	166	0	110	15 - 135				
4-Nitrophenol	216.7	13	166	0	131	40 - 147				
Acenaphthene	127	3.3	166	3.407	74.5	50 - 120				
Acenaphthylene	135.7	3.3	166	0	81.7	50 - 120				
Anthracene	172.3	3.3	166	0	104	50 - 123				
Benz(a)anthracene	158	3.3	166	0	95.2	50 - 131				
Benzo(a)pyrene	170.2	3.3	166	0	103	50 - 130				
Bis(2-chloroethoxy)methane	148.5	6.6	166	0	89.5	50 - 120				
Bis(2-ethylhexyl)phthalate	117.1	6.6	166	0	70.5	21 - 148				
Chrysene	145.1	3.3	166	1.715	86.4	50 - 130				
Dibenzofuran	116.9	3.3	166	2.262	69.0	50 - 125				
Di-n-butyl phthalate	204.3	6.6	166	0	123	50 - 140				
Fluoranthene	249.8	3.3	166	5.312	147	50 - 131				S
Fluorene	113.7	3.3	166	2.687	66.9	50 - 125				
Naphthalene	127.7	3.3	166	7.895	72.2	50 - 125				
Nitrobenzene	157	6.6	166	0	94.6	50 - 125				
N-Nitrosodiphenylamine	156.2	6.6	166	0	94.1	50 - 130				
Pentachlorophenol	130	6.6	166	0	78.3	23 - 136				
Phenanthrene	179.7	3.3	166	5.284	105	50 - 125				
Phenol	166.9	6.6	166	0	101	45 - 130				
Pyrene	192.9	3.3	166	3.509	114	45 - 130				
Surr: 2,4,6-Tribromophenol	*208.5*	*0*	*166*	*0*	*126*	*36 - 126*				
Surr: 2-Fluorobiphenyl	*124.3*	*0*	*166*	*0*	*74.9*	*43 - 125*				
Surr: 2-Fluorophenol	*139.1*	*0*	*166*	*0*	*83.8*	*37 - 125*				
Surr: 4-Terphenyl-d14	*147.4*	*0*	*166*	*0*	*88.8*	*32 - 125*				
Surr: Nitrobenzene-d5	*163.3*	*0*	*166*	*0*	*98.4*	*37 - 125*				
Surr: Phenol-d6	*179.5*	*0*	*166*	*0*	*108*	*40 - 125*				

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
WorkOrder: HS16020208

QC BATCH REPORT

Batch ID: 101208 **Instrument: SV-7** **Method: SW8270**

MSD Sample ID: **HS16020208-02MSD** Units: **ug/Kg** Analysis Date: **05-Feb-2016 16:31**
Client ID: **SO-1620-CSBB2(5.0-5.5)-20160204** Run ID: **SV-7_268877** SeqNo: **3577016** PrepDate: **05-Feb-2016** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual
1,2-Diphenylhydrazine	88.23	6.6	165.9	0	53.2	50 - 135	149.6	51.6	30	R
2,4-Dimethylphenol	110.4	6.6	165.9	0	66.5	45 - 120	134.9	20	30	
2,4-Dinitrotoluene	135.6	6.6	165.9	0	81.7	50 - 130	126.7	6.8	30	
2,6-Dinitrotoluene	137.2	6.6	165.9	0	82.7	50 - 125	146.6	6.67	30	
2-Chloronaphthalene	85.59	6.6	165.9	0	51.6	50 - 145	128.5	40.1	30	R
2-Methylnaphthalene	100.9	3.3	165.9	3.208	58.8	50 - 120	133.6	27.9	30	
4,6-Dinitro-2-methylphenol	96.08	6.6	165.9	0	57.9	15 - 135	182.4	62	30	R
4-Nitrophenol	203.8	13	165.9	0	123	40 - 147	216.7	6.12	30	
Acenaphthene	126.9	3.3	165.9	3.407	74.4	50 - 120	127	0.11	30	
Acenaphthylene	112.1	3.3	165.9	0	67.6	50 - 120	135.7	19	30	
Anthracene	125	3.3	165.9	0	75.3	50 - 123	172.3	31.9	30	R
Benz(a)anthracene	149.1	3.3	165.9	0	89.8	50 - 131	158	5.82	30	
Benzo(a)pyrene	147.9	3.3	165.9	0	89.1	50 - 130	170.2	14	30	
Bis(2-chloroethoxy)methane	126.9	6.6	165.9	0	76.5	50 - 120	148.5	15.7	30	
Bis(2-ethylhexyl)phthalate	131.1	6.6	165.9	0	79.0	21 - 148	117.1	11.3	30	
Chrysene	158.3	3.3	165.9	1.715	94.4	50 - 130	145.1	8.7	30	
Dibenzofuran	125	3.3	165.9	2.262	74.0	50 - 125	116.9	6.72	30	
Di-n-butyl phthalate	127.8	6.6	165.9	0	77.0	50 - 140	204.3	46.1	30	R
Fluoranthene	138.1	3.3	165.9	5.312	80.0	50 - 131	249.8	57.6	30	R
Fluorene	120.4	3.3	165.9	2.687	70.9	50 - 125	113.7	5.73	30	
Naphthalene	126.5	3.3	165.9	7.895	71.5	50 - 125	127.7	0.947	30	
Nitrobenzene	136	6.6	165.9	0	82.0	50 - 125	157	14.3	30	
N-Nitrosodiphenylamine	89.76	6.6	165.9	0	54.1	50 - 130	156.2	54	30	R
Pentachlorophenol	106.3	6.6	165.9	0	64.1	23 - 136	130	20.1	30	
Phenanthrene	187.8	3.3	165.9	5.284	110	50 - 125	179.7	4.41	30	
Phenol	125.6	6.6	165.9	0	75.7	45 - 130	166.9	28.3	30	
Pyrene	172.4	3.3	165.9	3.509	102	45 - 130	192.9	11.2	30	
Surr: 2,4,6-Tribromophenol	*165*	*0*	*165.9*	*0*	*99.4*	*36 - 126*	*208.5*	*23.3*	*30*	
Surr: 2-Fluorobiphenyl	*106.6*	*0*	*165.9*	*0*	*64.2*	*43 - 125*	*124.3*	*15.4*	*30*	
Surr: 2-Fluorophenol	*97.08*	*0*	*165.9*	*0*	*58.5*	*37 - 125*	*139.1*	*35.6*	*30*	R
Surr: 4-Terphenyl-d14	*136.9*	*0*	*165.9*	*0*	*82.5*	*32 - 125*	*147.4*	*7.34*	*30*	
Surr: Nitrobenzene-d5	*138.2*	*0*	*165.9*	*0*	*83.3*	*37 - 125*	*163.3*	*16.7*	*30*	
Surr: Phenol-d6	*77.06*	*0*	*165.9*	*0*	*46.4*	*40 - 125*	*179.5*	*79.9*	*30*	R

The following samples were anayzed in this batch: HS16020208-01 HS16020208-02

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
WorkOrder: HS16020208

QC BATCH REPORT

Batch ID: **R268849** **Instrument:** **Balance1** **Method:** **ASTM D2216**

DUP Sample ID: **HS16020208-02DUP** Units: **wt%** Analysis Date: **05-Feb-2016 08:20**
Client ID: **SO-1620-CSBB2(5.0-5.5)-20160204** Run ID: **Balance1_268849** SeqNo: **3576638** PrepDate: DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Percent Moisture	15.3	0.0100					15.5	1.3	20	

The following samples were anayzed in this batch: HS16020208-01 HS16020208-02

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
WorkOrder: **HS16020208**

QUALIFIERS, ACRONYMS, UNITS

Qualifier	Description
*	Value exceeds Regulatory Limit
a	Not accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte detected below quantitation limit
M	Manually integrated, see raw data for justification
n	Not offered for accreditation
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL/SDL

Acronym	Description
DCS	Detectability Check Study
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
MBLK	Method Blank
MDL	Method Detection Limit
MQL	Method Quantitation Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PDS	Post Digestion Spike
PQL	Practical Quantitaion Limit
SD	Serial Dilution
SDL	Sample Detection Limit
TRRP	Texas Risk Reduction Program

Unit Reported	Description
mg/Kg-dry	Milligrams per Kilogram- Dry weight corrected

CERTIFICATIONS,ACCREDITATIONS & LICENSES

Agency	Number	Expire Date
Arkansas	15-024-0	27-Mar-2016
California	2919	31-Jul-2016
Illinois	003622	09-May-2016
Kentucky	KY 2015-2016	30-Apr-2016
Louisiana	03087 2015/2016	30-Jun-2016
North Carolina	624 - 2016	31-Dec-2016
North Dakota	R-193 2015-2016	30-Apr-2016
Oklahoma	2015-047	31-Aug-2016
Texas	T104704231-15-15	30-Apr-2016

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
Work Order: HS16020208

SAMPLE TRACKING

Lab Samp ID	Client Sample ID	Action	Date	Person	New Location
HS16020208-01	SO-1620-CSBB1(5.0-5.5)-20160204	Login	2/4/2016 6:17:27 PM	BHH	13D
HS16020208-02	SO-1620-CSBB2(5.0-5.5)-20160204	Login	2/4/2016 6:17:27 PM	BHH	13D

Sample Receipt Checklist

Client Name: PBW
Work Order: HS16020208

Date/Time Received: **04-Feb-2016 18:02**
Received by: **BHH**

Checklist completed by: *Baudelio Hernandez* eSignature 4-Feb-2016 Date

Reviewed by: *Dane J. Wacasey* eSignature 5-Feb-2016 Date

Matrices: **Soil**

Carrier name: **Client**

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on shipping container/cooler?	Yes ☐	No ☐	Not Present ☑
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☑	No ☐	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
TX1005 solids received in hermetically sealed vials?	Yes ☐	No ☐	N/A ☑
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time?	Yes ☑	No ☐	
Container/Temp Blank temperature in compliance?	Yes ☑	No ☐	
Temperature(s)/Thermometer(s):	0.4c / 0.9c u/c	IR#5	
Cooler(s)/Kit(s):	2900		
Date/Time sample(s) sent to storage:	02/04/2016 18:18		
Water - VOA vials have zero headspace?	Yes ☐	No ☐	No VOA vials submitted ☑
Water - pH acceptable upon receipt?	Yes ☐	No ☐	N/A ☑
pH adjusted?	Yes ☐	No ☐	N/A ☑
pH adjusted by:			

Login Notes:

Client Contacted: Date Contacted: Person Contacted:

Contacted By: 0 Regarding:

Comments:

Corrective Action:

ALS Environmental

Cincinnati, OH +1 513 733 5336
Everett, WA +1 425 356 2600
Fort Collins, CO +1 970 490 1511
Holland, MI +1 616 399 6070

Chain of Custody Form

Page ____ of ____

COC ID: 135236

HS16020208

Pastor, Behling & Wheeler, LLC
1620-10-Rev1 HoustonTX-Wood

ALS Project Manager:

Customer Information		Project Information			
Purchase Order	UPRR	Project Name	1620-10-Rev1 HoustonTX-Wood	A	8270_LOW_S (5632532 Semivolatiles)
Work Order		Project Number	1620-10-Rev1	B	ICP_S_Low (5636002 5652646 Metals - As, Pb)
Company Name	Pastor, Behling & Wheeler, LLC	Bill To Company	Union Pacific Railroad- A/P	C	MOIST_ASTM (5631931 Gen.Chem. MOIST%)
Send Report To	Eric Matzner	Invoice Attn	Accounts Payable	D	
Address	2201 Double Creek Drive Suite 4004	Address	1400 Douglas Street Stop 0750	E	
				F	
City/State/Zip	Round Rock, TX 78664	City/State/Zip	Omaha, NE 681790750	G	
Phone	(512) 671-3434	Phone		H	
Fax	(512) 671-3446	Fax		I	
e-Mail Address		e-Mail Address		J	

No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
1	SO-1620-CSBB1 (5.0-5.5)-20160204	2/4/16	1610	Soil	8	1	X	X	X								
2	SO-1620-CSBB2 (5.0-5.5)-20160204	2/4/16	1615	Soil	8	1	X	X	X								
3																	
4																	
5																	
6																	
7																	
8																	
9																	
10																	

Sampler(s) Please Print & Sign: Kevin Dworsky

Shipment Method: Drop off

Required Turnaround Time: (Check Box) TAT: 1 days Other:

Results Due Date:

Relinquished by: Date: 2/4/16 Time: 1802 Received by: Date: 2/4/16 Time: 1802

Relinquished by: Date: Time: Received by (Laboratory):

Logged by (Laboratory): Date: Time: Checked by (Laboratory):

Notes: IUPRR Houston MW/PW

Cooler ID	Cooler Temp.
2900	0.4°
	#5

QC Package: (Check One Box Below)

QC Level: TRRP LRC

Other:

Preservative Key: 1-HCl 2-HNO_3 3-H_2SO_4 4-NaOH 5-$Na_2S_2O_3$ 6-$NaHSO_4$ 7-Other 8-4°C 9-5035

Note:
1. Any changes must be made in writing once samples and COC Form have been submitted to ALS Environmental.
2. Unless otherwise agreed in a formal contract, services provided by ALS Environmental are expressly limited to the terms and conditions stated on the reverse.
3. The Chain of Custody is a legal document. All information must be completed accurately.

10450 Stancliff Rd. Suite 210
Houston, TX 77099
T: +1 281 530 5656
F: +1 281 530 5887
www.alsglobal.com

February 09, 2016

Eric Matzner
Pastor, Behling & Wheeler, LLC
2201 Double Creek Drive
Suite 4004
Round Rock, TX 78664

Work Order: **HS16020291**

Laboratory Results for: **1620-10-Rev1 HoustonTX-Wood**

Dear Eric,

ALS Environmental received 7 sample(s) on Feb 08, 2016 for the analysis presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested. Results are expressed as "as received" unless otherwise noted.

QC sample results for this data met EPA or laboratory specifications except as noted in the Case Narrative or as noted with qualifiers in the QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained by ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

If you have any questions regarding this report, please feel free to call me.

Sincerely,

Generated By: Jumoke.Lawal
Dane J. Wacasey

Client:	Pastor, Behling & Wheeler, LLC	**TRRP Laboratory Data Package Cover Page**
Project:	1620-10-Rev1 HoustonTX-Wood	
WorkOrder:	**HS16020291**	

This data package consists of all or some of the following as applicable:

This signature page, the laboratory review checklist, and the following reportable data:

R1 Field chain-of-custody documentation;

R2 Sample identification cross-reference;

R3 Test reports (analytical data sheets) for each environmental sample that includes:

a) Items consistent with NELAC Chapter 5,
b) dilution factors,
c) preparation methods,
d) cleanup methods, and
e) if required for the project, tentatively identified compounds (TICs).

R4 Surrogate recovery data including:

a) Calculated recovery (%R), and
b) The laboratory's surrogate QC limits.

R5 Test reports/summary forms for blank samples;

R6 Test reports/summary forms for laboratory control samples (LCSs) including:

a) LCS spiking amounts,
b) Calculated %R for each analyte, and
c)The laboratory's LCS QC limits.

R7 Test reports for project matrix spike/matrix spike duplicates (MS/MSDs) including:

a) Samples associated with the MS/MSD clearly identified,
b) MS/MSD spiking amounts,
c) Concentration of each MS/MSD analyte measured in the parent and spiked samples,
d) Calculated %Rs and relative percent differences (RPDs), and
e) The laboratory's MS/MSD QC limits.

R8 Laboratory analytical duplicate (if applicable) recovery and precision:

a) the amount of analyte measured in the duplicate,
b) the calculated RPD, and
c) the laboratory's QC limits for analytical duplicates.

R9 List of method quantitation limits (MQLs) and detectability check sample results for each analyte for each method and matrix.

R10 Other problems or anomalies.
The Exception Report for each "No" or "Not Reviewed (NR)" item in Laboratory Review Checklist and for each analyte, matrix, and method for which the laboratory does not hold NELAC accreditation under the Texas Laboratory Accreditation Program.

Client:	Pastor, Behling & Wheeler, LLC
Project:	1620-10-Rev1 HoustonTX-Wood
WorkOrder:	**HS16020291**

TRRP Laboratory Data Package Cover Page

Release Statement: I am responsible for the release of this laboratory data package. This laboratory is NELAC accredited under the Texas Laboratory Accreditation Program for all the methods, analytes and matrices reported in this data package except as noted in the Exception Reports. The data have been reviewed and are technically compliant with the requirements of the methods used, except where noted by the laboratory in the attached exception reports. By my signature below, I affirm to the best of my knowledge, all problems/anomalies, observed by the laboratory have been identified by the laboratory in the Laboratory Review Checklist, and no information affecting the quality of the data has been knowingly withheld.

Check, if applicable: [NA] This laboratory meets an exception under 30 TAC §25.6 and was last inspected by [ ] TCEQ or [ ] _____ on (enter date of last inspection). Any findings affecting the data in this laboratory data package are noted in the Exception Reports herein. The official signing the cover page of the report in which these data are used is responsible for releasing this data package and is by signature affirming the above release statement is true.

Dane J. Wacasey

Laboratory Review Checklist: Reportable Data								
Laboratory Name: ALS Laboratory Group			LRC Date: 02/09/2016					
Project Name: 1620-10-Rev1 HoustonTX-Wood			Laboratory Job Number: HS16020291					
Reviewer Name: Dane Wacasey			Prep Batch Number(s): 101240,101253,R268970					
#[1]	A[2]	Description	Yes	No	NA[3]	NR[4]	ER#[5]	
R1	OI	**Chain-of-custody (C-O-C)**						
		Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?	X					
		Were all departures from standard conditions described in an exception report?	X					
R2	OI	**Sample and quality control (QC) identification**						
		Are all field sample ID numbers cross-referenced to the laboratory ID numbers?	X					
		Are all laboratory ID numbers cross-referenced to the corresponding QC data?	X					
R3	OI	**Test reports**						
		Were all samples prepared and analyzed within holding times?	X					
		Other than those results < MQL, were all other raw values bracketed by calibration standards?	X					
		Were calculations checked by a peer or supervisor?	X					
		Were all analyte identifications checked by a peer or supervisor?	X					
		Were sample detection limits reported for all analytes not detected?	X					
		Were all results for soil and sediment samples reported on a dry weight basis?	X					
		Were % moisture (or solids) reported for all soil and sediment samples?	X					
		Were bulk soils/solids samples for volatile analysis extracted with methanol per SW-846 Method 5035?			X			
		If required for the project, TICs reported?			X			
R4	O	**Surrogate recovery data**						
		Were surrogates added prior to extraction?	X					
		Were surrogate percent recoveries in all samples within the laboratory QC limits?		X			1	
R5	OI	**Test reports/summary forms for blank samples**						
		Were appropriate type(s) of blanks analyzed?	X					
		Were blanks analyzed at the appropriate frequency?	X					
		Were method blanks taken through the entire analytical process, including preparation and, if applicable, cleanup procedures?	X					
		Were blank concentrations < MQL?	X					
R6	OI	**Laboratory control samples (LCS):**						
		Were all COCs included in the LCS?	X					
		Was each LCS taken through the entire analytical procedure, including prep and cleanup steps?	X					
		Were LCSs analyzed at the required frequency?	X					
		Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?	X					
		Does the detectability data document the laboratory's capability to detect the COCs at the MDL used to calculate the SDLs?	X					
		Was the LCSD RPD within QC limits?	X					
R7	OI	**Matrix spike (MS) and matrix spike duplicate (MSD) data**						
		Were the project/method specified analytes included in the MS and MSD?	X					
		Were MS/MSD analyzed at the appropriate frequency?	X					
		Were MS (and MSD, if applicable) %Rs within the laboratory QC limits?		X			2	
		Were MS/MSD RPDs within laboratory QC limits?		X			3	
R8	OI	**Analytical duplicate data**						
		Were appropriate analytical duplicates analyzed for each matrix?	X					
		Were analytical duplicates analyzed at the appropriate frequency?	X					
		Were RPDs or relative standard deviations within the laboratory QC limits?	X					
R9	OI	**Method quantitation limits (MQLs):**						
		Are the MQLs for each method analyte included in the laboratory data package?	X					
		Do the MQLs correspond to the concentration of the lowest non-zero calibration standard?	X					
		Are unadjusted MQLs and DCSs included in the laboratory data package?	X					
R10	OI	**Other problems/anomalies**						
		Are all known problems/anomalies/special conditions noted in this LRC and ER?	X					
		Were all necessary corrective actions performed for the reported data?	X					
		Was applicable and available technology used to lower the SDL and minimize the matrix interference affects on the sample results?	X					
		Is the laboratory NELAC-accredited under the Texas Laboratory Program for the analytes, matrices and methods associated with this laboratory data package?	X					

Laboratory Review Checklist: Reportable Data							
Laboratory Name: ALS Laboratory Group			LRC Date: 02/09/2016				
Project Name: 1620-10-Rev1 HoustonTX-Wood			Laboratory Job Number: HS16020291				
Reviewer Name: Dane Wacasey			Prep Batch Number(s): 101240,101253,R268970				
#[1]	A[2]	Description	Yes	No	NA[3]	NR[4]	ER#[5]
S1	OI	**Initial calibration (ICAL)**					
		Were response factors and/or relative response factors for each analyte within QC limits?	X				
		Were percent RSDs or correlation coefficient criteria met?	X				
		Was the number of standards recommended in the method used for all analytes?	X				
		Were all points generated between the lowest and highest standard used to calculate the curve?	X				
		Are ICAL data available for all instruments used?	X				
		Has the initial calibration curve been verified using an appropriate second source standard?	X				
S2	OI	**Initial and continuing calibration verification (ICCV and CCV) and continuing calibration blank (CCB)**					
		Was the CCV analyzed at the method-required frequency?	X				
		Were percent differences for each analyte within the method-required QC limits?	X				
		Was the ICAL curve verified for each analyte?	X				
		Was the absolute value of the analyte concentration in the inorganic CCB < MDL?		X			4
S3	O	**Mass spectral tuning:**					
		Was the appropriate compound for the method used for tuning?	X				
		Were ion abundance data within the method-required QC limits?	X				
S4	O	**Internal standards (IS):**					
		Were IS area counts and retention times within the method-required QC limits?		X			5
S5	OI	**Raw data** (NELAC section 1 appendix A glossary, and section 5.12 or ISO/IEC 17025 section					
		Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst?	X				
		Were data associated with manual integrations flagged on the raw data?	X				
S6	O	**Dual column confirmation**					
		Did dual column confirmation results meet the method-required QC?			X		
S7	O	**Tentatively identified compounds (TICs):**					
		If TICs were requested, were the mass spectra and TIC data subject to appropriate checks?			X		
S8	I	**Interference Check Sample (ICS) results:**					
		Were percent recoveries within method QC limits?	X				
S9	I	**Serial dilutions, post digestion spikes, and method of standard additions**					
		Were percent differences, recoveries, and the linearity within the QC limits specified in the method?	X				
S10	OI	**Method detection limit (MDL) studies**					
		Was a MDL study performed for each reported analyte?	X				
		Is the MDL either adjusted or supported by the analysis of DCSs?	X				
S11	OI	**Proficiency test reports:**					
		Was the laboratory's performance acceptable on the applicable proficiency tests or evaluation studies?	X				
S12	OI	**Standards documentation**					
		Are all standards used in the analyses NIST-traceable or obtained from other appropriate sources?	X				
S13	OI	**Compound/analyte identification procedures**					
		Are the procedures for compound/analyte identification documented?	X				
S14	OI	**Demonstration of analyst competency (DOC)**					
		Was DOC conducted consistent with NELAC Chapter 5C or ISO/IEC 4?	X				
		Is documentation of the analyst's competency up-to-date and on file?	X				
S15	OI	**Verification/validation documentation for methods** (NELAC Chap 5 or ISO/IEC 17025 Section 5)					
		Are all the methods used to generate the data documented, verified, and validated, where applicable?	X				
S16	OI	**Laboratory standard operating procedures (SOPs):**					
		Are laboratory SOPs current and on file for each method performed?	X				

Items identified by the letter "R" must be included in the laboratory data package submitted in the TRRP-required report(s). Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period.
O = Organic Analyses; I = Inorganic Analyses (and general chemistry, when applicable);
NA = Not Applicable;
NR = Not Reviewed;
R# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

Laboratory Review Checklist: Reportable Data	
Laboratory Name: ALS Laboratory Group	LRC Date: 02/09/2016
Project Name: 1620-10-Rev1 HoustonTX-Wood	Laboratory Job Number: HS16020291
Reviewer Name: Dane Wacasey	Prep Batch Number(s): 101240,101253,R268970

ER#[5]	Description
1	Semivolatile Organics Method SW8270, sample SO-1620-ASBW1B(0-4)-20160206, surrogates 2-Fluorophenol and Nitrobenzene-d5 did not recover due to dilution required for sample analysis. Semivolatile Organics Method SW8270, sample SO-1620-BSBS1RB(0-4)-20160206, surrogates 2,4,6-Tribromophenol, 4-Terphenyl-d14 and Phenol-d6 recovered above the upper control limits due to matrix interference.
2	Batch 101253, Semivolatile Organics Method SW8270, sample SO-1620-BSBS1RB(0-4)-20160206, MS and or MSD recovered outside the control limits for multiple target compounds due to possible sample matrix interference.
3	Batch 101253, Semivolatile Organics Method SW8270, sample SO-1620-BSBS1RB(0-4)-20160206, MS/MSD RPD recovered above the RPD limits for some compounds due to non-homogeneity of the soil matrix and/or matrix effects.
4	See Run Log and CCB Exceptions Report.
5	Batch 101253, Semivolatile Organics Method SW8270, samples SO-1620-GSB9(0-3)-20160206 and SO-1620-GSB8(0-3)-20160206; One or more of the GCMS semi-volatile internal standards were recovered at <50%. The sample was reanalyzed with similar results indicating sample matrix interference.

Items identified by the letter "R" must be included in the laboratory data package submitted in the TRRP-required report(s). Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period.
O = Organic Analyses; I = Inorganic Analyses (and general chemistry, when applicable);
NA = Not Applicable;
NR = Not Reviewed;
R# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

FORM 13 - ANALYSIS RUN LOG

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
WorkOrder: HS16020291
Start Date: 09-Feb-2016 End Date: 09-Feb-2016

Run ID:ICPMS05_268967
Instrument:ICPMS05
Method:SW6020

Sample No.	D/F	Time	FileID	Analytes
ICV	1	09-Feb-2016 10:07	010_ICV.d	AS PB
LLICV5	1	09-Feb-2016 10:10	011LICV.d	AS PB
LLICV2	1	09-Feb-2016 10:13	012SMPL.d	AS PB
ICB	1	09-Feb-2016 10:16	013_ICB.d	AS PB
ICSA	1	09-Feb-2016 10:19	014ICSA.d	AS PB
ICSAB	1	09-Feb-2016 10:22	015ICSB.d	AS PB
SO-1620-GSB8(0-3)-20160206	1	09-Feb-2016 10:37	020SMPL.d	AS PB
CCV 1	1	09-Feb-2016 10:43	022_CCV.d	AS PB
CCB 1	1	09-Feb-2016 10:46	023_CCB.d	AS PB
CCV 2	1	09-Feb-2016 11:19	034_CCV.d	AS PB
CCB 2	1	09-Feb-2016 11:22	035_CCB.d	AS PB
CCV 3	1	09-Feb-2016 11:58	046_CCV.d	AS PB
CCB 3	1	09-Feb-2016 12:01	047_CCB.d	AS PB
CCV 4	1	09-Feb-2016 12:34	058_CCV.d	AS PB
CCB 4	1	09-Feb-2016 12:37	059_CCB.d	AS PB
CCV 5	1	09-Feb-2016 12:43	061_CCV.d	AS PB
CCV 6	1	09-Feb-2016 13:13	071_CCV.d	AS PB
CCB 5	1	09-Feb-2016 13:16	072_CCB.d	AS PB
CCV 7	1	09-Feb-2016 13:49	083_CCV.d	AS PB
CCB 6	1	09-Feb-2016 13:52	084_CCB.d	AS PB

CCB EXCEPTIONS REPORT

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
WorkOrder: HS16020291

Run ID:ICPMS05_268967
Instrument:ICPMS05
Method:SW6020

CCB 1 Date: 09-Feb-2016 10:46 Seq: 3578656 D/F: 1 Units: ug/L

Analyte	Result	MDL	Report Limit
Lead	0.743	0.6	5

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
Work Order: HS16020291

SAMPLE SUMMARY

Lab Samp ID	Client Sample ID	Matrix	TagNo	Collection Date	Date Received	Hold
HS16020291-01	SO-1620-GSB7(0-3)-20160206	Soil		06-Feb-2016 11:40	08-Feb-2016 11:20	☐
HS16020291-02	SO-1620-GSB8(0-3)-20160206	Soil		06-Feb-2016 12:05	08-Feb-2016 11:20	☐
HS16020291-03	SO-1620-GSB9(0-3)-20160206	Soil		06-Feb-2016 12:10	08-Feb-2016 11:20	☐
HS16020291-04	SO-1620-ASBW1A(0-4)-20160206	Soil		06-Feb-2016 13:45	08-Feb-2016 11:20	☐
HS16020291-05	SO-1620-ASBW1B(0-4)-20160206	Soil		06-Feb-2016 13:40	08-Feb-2016 11:20	☐
HS16020291-06	SO-1620-BSBS1RA(0-4)-20160206	Soil		06-Feb-2016 15:10	08-Feb-2016 11:20	☐
HS16020291-07	SO-1620-BSBS1RB(0-4)-20160206	Soil		06-Feb-2016 15:20	08-Feb-2016 11:20	☐

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
Sample ID: SO-1620-GSB7(0-3)-20160206
Collection Date: 06-Feb-2016 11:40

ANALYTICAL REPORT
WorkOrder:HS16020291
Lab ID:HS16020291-01
Matrix:Soil

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES		**Method:SW8270**			Prep:SW3541 / 08-Feb-2016		Analyst: ACN
1,2-Diphenylhydrazine	U		0.0018	0.011	mg/Kg-dry	1	08-Feb-2016 19:52
2,4-Dimethylphenol	U		0.0053	0.011	mg/Kg-dry	1	08-Feb-2016 19:52
2,4-Dinitrotoluene	U		0.0014	0.011	mg/Kg-dry	1	08-Feb-2016 19:52
2,6-Dinitrotoluene	U		0.0053	0.011	mg/Kg-dry	1	08-Feb-2016 19:52
2-Chloronaphthalene	U		0.0021	0.011	mg/Kg-dry	1	08-Feb-2016 19:52
2-Methylnaphthalene	U		0.00080	0.0053	mg/Kg-dry	1	08-Feb-2016 19:52
4,6-Dinitro-2-methylphenol	U		0.0034	0.011	mg/Kg-dry	1	08-Feb-2016 19:52
4-Nitrophenol	**0.013**	J	**0.0030**	**0.021**	**mg/Kg-dry**	1	08-Feb-2016 19:52
Acenaphthene	**0.0048**	J	**0.00080**	**0.0053**	**mg/Kg-dry**	1	08-Feb-2016 19:52
Acenaphthylene	**0.042**		**0.0016**	**0.0053**	**mg/Kg-dry**	1	08-Feb-2016 19:52
Anthracene	**0.056**		**0.00080**	**0.0053**	**mg/Kg-dry**	1	08-Feb-2016 19:52
Benz(a)anthracene	**0.085**		**0.0026**	**0.0053**	**mg/Kg-dry**	1	08-Feb-2016 19:52
Benzo(a)pyrene	**0.10**		**0.0016**	**0.0053**	**mg/Kg-dry**	1	08-Feb-2016 19:52
Bis(2-chloroethoxy)methane	U		0.0014	0.011	mg/Kg-dry	1	08-Feb-2016 19:52
Bis(2-ethylhexyl)phthalate	**0.51**		**0.0027**	**0.011**	**mg/Kg-dry**	1	08-Feb-2016 19:52
Chrysene	**0.13**		**0.0013**	**0.0053**	**mg/Kg-dry**	1	08-Feb-2016 19:52
Dibenzofuran	**0.0041**	J	**0.0011**	**0.0053**	**mg/Kg-dry**	1	08-Feb-2016 19:52
Di-n-butyl phthalate	U		0.0019	0.011	mg/Kg-dry	1	08-Feb-2016 19:52
Fluoranthene	**0.098**		**0.0018**	**0.0053**	**mg/Kg-dry**	1	08-Feb-2016 19:52
Fluorene	**0.0074**		**0.0018**	**0.0053**	**mg/Kg-dry**	1	08-Feb-2016 19:52
Naphthalene	**0.0027**	J	**0.00096**	**0.0053**	**mg/Kg-dry**	1	08-Feb-2016 19:52
Nitrobenzene	U		0.0014	0.011	mg/Kg-dry	1	08-Feb-2016 19:52
N-Nitrosodiphenylamine	U		0.0011	0.011	mg/Kg-dry	1	08-Feb-2016 19:52
Pentachlorophenol	U		0.0053	0.011	mg/Kg-dry	1	08-Feb-2016 19:52
Phenanthrene	**0.019**		**0.0024**	**0.0053**	**mg/Kg-dry**	1	08-Feb-2016 19:52
Phenol	U		0.0018	0.011	mg/Kg-dry	1	08-Feb-2016 19:52
Pyrene	**0.13**		**0.00096**	**0.0053**	**mg/Kg-dry**	1	08-Feb-2016 19:52
Surr: 2,4,6-Tribromophenol	*113*			*36-126*	*%REC*	*1*	*08-Feb-2016 19:52*
Surr: 2-Fluorobiphenyl	*65.6*			*43-125*	*%REC*	*1*	*08-Feb-2016 19:52*
Surr: 2-Fluorophenol	*61.2*			*37-125*	*%REC*	*1*	*08-Feb-2016 19:52*
Surr: 4-Terphenyl-d14	*98.8*			*32-125*	*%REC*	*1*	*08-Feb-2016 19:52*
Surr: Nitrobenzene-d5	*84.9*			*37-125*	*%REC*	*1*	*08-Feb-2016 19:52*
Surr: Phenol-d6	*76.8*			*40-125*	*%REC*	*1*	*08-Feb-2016 19:52*
METALS BY SW6020A		**Method:SW6020**			Prep:SW3050A / 08-Feb-2016		Analyst: JDE
Arsenic	**5.54**		**0.126**	**0.628**	**mg/Kg-dry**	1	09-Feb-2016 02:36
Lead	**27.3**		**0.0628**	**0.628**	**mg/Kg-dry**	1	09-Feb-2016 02:36
MOISTURE - ASTM D2216		**Method:ASTM D2216**					Analyst: DFF
Percent Moisture	**25.2**		**0.0100**	**0.0100**	**wt%**	1	08-Feb-2016 12:16

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
Sample ID: SO-1620-GSB8(0-3)-20160206
Collection Date: 06-Feb-2016 12:05

ANALYTICAL REPORT
WorkOrder:HS16020291
Lab ID:HS16020291-02
Matrix:Soil

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES		**Method:SW8270**			Prep:SW3541 / 08-Feb-2016		Analyst: ACN
1,2-Diphenylhydrazine	U		0.0014	0.0082	mg/Kg-dry	1	08-Feb-2016 20:12
2,4-Dimethylphenol	U		0.0041	0.0082	mg/Kg-dry	1	08-Feb-2016 20:12
2,4-Dinitrotoluene	U		0.0011	0.0082	mg/Kg-dry	1	08-Feb-2016 20:12
2,6-Dinitrotoluene	U		0.0041	0.0082	mg/Kg-dry	1	08-Feb-2016 20:12
2-Chloronaphthalene	U		0.0016	0.0082	mg/Kg-dry	1	08-Feb-2016 20:12
2-Methylnaphthalene	U		0.00062	0.0041	mg/Kg-dry	1	08-Feb-2016 20:12
4,6-Dinitro-2-methylphenol	U		0.0026	0.0082	mg/Kg-dry	1	08-Feb-2016 20:12
4-Nitrophenol	U		0.0024	0.016	mg/Kg-dry	1	08-Feb-2016 20:12
Acenaphthene	**0.0028**	J	**0.00062**	**0.0041**	**mg/Kg-dry**	1	08-Feb-2016 20:12
Acenaphthylene	**0.0066**		**0.0012**	**0.0041**	**mg/Kg-dry**	1	08-Feb-2016 20:12
Anthracene	**0.013**		**0.00062**	**0.0041**	**mg/Kg-dry**	1	08-Feb-2016 20:12
Benz(a)anthracene	**0.023**		**0.0020**	**0.0041**	**mg/Kg-dry**	1	08-Feb-2016 20:12
Benzo(a)pyrene	**0.032**		**0.0012**	**0.0041**	**mg/Kg-dry**	1	08-Feb-2016 20:12
Bis(2-chloroethoxy)methane	U		0.0011	0.0082	mg/Kg-dry	1	08-Feb-2016 20:12
Bis(2-ethylhexyl)phthalate	**0.013**		**0.0021**	**0.0082**	**mg/Kg-dry**	1	08-Feb-2016 20:12
Chrysene	**0.036**		**0.0010**	**0.0041**	**mg/Kg-dry**	1	08-Feb-2016 20:12
Dibenzofuran	U		0.00087	0.0041	mg/Kg-dry	1	08-Feb-2016 20:12
Di-n-butyl phthalate	**0.0023**	J	**0.0015**	**0.0082**	**mg/Kg-dry**	1	08-Feb-2016 20:12
Fluoranthene	**0.046**		**0.0014**	**0.0041**	**mg/Kg-dry**	1	08-Feb-2016 20:12
Fluorene	**0.0022**	J	**0.0014**	**0.0041**	**mg/Kg-dry**	1	08-Feb-2016 20:12
Naphthalene	U		0.00075	0.0041	mg/Kg-dry	1	08-Feb-2016 20:12
Nitrobenzene	U		0.0011	0.0082	mg/Kg-dry	1	08-Feb-2016 20:12
N-Nitrosodiphenylamine	U		0.00087	0.0082	mg/Kg-dry	1	08-Feb-2016 20:12
Pentachlorophenol	U		0.0041	0.0082	mg/Kg-dry	1	08-Feb-2016 20:12
Phenanthrene	**0.0098**		**0.0019**	**0.0041**	**mg/Kg-dry**	1	08-Feb-2016 20:12
Phenol	U		0.0014	0.0082	mg/Kg-dry	1	08-Feb-2016 20:12
Pyrene	**0.039**		**0.00075**	**0.0041**	**mg/Kg-dry**	1	08-Feb-2016 20:12
Surr: 2,4,6-Tribromophenol	*86.4*			*36-126*	*%REC*	*1*	*08-Feb-2016 20:12*
Surr: 2-Fluorobiphenyl	*90.6*			*43-125*	*%REC*	*1*	*08-Feb-2016 20:12*
Surr: 2-Fluorophenol	*69.7*			*37-125*	*%REC*	*1*	*08-Feb-2016 20:12*
Surr: 4-Terphenyl-d14	*87.8*			*32-125*	*%REC*	*1*	*08-Feb-2016 20:12*
Surr: Nitrobenzene-d5	*106*			*37-125*	*%REC*	*1*	*08-Feb-2016 20:12*
Surr: Phenol-d6	*101*			*40-125*	*%REC*	*1*	*08-Feb-2016 20:12*
METALS BY SW6020A		**Method:SW6020**			Prep:SW3050A / 08-Feb-2016		Analyst: RPM
Arsenic	**3.49**		**0.120**	**0.598**	**mg/Kg-dry**	1	09-Feb-2016 10:37
Lead	**12.8**		**0.0598**	**0.598**	**mg/Kg-dry**	1	09-Feb-2016 10:37
MOISTURE - ASTM D2216		**Method:ASTM D2216**					Analyst: DFF
Percent Moisture	**20.1**		**0.0100**	**0.0100**	**wt%**	1	08-Feb-2016 12:16

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
Sample ID: SO-1620-GSB9(0-3)-20160206
Collection Date: 06-Feb-2016 12:10

ANALYTICAL REPORT
WorkOrder:HS16020291
Lab ID:HS16020291-03
Matrix:Soil

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES	**Method:SW8270**				Prep:SW3541 / 08-Feb-2016		Analyst: ACN
1,2-Diphenylhydrazine	U		0.014	0.086	mg/Kg-dry	1	08-Feb-2016 17:37
2,4-Dimethylphenol	U		0.043	0.086	mg/Kg-dry	1	08-Feb-2016 17:37
2,4-Dinitrotoluene	U		0.012	0.086	mg/Kg-dry	1	08-Feb-2016 17:37
2,6-Dinitrotoluene	U		0.043	0.086	mg/Kg-dry	1	08-Feb-2016 17:37
2-Chloronaphthalene	U		0.017	0.086	mg/Kg-dry	1	08-Feb-2016 17:37
2-Methylnaphthalene	**0.0089**	J	**0.0066**	**0.043**	**mg/Kg-dry**	1	08-Feb-2016 17:37
4,6-Dinitro-2-methylphenol	U		0.028	0.086	mg/Kg-dry	1	08-Feb-2016 17:37
4-Nitrophenol	U		0.025	0.17	mg/Kg-dry	1	08-Feb-2016 17:37
Acenaphthene	**1.1**		**0.0066**	**0.043**	**mg/Kg-dry**	1	08-Feb-2016 17:37
Acenaphthylene	**0.26**		**0.013**	**0.043**	**mg/Kg-dry**	1	08-Feb-2016 17:37
Anthracene	**1.1**		**0.0066**	**0.043**	**mg/Kg-dry**	1	08-Feb-2016 17:37
Benz(a)anthracene	**3.0**		**0.021**	**0.043**	**mg/Kg-dry**	1	08-Feb-2016 17:37
Benzo(a)pyrene	**2.5**		**0.013**	**0.043**	**mg/Kg-dry**	1	08-Feb-2016 17:37
Bis(2-chloroethoxy)methane	U		0.012	0.086	mg/Kg-dry	1	08-Feb-2016 17:37
Bis(2-ethylhexyl)phthalate	**0.065**	J	**0.022**	**0.086**	**mg/Kg-dry**	1	08-Feb-2016 17:37
Chrysene	**3.9**		**0.010**	**0.043**	**mg/Kg-dry**	1	08-Feb-2016 17:37
Dibenzofuran	**0.24**		**0.0092**	**0.043**	**mg/Kg-dry**	1	08-Feb-2016 17:37
Di-n-butyl phthalate	U		0.016	0.086	mg/Kg-dry	1	08-Feb-2016 17:37
Fluoranthene	**12**		**0.072**	**0.22**	**mg/Kg-dry**	5	09-Feb-2016 13:58
Fluorene	**0.77**		**0.014**	**0.043**	**mg/Kg-dry**	1	08-Feb-2016 17:37
Naphthalene	U		0.0079	0.043	mg/Kg-dry	1	08-Feb-2016 17:37
Nitrobenzene	U		0.012	0.086	mg/Kg-dry	1	08-Feb-2016 17:37
N-Nitrosodiphenylamine	U		0.0092	0.086	mg/Kg-dry	1	08-Feb-2016 17:37
Pentachlorophenol	U		0.043	0.086	mg/Kg-dry	1	08-Feb-2016 17:37
Phenanthrene	**4.1**		**0.098**	**0.22**	**mg/Kg-dry**	5	09-Feb-2016 13:58
Phenol	U		0.014	0.086	mg/Kg-dry	1	08-Feb-2016 17:37
Pyrene	**12**		**0.039**	**0.22**	**mg/Kg-dry**	5	09-Feb-2016 13:58
Surr: 2,4,6-Tribromophenol	*107*			*36-126*	*%REC*	*1*	*08-Feb-2016 17:37*
Surr: 2,4,6-Tribromophenol	*121*			*36-126*	*%REC*	*5*	*09-Feb-2016 13:58*
Surr: 2-Fluorobiphenyl	*85.8*			*43-125*	*%REC*	*1*	*08-Feb-2016 17:37*
Surr: 2-Fluorobiphenyl	*105*			*43-125*	*%REC*	*5*	*09-Feb-2016 13:58*
Surr: 2-Fluorophenol	*68.4*			*37-125*	*%REC*	*1*	*08-Feb-2016 17:37*
Surr: 2-Fluorophenol	*75.3*			*37-125*	*%REC*	*5*	*09-Feb-2016 13:58*
Surr: 4-Terphenyl-d14	*124*			*32-125*	*%REC*	*1*	*08-Feb-2016 17:37*
Surr: 4-Terphenyl-d14	*116*			*32-125*	*%REC*	*5*	*09-Feb-2016 13:58*
Surr: Nitrobenzene-d5	*91.9*			*37-125*	*%REC*	*1*	*08-Feb-2016 17:37*
Surr: Nitrobenzene-d5	*74.5*			*37-125*	*%REC*	*5*	*09-Feb-2016 13:58*
Surr: Phenol-d6	*113*			*40-125*	*%REC*	*1*	*08-Feb-2016 17:37*
Surr: Phenol-d6	*95.1*			*40-125*	*%REC*	*5*	*09-Feb-2016 13:58*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
Sample ID: SO-1620-GSB9(0-3)-20160206
Collection Date: 06-Feb-2016 12:10

ANALYTICAL REPORT
WorkOrder:HS16020291
Lab ID:HS16020291-03
Matrix:Soil

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
METALS BY SW6020A	**Method:SW6020**				Prep:SW3050A / 08-Feb-2016		Analyst: JDE
Arsenic	**8.26**		**0.125**	**0.623**	**mg/Kg-dry**	1	09-Feb-2016 03:16
Lead	**12.3**		**0.0623**	**0.623**	**mg/Kg-dry**	1	09-Feb-2016 03:16
MOISTURE - ASTM D2216	**Method:ASTM D2216**						Analyst: DFF
Percent Moisture	**24.1**		**0.0100**	**0.0100**	**wt%**	1	08-Feb-2016 12:16

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
Sample ID: SO-1620-ASBW1A(0-4)-20160206
Collection Date: 06-Feb-2016 13:45

ANALYTICAL REPORT
WorkOrder:HS16020291
Lab ID:HS16020291-04
Matrix:Soil

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES	**Method:SW8270**				Prep:SW3541 / 08-Feb-2016		Analyst: ACN
1,2-Diphenylhydrazine	U		0.013	0.076	mg/Kg-dry	1	08-Feb-2016 17:56
2,4-Dimethylphenol	U		0.038	0.076	mg/Kg-dry	1	08-Feb-2016 17:56
2,4-Dinitrotoluene	U		0.010	0.076	mg/Kg-dry	1	08-Feb-2016 17:56
2,6-Dinitrotoluene	U		0.038	0.076	mg/Kg-dry	1	08-Feb-2016 17:56
2-Chloronaphthalene	U		0.015	0.076	mg/Kg-dry	1	08-Feb-2016 17:56
2-Methylnaphthalene	**0.20**		**0.0058**	**0.038**	**mg/Kg-dry**	1	08-Feb-2016 17:56
4,6-Dinitro-2-methylphenol	U		0.024	0.076	mg/Kg-dry	1	08-Feb-2016 17:56
4-Nitrophenol	**0.046**	J	**0.022**	**0.15**	**mg/Kg-dry**	1	08-Feb-2016 17:56
Acenaphthene	**0.70**		**0.0058**	**0.038**	**mg/Kg-dry**	1	08-Feb-2016 17:56
Acenaphthylene	**0.10**		**0.012**	**0.038**	**mg/Kg-dry**	1	08-Feb-2016 17:56
Anthracene	**1.2**		**0.0058**	**0.038**	**mg/Kg-dry**	1	08-Feb-2016 17:56
Benz(a)anthracene	**2.4**		**0.019**	**0.038**	**mg/Kg-dry**	1	08-Feb-2016 17:56
Benzo(a)pyrene	**1.4**		**0.012**	**0.038**	**mg/Kg-dry**	1	08-Feb-2016 17:56
Bis(2-chloroethoxy)methane	U		0.010	0.076	mg/Kg-dry	1	08-Feb-2016 17:56
Bis(2-ethylhexyl)phthalate	U		0.020	0.076	mg/Kg-dry	1	08-Feb-2016 17:56
Chrysene	**2.5**		**0.0093**	**0.038**	**mg/Kg-dry**	1	08-Feb-2016 17:56
Dibenzofuran	**0.20**		**0.0081**	**0.038**	**mg/Kg-dry**	1	08-Feb-2016 17:56
Di-n-butyl phthalate	U		0.014	0.076	mg/Kg-dry	1	08-Feb-2016 17:56
Fluoranthene	**11**		**0.064**	**0.19**	**mg/Kg-dry**	5	09-Feb-2016 14:17
Fluorene	**0.35**		**0.013**	**0.038**	**mg/Kg-dry**	1	08-Feb-2016 17:56
Naphthalene	**0.35**		**0.0069**	**0.038**	**mg/Kg-dry**	1	08-Feb-2016 17:56
Nitrobenzene	U		0.010	0.076	mg/Kg-dry	1	08-Feb-2016 17:56
N-Nitrosodiphenylamine	U		0.0081	0.076	mg/Kg-dry	1	08-Feb-2016 17:56
Pentachlorophenol	U		0.038	0.076	mg/Kg-dry	1	08-Feb-2016 17:56
Phenanthrene	**1.4**		**0.017**	**0.038**	**mg/Kg-dry**	1	08-Feb-2016 17:56
Phenol	U		0.013	0.076	mg/Kg-dry	1	08-Feb-2016 17:56
Pyrene	**6.9**		**0.035**	**0.19**	**mg/Kg-dry**	5	09-Feb-2016 14:17
Surr: 2,4,6-Tribromophenol	*122*			*36-126*	*%REC*	*1*	*08-Feb-2016 17:56*
Surr: 2,4,6-Tribromophenol	*100.0*			*36-126*	*%REC*	*5*	*09-Feb-2016 14:17*
Surr: 2-Fluorobiphenyl	*95.1*			*43-125*	*%REC*	*5*	*09-Feb-2016 14:17*
Surr: 2-Fluorobiphenyl	*75.3*			*43-125*	*%REC*	*1*	*08-Feb-2016 17:56*
Surr: 2-Fluorophenol	*56.7*			*37-125*	*%REC*	*1*	*08-Feb-2016 17:56*
Surr: 2-Fluorophenol	*58.2*			*37-125*	*%REC*	*5*	*09-Feb-2016 14:17*
Surr: 4-Terphenyl-d14	*104*			*32-125*	*%REC*	*5*	*09-Feb-2016 14:17*
Surr: 4-Terphenyl-d14	*94.7*			*32-125*	*%REC*	*1*	*08-Feb-2016 17:56*
Surr: Nitrobenzene-d5	*92.8*			*37-125*	*%REC*	*5*	*09-Feb-2016 14:17*
Surr: Nitrobenzene-d5	*110*			*37-125*	*%REC*	*1*	*08-Feb-2016 17:56*
Surr: Phenol-d6	*79.9*			*40-125*	*%REC*	*5*	*09-Feb-2016 14:17*
Surr: Phenol-d6	*65.4*			*40-125*	*%REC*	*1*	*08-Feb-2016 17:56*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Pastor, Behling & Wheeler, LLC
ANALYTICAL REPORT
Project: 1620-10-Rev1 HoustonTX-Wood
WorkOrder:HS16020291
Sample ID: SO-1620-ASBW1A(0-4)-20160206
Lab ID:HS16020291-04
Collection Date: 06-Feb-2016 13:45
Matrix:Soil

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
METALS BY SW6020A	**Method:SW6020**				Prep:SW3050A / 08-Feb-2016		Analyst: JDE
Arsenic	**2.70**		**0.109**	**0.546**	**mg/Kg-dry**	1	09-Feb-2016 03:21
Lead	**27.9**		**0.0546**	**0.546**	**mg/Kg-dry**	1	09-Feb-2016 03:21
MOISTURE - ASTM D2216	**Method:ASTM D2216**						Analyst: DFF
Percent Moisture	**14.1**		**0.0100**	**0.0100**	**wt%**	1	08-Feb-2016 12:16

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Pastor, Behling & Wheeler, LLC
ANALYTICAL REPORT
Project: 1620-10-Rev1 HoustonTX-Wood
WorkOrder:HS16020291
Sample ID: SO-1620-ASBW1B(0-4)-20160206
Lab ID:HS16020291-05
Collection Date: 06-Feb-2016 13:40
Matrix:Soil

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES	**Method:SW8270**				Prep:SW3541 / 08-Feb-2016		Analyst: ACN
1,2-Diphenylhydrazine	U		0.013	0.079	mg/Kg-dry	1	08-Feb-2016 18:16
2,4-Dimethylphenol	U		0.040	0.079	mg/Kg-dry	1	08-Feb-2016 18:16
2,4-Dinitrotoluene	U		0.011	0.079	mg/Kg-dry	1	08-Feb-2016 18:16
2,6-Dinitrotoluene	U		0.040	0.079	mg/Kg-dry	1	08-Feb-2016 18:16
2-Chloronaphthalene	U		0.016	0.079	mg/Kg-dry	1	08-Feb-2016 18:16
2-Methylnaphthalene	**1.7**		**0.0060**	**0.040**	**mg/Kg-dry**	1	08-Feb-2016 18:16
4,6-Dinitro-2-methylphenol	U		0.025	0.079	mg/Kg-dry	1	08-Feb-2016 18:16
4-Nitrophenol	U		0.023	0.16	mg/Kg-dry	1	08-Feb-2016 18:16
Acenaphthene	**2.3**		**0.0060**	**0.040**	**mg/Kg-dry**	1	08-Feb-2016 18:16
Acenaphthylene	**0.19**		**0.012**	**0.040**	**mg/Kg-dry**	1	08-Feb-2016 18:16
Anthracene	**6.9**		**0.060**	**0.40**	**mg/Kg-dry**	10	09-Feb-2016 14:37
Benz(a)anthracene	**7.0**		**0.19**	**0.40**	**mg/Kg-dry**	10	09-Feb-2016 14:37
Benzo(a)pyrene	**3.6**		**0.012**	**0.040**	**mg/Kg-dry**	1	08-Feb-2016 18:16
Bis(2-chloroethoxy)methane	U		0.011	0.079	mg/Kg-dry	1	08-Feb-2016 18:16
Bis(2-ethylhexyl)phthalate	U		0.020	0.079	mg/Kg-dry	1	08-Feb-2016 18:16
Chrysene	**7.2**		**0.096**	**0.40**	**mg/Kg-dry**	10	09-Feb-2016 14:37
Dibenzofuran	**1.6**		**0.0084**	**0.040**	**mg/Kg-dry**	1	08-Feb-2016 18:16
Di-n-butyl phthalate	U		0.014	0.079	mg/Kg-dry	1	08-Feb-2016 18:16
Fluoranthene	**34**		**0.13**	**0.40**	**mg/Kg-dry**	10	09-Feb-2016 14:37
Fluorene	**3.4**		**0.013**	**0.040**	**mg/Kg-dry**	1	08-Feb-2016 18:16
Naphthalene	**1.2**		**0.0072**	**0.040**	**mg/Kg-dry**	1	08-Feb-2016 18:16
Nitrobenzene	U		0.011	0.079	mg/Kg-dry	1	08-Feb-2016 18:16
N-Nitrosodiphenylamine	U		0.0084	0.079	mg/Kg-dry	1	08-Feb-2016 18:16
Pentachlorophenol	**6.4**		**0.40**	**0.79**	**mg/Kg-dry**	10	09-Feb-2016 14:37
Phenanthrene	**22**		**0.18**	**0.40**	**mg/Kg-dry**	10	09-Feb-2016 14:37
Phenol	U		0.013	0.079	mg/Kg-dry	1	08-Feb-2016 18:16
Pyrene	**18**		**0.072**	**0.40**	**mg/Kg-dry**	10	09-Feb-2016 14:37
Surr: 2,4,6-Tribromophenol	*117*			*36-126*	*%REC*	*1*	*08-Feb-2016 18:16*
Surr: 2,4,6-Tribromophenol	*104*			*36-126*	*%REC*	*10*	*09-Feb-2016 14:37*
Surr: 2-Fluorobiphenyl	*106*			*43-125*	*%REC*	*10*	*09-Feb-2016 14:37*
Surr: 2-Fluorobiphenyl	*74.1*			*43-125*	*%REC*	*1*	*08-Feb-2016 18:16*
Surr: 2-Fluorophenol	*101*			*37-125*	*%REC*	*1*	*08-Feb-2016 18:16*
Surr: 2-Fluorophenol	*0*	*S*		*37-125*	*%REC*	*10*	*09-Feb-2016 14:37*
Surr: 4-Terphenyl-d14	*108*			*32-125*	*%REC*	*10*	*09-Feb-2016 14:37*
Surr: 4-Terphenyl-d14	*113*			*32-125*	*%REC*	*1*	*08-Feb-2016 18:16*
Surr: Nitrobenzene-d5	*0*	*S*		*37-125*	*%REC*	*10*	*09-Feb-2016 14:37*
Surr: Nitrobenzene-d5	*94.4*			*37-125*	*%REC*	*1*	*08-Feb-2016 18:16*
Surr: Phenol-d6	*111*			*40-125*	*%REC*	*1*	*08-Feb-2016 18:16*
Surr: Phenol-d6	*104*			*40-125*	*%REC*	*10*	*09-Feb-2016 14:37*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Pastor, Behling & Wheeler, LLC
ANALYTICAL REPORT
Project: 1620-10-Rev1 HoustonTX-Wood
WorkOrder:HS16020291
Sample ID: SO-1620-ASBW1B(0-4)-20160206
Lab ID:HS16020291-05
Collection Date: 06-Feb-2016 13:40
Matrix:Soil

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
METALS BY SW6020A	**Method:SW6020**				Prep:SW3050A / 08-Feb-2016		Analyst: JDE
Arsenic	**2.22**		**0.111**	**0.554**	**mg/Kg-dry**	1	09-Feb-2016 03:26
Lead	**33.9**		**0.0554**	**0.554**	**mg/Kg-dry**	1	09-Feb-2016 03:26
MOISTURE - ASTM D2216	**Method:ASTM D2216**						Analyst: DFF
Percent Moisture	**17.1**		**0.0100**	**0.0100**	**wt%**	1	08-Feb-2016 12:16

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Pastor, Behling & Wheeler, LLC
ANALYTICAL REPORT
Project: 1620-10-Rev1 HoustonTX-Wood
WorkOrder:HS16020291
Sample ID: SO-1620-BSBS1RA(0-4)-20160206
Lab ID:HS16020291-06
Collection Date: 06-Feb-2016 15:10
Matrix:Soil

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES		**Method:SW8270**			Prep:SW3541 / 08-Feb-2016		Analyst: ACN
1,2-Diphenylhydrazine	U		0.013	0.075	mg/Kg-dry	1	08-Feb-2016 18:35
2,4-Dimethylphenol	U		0.038	0.075	mg/Kg-dry	1	08-Feb-2016 18:35
2,4-Dinitrotoluene	U		0.010	0.075	mg/Kg-dry	1	08-Feb-2016 18:35
2,6-Dinitrotoluene	U		0.038	0.075	mg/Kg-dry	1	08-Feb-2016 18:35
2-Chloronaphthalene	U		0.015	0.075	mg/Kg-dry	1	08-Feb-2016 18:35
2-Methylnaphthalene	**0.47**		**0.0057**	**0.038**	**mg/Kg-dry**	1	08-Feb-2016 18:35
4,6-Dinitro-2-methylphenol	U		0.024	0.075	mg/Kg-dry	1	08-Feb-2016 18:35
4-Nitrophenol	U		0.022	0.15	mg/Kg-dry	1	08-Feb-2016 18:35
Acenaphthene	**1.3**		**0.0057**	**0.038**	**mg/Kg-dry**	1	08-Feb-2016 18:35
Acenaphthylene	**0.047**		**0.011**	**0.038**	**mg/Kg-dry**	1	08-Feb-2016 18:35
Anthracene	**1.1**		**0.0057**	**0.038**	**mg/Kg-dry**	1	08-Feb-2016 18:35
Benz(a)anthracene	**0.62**		**0.018**	**0.038**	**mg/Kg-dry**	1	08-Feb-2016 18:35
Benzo(a)pyrene	**0.32**		**0.011**	**0.038**	**mg/Kg-dry**	1	08-Feb-2016 18:35
Bis(2-chloroethoxy)methane	U		0.010	0.075	mg/Kg-dry	1	08-Feb-2016 18:35
Bis(2-ethylhexyl)phthalate	U		0.019	0.075	mg/Kg-dry	1	08-Feb-2016 18:35
Chrysene	**0.53**		**0.0091**	**0.038**	**mg/Kg-dry**	1	08-Feb-2016 18:35
Dibenzofuran	**0.88**		**0.0080**	**0.038**	**mg/Kg-dry**	1	08-Feb-2016 18:35
Di-n-butyl phthalate	U		0.014	0.075	mg/Kg-dry	1	08-Feb-2016 18:35
Fluoranthene	**3.4**		**0.013**	**0.038**	**mg/Kg-dry**	1	08-Feb-2016 18:35
Fluorene	**1.5**		**0.013**	**0.038**	**mg/Kg-dry**	1	08-Feb-2016 18:35
Naphthalene	**0.50**		**0.0069**	**0.038**	**mg/Kg-dry**	1	08-Feb-2016 18:35
Nitrobenzene	U		0.010	0.075	mg/Kg-dry	1	08-Feb-2016 18:35
N-Nitrosodiphenylamine	U		0.0080	0.075	mg/Kg-dry	1	08-Feb-2016 18:35
Pentachlorophenol	U		0.038	0.075	mg/Kg-dry	1	08-Feb-2016 18:35
Phenanthrene	**3.4**		**0.017**	**0.038**	**mg/Kg-dry**	1	08-Feb-2016 18:35
Phenol	U		0.013	0.075	mg/Kg-dry	1	08-Feb-2016 18:35
Pyrene	**2.0**		**0.0069**	**0.038**	**mg/Kg-dry**	1	08-Feb-2016 18:35
Surr: 2,4,6-Tribromophenol	*117*			*36-126*	*%REC*	*1*	*08-Feb-2016 18:35*
Surr: 2-Fluorobiphenyl	*80.9*			*43-125*	*%REC*	*1*	*08-Feb-2016 18:35*
Surr: 2-Fluorophenol	*58.3*			*37-125*	*%REC*	*1*	*08-Feb-2016 18:35*
Surr: 4-Terphenyl-d14	*101*			*32-125*	*%REC*	*1*	*08-Feb-2016 18:35*
Surr: Nitrobenzene-d5	*94.2*			*37-125*	*%REC*	*1*	*08-Feb-2016 18:35*
Surr: Phenol-d6	*104*			*40-125*	*%REC*	*1*	*08-Feb-2016 18:35*
METALS BY SW6020A		**Method:SW6020**			Prep:SW3050A / 08-Feb-2016		Analyst: JDE
Arsenic	**1.23**		**0.107**	**0.533**	**mg/Kg-dry**	1	09-Feb-2016 03:32
Lead	**8.07**		**0.0533**	**0.533**	**mg/Kg-dry**	1	09-Feb-2016 03:32
MOISTURE - ASTM D2216		**Method:ASTM D2216**					Analyst: DFF
Percent Moisture	**12.9**		**0.0100**	**0.0100**	**wt%**	1	08-Feb-2016 12:16

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
Sample ID: SO-1620-BSBS1RB(0-4)-20160206
Collection Date: 06-Feb-2016 15:20

ANALYTICAL REPORT
WorkOrder:HS16020291
Lab ID:HS16020291-07
Matrix:Soil

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES	**Method:SW8270**				Prep:SW3541 / 08-Feb-2016		Analyst: ACN
1,2-Diphenylhydrazine	U		0.013	0.077	mg/Kg-dry	1	08-Feb-2016 21:48
2,4-Dimethylphenol	U		0.039	0.077	mg/Kg-dry	1	08-Feb-2016 21:48
2,4-Dinitrotoluene	U		0.011	0.077	mg/Kg-dry	1	08-Feb-2016 21:48
2,6-Dinitrotoluene	U		0.039	0.077	mg/Kg-dry	1	08-Feb-2016 21:48
2-Chloronaphthalene	U		0.015	0.077	mg/Kg-dry	1	08-Feb-2016 21:48
2-Methylnaphthalene	**2.5**		**0.0058**	**0.039**	**mg/Kg-dry**	1	08-Feb-2016 21:48
4,6-Dinitro-2-methylphenol	U		0.025	0.077	mg/Kg-dry	1	08-Feb-2016 21:48
4-Nitrophenol	U		0.022	0.15	mg/Kg-dry	1	08-Feb-2016 21:48
Acenaphthene	**3.0**		**0.0058**	**0.039**	**mg/Kg-dry**	1	08-Feb-2016 21:48
Acenaphthylene	**0.099**		**0.012**	**0.039**	**mg/Kg-dry**	1	08-Feb-2016 21:48
Anthracene	**5.7**		**0.058**	**0.39**	**mg/Kg-dry**	10	09-Feb-2016 14:56
Benz(a)anthracene	**3.0**		**0.019**	**0.039**	**mg/Kg-dry**	1	08-Feb-2016 21:48
Benzo(a)pyrene	**1.8**		**0.012**	**0.039**	**mg/Kg-dry**	1	08-Feb-2016 21:48
Bis(2-chloroethoxy)methane	U		0.011	0.077	mg/Kg-dry	1	08-Feb-2016 21:48
Bis(2-ethylhexyl)phthalate	U		0.020	0.077	mg/Kg-dry	1	08-Feb-2016 21:48
Chrysene	**4.7**		**0.094**	**0.39**	**mg/Kg-dry**	10	09-Feb-2016 14:56
Dibenzofuran	**3.2**		**0.0082**	**0.039**	**mg/Kg-dry**	1	08-Feb-2016 21:48
Di-n-butyl phthalate	U		0.014	0.077	mg/Kg-dry	1	08-Feb-2016 21:48
Fluoranthene	**16**		**0.13**	**0.39**	**mg/Kg-dry**	10	09-Feb-2016 14:56
Fluorene	**5.1**		**0.13**	**0.39**	**mg/Kg-dry**	10	09-Feb-2016 14:56
Naphthalene	**8.6**		**0.070**	**0.39**	**mg/Kg-dry**	10	09-Feb-2016 14:56
Nitrobenzene	U		0.011	0.077	mg/Kg-dry	1	08-Feb-2016 21:48
N-Nitrosodiphenylamine	U		0.0082	0.077	mg/Kg-dry	1	08-Feb-2016 21:48
Pentachlorophenol	U		0.039	0.077	mg/Kg-dry	1	08-Feb-2016 21:48
Phenanthrene	**19**		**0.18**	**0.39**	**mg/Kg-dry**	10	09-Feb-2016 14:56
Phenol	U		0.013	0.077	mg/Kg-dry	1	08-Feb-2016 21:48
Pyrene	**11**		**0.070**	**0.39**	**mg/Kg-dry**	10	09-Feb-2016 14:56
Surr: 2,4,6-Tribromophenol	*102*			*36-126*	*%REC*	*1*	*08-Feb-2016 21:48*
Surr: 2,4,6-Tribromophenol	*162*	*S*		*36-126*	*%REC*	*10*	*09-Feb-2016 14:56*
Surr: 2-Fluorobiphenyl	*97.8*			*43-125*	*%REC*	*10*	*09-Feb-2016 14:56*
Surr: 2-Fluorobiphenyl	*88.7*			*43-125*	*%REC*	*1*	*08-Feb-2016 21:48*
Surr: 2-Fluorophenol	*74.6*			*37-125*	*%REC*	*1*	*08-Feb-2016 21:48*
Surr: 2-Fluorophenol	*38.1*			*37-125*	*%REC*	*10*	*09-Feb-2016 14:56*
Surr: 4-Terphenyl-d14	*99.7*			*32-125*	*%REC*	*1*	*08-Feb-2016 21:48*
Surr: 4-Terphenyl-d14	*135*	*S*		*32-125*	*%REC*	*10*	*09-Feb-2016 14:56*
Surr: Nitrobenzene-d5	*105*			*37-125*	*%REC*	*10*	*09-Feb-2016 14:56*
Surr: Nitrobenzene-d5	*73.8*			*37-125*	*%REC*	*1*	*08-Feb-2016 21:48*
Surr: Phenol-d6	*55.6*			*40-125*	*%REC*	*1*	*08-Feb-2016 21:48*
Surr: Phenol-d6	*32.9*	*S*		*40-125*	*%REC*	*10*	*09-Feb-2016 14:56*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Pastor, Behling & Wheeler, LLC
ANALYTICAL REPORT
Project: 1620-10-Rev1 HoustonTX-Wood
WorkOrder:HS16020291
Sample ID: SO-1620-BSBS1RB(0-4)-20160206
Lab ID:HS16020291-07
Collection Date: 06-Feb-2016 15:20
Matrix:Soil

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
METALS BY SW6020A	**Method:SW6020**				Prep:SW3050A / 08-Feb-2016		Analyst: JDE
Arsenic	**0.814**		**0.110**	**0.548**	**mg/Kg-dry**	1	09-Feb-2016 03:37
Lead	**13.4**		**0.0548**	**0.548**	**mg/Kg-dry**	1	09-Feb-2016 03:37
MOISTURE - ASTM D2216	**Method:ASTM D2216**						Analyst: DFF
Percent Moisture	**15.0**		**0.0100**	**0.0100**	**wt%**	1	08-Feb-2016 12:16

Note: See Qualifiers Page for a list of qualifiers and their explanation.

WEIGHT LOG

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
WorkOrder: HS16020291

Batch ID: 101240 **Method:** METALS BY SW6020A **Prep:** 3050_I_LOW

SampID	Container	Sample Wt/Vol	Final Volume	Prep Factor
HS16020291-01	1	0.5322	50 (mL)	93.95
HS16020291-02	1	0.5236	50 (mL)	95.49
HS16020291-03	1	0.5284	50 (mL)	94.63
HS16020291-04	1	0.5328	50 (mL)	93.84
HS16020291-05	1	0.5442	50 (mL)	91.88
HS16020291-06	1	0.5381	50 (mL)	92.92
HS16020291-07	1	0.5369	50 (mL)	93.13

Batch ID: 101253 **Method:** LOW-LEVEL SEMIVOLATILES **Prep:** 3541_B_LOW

SampID	Container	Sample Wt/Vol	Final Volume	Prep Factor
HS16020291-01	1	25.06	1 (mL)	0.0399
HS16020291-02	1	30.16	1 (mL)	0.03316
HS16020291-03	1	30.17	10 (mL)	0.3315
HS16020291-04	1	30.19	10 (mL)	0.3312
HS16020291-05	1	30.14	10 (mL)	0.3318
HS16020291-06	1	30.16	10 (mL)	0.3316
HS16020291-07	1	30.17	10 (mL)	0.3315

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
WorkOrder: HS16020291

DATES REPORT

Sample ID	Client Samp ID	Collection Date	TCLP Date	Prep Date	Analysis Date	DF
Batch ID 101240	**Test Name :** METALS BY SW6020A			**Matrix:** Soil		
HS16020291-01	SO-1620-GSB7(0-3)-20160206	06 Feb 2016 11:40		08 Feb 2016 12:12	09 Feb 2016 02:36	1
HS16020291-02	SO-1620-GSB8(0-3)-20160206	06 Feb 2016 12:05		08 Feb 2016 12:12	09 Feb 2016 10:37	1
HS16020291-03	SO-1620-GSB9(0-3)-20160206	06 Feb 2016 12:10		08 Feb 2016 12:12	09 Feb 2016 03:16	1
HS16020291-04	SO-1620-ASBW1A(0-4)-20160206	06 Feb 2016 13:45		08 Feb 2016 12:12	09 Feb 2016 03:21	1
HS16020291-05	SO-1620-ASBW1B(0-4)-20160206	06 Feb 2016 13:40		08 Feb 2016 12:12	09 Feb 2016 03:26	1
HS16020291-06	SO-1620-BSBS1RA(0-4)-20160206	06 Feb 2016 15:10		08 Feb 2016 12:12	09 Feb 2016 03:32	1
HS16020291-07	SO-1620-BSBS1RB(0-4)-20160206	06 Feb 2016 15:20		08 Feb 2016 12:12	09 Feb 2016 03:37	1
Batch ID 101253	**Test Name :** LOW-LEVEL SEMIVOLATILES			**Matrix:** Soil		
HS16020291-01	SO-1620-GSB7(0-3)-20160206	06 Feb 2016 11:40		08 Feb 2016 00:56	08 Feb 2016 19:52	1
HS16020291-02	SO-1620-GSB8(0-3)-20160206	06 Feb 2016 12:05		08 Feb 2016 00:56	08 Feb 2016 20:12	1
HS16020291-03	SO-1620-GSB9(0-3)-20160206	06 Feb 2016 12:10		08 Feb 2016 00:56	09 Feb 2016 13:58	5
HS16020291-03	SO-1620-GSB9(0-3)-20160206	06 Feb 2016 12:10		08 Feb 2016 00:56	08 Feb 2016 17:37	1
HS16020291-04	SO-1620-ASBW1A(0-4)-20160206	06 Feb 2016 13:45		08 Feb 2016 00:56	09 Feb 2016 14:17	5
HS16020291-04	SO-1620-ASBW1A(0-4)-20160206	06 Feb 2016 13:45		08 Feb 2016 00:56	08 Feb 2016 17:56	1
HS16020291-05	SO-1620-ASBW1B(0-4)-20160206	06 Feb 2016 13:40		08 Feb 2016 00:56	09 Feb 2016 14:37	10
HS16020291-05	SO-1620-ASBW1B(0-4)-20160206	06 Feb 2016 13:40		08 Feb 2016 00:56	08 Feb 2016 18:16	1
HS16020291-06	SO-1620-BSBS1RA(0-4)-20160206	06 Feb 2016 15:10		08 Feb 2016 00:56	08 Feb 2016 18:35	1
HS16020291-07	SO-1620-BSBS1RB(0-4)-20160206	06 Feb 2016 15:20		08 Feb 2016 00:56	09 Feb 2016 14:56	10
HS16020291-07	SO-1620-BSBS1RB(0-4)-20160206	06 Feb 2016 15:20		08 Feb 2016 00:56	08 Feb 2016 21:48	1
Batch ID R268970	**Test Name :** MOISTURE - ASTM D2216			**Matrix:** Soil		
HS16020291-01	SO-1620-GSB7(0-3)-20160206	06 Feb 2016 11:40			08 Feb 2016 12:16	1
HS16020291-02	SO-1620-GSB8(0-3)-20160206	06 Feb 2016 12:05			08 Feb 2016 12:16	1
HS16020291-03	SO-1620-GSB9(0-3)-20160206	06 Feb 2016 12:10			08 Feb 2016 12:16	1
HS16020291-04	SO-1620-ASBW1A(0-4)-20160206	06 Feb 2016 13:45			08 Feb 2016 12:16	1
HS16020291-05	SO-1620-ASBW1B(0-4)-20160206	06 Feb 2016 13:40			08 Feb 2016 12:16	1
HS16020291-06	SO-1620-BSBS1RA(0-4)-20160206	06 Feb 2016 15:10			08 Feb 2016 12:16	1
HS16020291-07	SO-1620-BSBS1RB(0-4)-20160206	06 Feb 2016 15:20			08 Feb 2016 12:16	1

WorkOrder: HS16020291
InstrumentID: ICPMS04
Test Code: ICP_S_Low
Test Number: SW6020
Test Name: Metals by SW6020A

METHOD DETECTION / REPORTING LIMITS

Matrix: Solid **Units:** mg/Kg

Type	Analyte	CAS	DCS Spike	DCS	MDL	PQL
A	Arsenic	7440-38-2	0.100	0.0974	0.100	0.500
A	Lead	7439-92-1	0.100	0.0927	0.0500	0.500

WorkOrder: HS16020291
InstrumentID: ICPMS05
Test Code: ICP_S_Low
Test Number: SW6020
Test Name: Metals by SW6020A

METHOD DETECTION / REPORTING LIMITS

Matrix: Solid **Units:** mg/Kg

Type	Analyte	CAS	DCS Spike	DCS	MDL	PQL
A	Arsenic	7440-38-2	0.100	0.114	0.100	0.500
A	Lead	7439-92-1	0.100	0.0971	0.0500	0.500

WorkOrder: HS16020291
InstrumentID: SV-7
Test Code: 8270_LOW_S
Test Number: SW8270
Test Name: Low-Level Semivolatiles

METHOD DETECTION / REPORTING LIMITS

Matrix: Solid **Units:** mg/Kg

Type	Analyte	CAS	DCS Spike	DCS	MDL	PQL
A	1,2-Diphenylhydrazine	122-66-7	0.0033	0.0029	0.0011	0.0066
A	2,4-Dimethylphenol	105-67-9	0.0033	0.00084	0.0033	0.0066
A	2,4-Dinitrotoluene	121-14-2	0.0033	0.0025	0.00090	0.0066
A	2,6-Dinitrotoluene	606-20-2	0.0033	0.0030	0.0033	0.0066
A	2-Chloronaphthalene	91-58-7	0.0033	0.0025	0.0013	0.0066
A	2-Methylnaphthalene	91-57-6	0.0033	0.0034	0.00050	0.0033
A	4,6-Dinitro-2-methylphenol	534-52-1	0.0033	0.0036	0.0021	0.0066
A	4-Nitrophenol	100-02-7	0.0033	0.0043	0.0019	0.013
A	Acenaphthene	83-32-9	0.0033	0.0029	0.00050	0.0033
A	Acenaphthene	83-32-9	0.0017	0.0015	0.00050	0.0033
A	Acenaphthylene	208-96-8	0.0017	0.0017	0.0010	0.0033
A	Acenaphthylene	208-96-8	0.0033	0.0023	0.0010	0.0033
A	Anthracene	120-12-7	0.0017	0.0017	0.00050	0.0033
A	Anthracene	120-12-7	0.0033	0.0031	0.00050	0.0033
A	Benz(a)anthracene	56-55-3	0.0033	0.0032	0.0016	0.0033
A	Benz(a)anthracene	56-55-3	0.0017	0.0020	0.0016	0.0033
A	Benzo(a)pyrene	50-32-8	0.0033	0.0032	0.0010	0.0033
A	Benzo(a)pyrene	50-32-8	0.0017	0.0018	0.0010	0.0033
A	Bis(2-chloroethoxy)methane	111-91-1	0.0033	0.0033	0.00090	0.0066
A	Bis(2-ethylhexyl)phthalate	117-81-7	0.0033	0.0060	0.0017	0.0066
A	Chrysene	218-01-9	0.0017	0.0017	0.00080	0.0033
A	Chrysene	218-01-9	0.0033	0.0044	0.00080	0.0033
A	Dibenzofuran	132-64-9	0.0033	0.0028	0.00070	0.0033
A	Di-n-butyl phthalate	84-74-2	0.0033	0.0038	0.0012	0.0066
A	Fluoranthene	206-44-0	0.0017	0.0019	0.0011	0.0033
A	Fluoranthene	206-44-0	0.0033	0.0038	0.0011	0.0033
A	Fluorene	86-73-7	0.0033	0.0027	0.0011	0.0033
A	Fluorene	86-73-7	0.0017	0.0015	0.0011	0.0033
A	Naphthalene	91-20-3	0.0017	0.0019	0.00060	0.0033
A	Naphthalene	91-20-3	0.0033	0.0034	0.00060	0.0033
A	Nitrobenzene	98-95-3	0.0033	0.0038	0.00090	0.0066
A	N-Nitrosodiphenylamine	86-30-6	0.0033	0.0037	0.00070	0.0066
A	Pentachlorophenol	87-86-5	0.0033	0.0023	0.0033	0.0066
A	Phenanthrene	85-01-8	0.0033	0.0031	0.0015	0.0033
A	Phenol	108-95-2	0.0033	0.0038	0.0011	0.0066
A	Pyrene	129-00-0	0.0033	0.0045	0.00060	0.0033
A	Pyrene	129-00-0	0.0017	0.0019	0.00060	0.0033
S	2,4,6-Tribromophenol	118-79-6	0	0	0	0
S	2-Fluorobiphenyl	321-60-8	0	0	0	0
S	2-Fluorophenol	367-12-4	0	0	0	0
S	4-Terphenyl-d14	1718-51-0	0	0	0	0

WorkOrder: HS16020291
InstrumentID: SV-7
Test Code: 8270_LOW_S
Test Number: SW8270
Test Name: Low-Level Semivolatiles

METHOD DETECTION / REPORTING LIMITS

Matrix: Solid **Units:** mg/Kg

Type	Analyte	CAS	DCS Spike	DCS	MDL	PQL
S	Nitrobenzene-d5	4165-60-0	0	0	0	0
S	Phenol-d6	13127-88-3	0	0	0	0

WorkOrder: HS16020291
InstrumentID: Balance1
Test Code: MOIST_ASTM
Test Number: ASTM D2216
Test Name: Moisture - ASTM D2216

METHOD DETECTION / REPORTING LIMITS

Matrix: Solid **Units:** wt%

Type	Analyte	CAS	DCS Spike	DCS	MDL	PQL
A	Percent Moisture	MOIST	0.0100	0.0100	0.0100	0.0100

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
WorkOrder: HS16020291

QC BATCH REPORT

Batch ID: 101240 **Instrument: ICPMS04** **Method: SW6020**

MBLK Sample ID: **MBLK-101240** Units: **mg/Kg** Analysis Date: **09-Feb-2016 02:15**
Client ID: Run ID: **ICPMS04_268931** SeqNo: **3578432** PrepDate: **08-Feb-2016** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	U	0.570								
Lead	U	0.570								

LCS Sample ID: **MLCS-101240** Units: **mg/Kg** Analysis Date: **09-Feb-2016 02:21**
Client ID: Run ID: **ICPMS04_268931** SeqNo: **3578433** PrepDate: **08-Feb-2016** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	11.57	0.577	11.55	0	100	80 - 120				
Lead	11.55	0.577	11.55	0	100.0	80 - 120				

MS Sample ID: **HS16020291-01MS** Units: **mg/Kg** Analysis Date: **09-Feb-2016 02:46**
Client ID: **SO-1620-GSB7(0-3)-20160206** Run ID: **ICPMS04_268931** SeqNo: **3578438** PrepDate: **08-Feb-2016** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	13.27	0.476	9.524	4.147	95.8	75 - 125				
Lead	29.45	0.476	9.524	20.4	95.0	75 - 125				

MSD Sample ID: **HS16020291-01MSD** Units: **mg/Kg** Analysis Date: **09-Feb-2016 02:51**
Client ID: **SO-1620-GSB7(0-3)-20160206** Run ID: **ICPMS04_268931** SeqNo: **3578439** PrepDate: **08-Feb-2016** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	12.75	0.468	9.36	4.147	91.9	75 - 125	13.27	4.01	20	
Lead	28.69	0.468	9.36	20.4	88.5	75 - 125	29.45	2.6	20	

PDS Sample ID: **HS16020291-01BS** Units: **mg/Kg** Analysis Date: **09-Feb-2016 02:56**
Client ID: **SO-1620-GSB7(0-3)-20160206** Run ID: **ICPMS04_268931** SeqNo: **3578440** PrepDate: **08-Feb-2016** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	12.63	0.470	9.395	4.147	90.3	75 - 125				
Lead	28	0.470	9.395	20.4	80.8	75 - 125				

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
WorkOrder: HS16020291

QC BATCH REPORT

Batch ID: 101240 **Instrument: ICPMS04** **Method: SW6020**

SD Sample ID: **HS16020291-01 DIL SX** Units: **mg/Kg** Analysis Date: **09-Feb-2016 02:41**
Client ID: **SO-1620-GSB7(0-3)-20160206** Run ID: **ICPMS04_268931** SeqNo: **3578437** PrepDate: **08-Feb-2016** DF: **5**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%D	%D Limit	Qual
Arsenic	4.17	2.35					4.147	0.546	10	
Lead	19.02	2.35					20.4	6.76	10	

The following samples were anayzed in this batch:

HS16020291-01	HS16020291-02	HS16020291-03	HS16020291-04
HS16020291-05	HS16020291-06	HS16020291-07	

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
WorkOrder: HS16020291

QC BATCH REPORT

Batch ID: 101253 **Instrument: SV-7** **Method: SW8270**

MBLK Sample ID: **MBLK-101253** Units: **ug/Kg** Analysis Date: **08-Feb-2016 16:13**
Client ID: Run ID: **SV-7_268972** SeqNo: **3578562** PrepDate: **08-Feb-2016** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Diphenylhydrazine	U	6.6								
2,4-Dimethylphenol	U	6.6								
2,4-Dinitrotoluene	U	6.6								
2,6-Dinitrotoluene	U	6.6								
2-Chloronaphthalene	U	6.6								
2-Methylnaphthalene	U	3.3								
4,6-Dinitro-2-methylphenol	U	6.6								
4-Nitrophenol	U	13								
Acenaphthene	U	3.3								
Acenaphthylene	U	3.3								
Anthracene	U	3.3								
Benz(a)anthracene	U	3.3								
Benzo(a)pyrene	U	3.3								
Bis(2-chloroethoxy)methane	U	6.6								
Bis(2-ethylhexyl)phthalate	U	6.6								
Chrysene	U	3.3								
Dibenzofuran	U	3.3								
Di-n-butyl phthalate	U	6.6								
Fluoranthene	U	3.3								
Fluorene	U	3.3								
Naphthalene	U	3.3								
Nitrobenzene	U	6.6								
N-Nitrosodiphenylamine	U	6.6								
Pentachlorophenol	U	6.6								
Phenanthrene	U	3.3								
Phenol	U	6.6								
Pyrene	U	3.3								
Surr: 2,4,6-Tribromophenol	*206.7*	*0*	*167*	*0*	*124*	*36 - 126*				
Surr: 2-Fluorobiphenyl	*125.7*	*0*	*167*	*0*	*75.3*	*43 - 125*				
Surr: 2-Fluorophenol	*115.3*	*0*	*167*	*0*	*69.0*	*37 - 125*				
Surr: 4-Terphenyl-d14	*133.8*	*0*	*167*	*0*	*80.1*	*32 - 125*				
Surr: Nitrobenzene-d5	*151.7*	*0*	*167*	*0*	*90.8*	*37 - 125*				
Surr: Phenol-d6	*125.2*	*0*	*167*	*0*	*75.0*	*40 - 125*				

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
WorkOrder: HS16020291

QC BATCH REPORT

Batch ID: 101253 **Instrument: SV-7** **Method: SW8270**

LCS Sample ID: **LCS-101253** Units: **ug/Kg** Analysis Date: **08-Feb-2016 16:32**
Client ID: Run ID: **SV-7_268972** SeqNo: **3578563** PrepDate: **08-Feb-2016** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Diphenylhydrazine	131.4	6.6	167	0	78.7	50 - 135				
2,4-Dimethylphenol	139.7	6.6	167	0	83.6	45 - 120				
2,4-Dinitrotoluene	122	6.6	167	0	73.1	50 - 130				
2,6-Dinitrotoluene	124.5	6.6	167	0	74.6	50 - 125				
2-Chloronaphthalene	103.7	6.6	167	0	62.1	50 - 145				
2-Methylnaphthalene	126.9	3.3	167	0	76.0	50 - 120				
4,6-Dinitro-2-methylphenol	158.9	6.6	167	0	95.2	15 - 135				
4-Nitrophenol	174.6	13	167	0	105	40 - 147				
Acenaphthene	110.7	3.3	167	0	66.3	50 - 120				
Acenaphthylene	126.6	3.3	167	0	75.8	50 - 120				
Anthracene	144.1	3.3	167	0	86.3	50 - 123				
Benz(a)anthracene	155.8	3.3	167	0	93.3	50 - 131				
Benzo(a)pyrene	159.8	3.3	167	0	95.7	50 - 130				
Bis(2-chloroethoxy)methane	131.9	6.6	167	0	79.0	50 - 120				
Bis(2-ethylhexyl)phthalate	160.2	6.6	167	0	95.9	21 - 148				
Chrysene	147.5	3.3	167	0	88.3	50 - 130				
Dibenzofuran	102.8	3.3	167	0	61.6	50 - 125				
Di-n-butyl phthalate	149.4	6.6	167	0	89.4	50 - 140				
Fluoranthene	135	3.3	167	0	80.8	50 - 131				
Fluorene	121.9	3.3	167	0	73.0	50 - 125				
Naphthalene	139.7	3.3	167	0	83.6	50 - 125				
Nitrobenzene	201.7	6.6	167	0	121	50 - 125				
N-Nitrosodiphenylamine	154.7	6.6	167	0	92.6	50 - 130				
Pentachlorophenol	143.9	6.6	167	0	86.2	23 - 136				
Phenanthrene	143.2	3.3	167	0	85.8	50 - 125				
Phenol	149.4	6.6	167	0	89.4	45 - 130				
Pyrene	141.6	3.3	167	0	84.8	45 - 130				
Surr: 2,4,6-Tribromophenol	*199.6*	*0*	*167*	*0*	*120*	*36 - 126*				
Surr: 2-Fluorobiphenyl	*107.5*	*0*	*167*	*0*	*64.4*	*43 - 125*				
Surr: 2-Fluorophenol	*147*	*0*	*167*	*0*	*88.0*	*37 - 125*				
Surr: 4-Terphenyl-d14	*160.4*	*0*	*167*	*0*	*96.0*	*32 - 125*				
Surr: Nitrobenzene-d5	*189.8*	*0*	*167*	*0*	*114*	*37 - 125*				
Surr: Phenol-d6	*164.9*	*0*	*167*	*0*	*98.7*	*40 - 125*				

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
WorkOrder: HS16020291

QC BATCH REPORT

Batch ID: 101253 **Instrument: SV-7** **Method: SW8270**

MS Sample ID: **HS16020291-07MS** Units: **ug/Kg** Analysis Date: **08-Feb-2016 22:07**
Client ID: **SO-1620-BSBS1RB(0-4)-20160206** Run ID: **SV-7_268972** SeqNo: **3578572** PrepDate: **08-Feb-2016** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Diphenylhydrazine	273.8	66	166	0	165	50 - 135				S
2,4-Dimethylphenol	99.94	66	166	0	60.2	45 - 120				
2,4-Dinitrotoluene	232.6	66	166	0	140	50 - 130				S
2,6-Dinitrotoluene	101.9	66	166	0	61.4	50 - 125				
2-Chloronaphthalene	146.6	66	166	0	88.3	50 - 145				
2-Methylnaphthalene	3090	33	166	2152	565	50 - 120				SO
4,6-Dinitro-2-methylphenol	U	66	166	0	0	15 - 135				S
4-Nitrophenol	129.6	130	166	0	78.1	40 - 147				J
Acenaphthene	3369	33	166	2591	469	50 - 120				SEO
Acenaphthylene	191.3	33	166	84.2	64.5	50 - 120				
Anthracene	4746	33	166	3589	697	50 - 123				SEO
Benz(a)anthracene	3244	33	166	2572	404	50 - 131				SO
Benzo(a)pyrene	2000	33	166	1550	271	50 - 130				SO
Bis(2-chloroethoxy)methane	127.6	66	166	0	76.9	50 - 120				
Bis(2-ethylhexyl)phthalate	210.4	66	166	0	127	21 - 148				
Chrysene	4635	33	166	3585	633	50 - 130				SEO
Dibenzofuran	3097	33	166	2706	236	50 - 125				SO
Di-n-butyl phthalate	193.5	66	166	0	117	50 - 140				
Fluoranthene	14950	33	166	12450	1510	50 - 131				SEO
Fluorene	5391	33	166	4343	631	50 - 125				SEO
Naphthalene	7903	33	166	7976	-43.7	50 - 125				SEO
Nitrobenzene	178.9	66	166	0	108	50 - 125				
N-Nitrosodiphenylamine	398.5	66	166	0	240	50 - 130				S
Pentachlorophenol	88.68	66	166	0	53.4	23 - 136				
Phenanthrene	15990	33	166	14280	1030	50 - 125				SEO
Phenol	117.7	66	166	0	70.9	45 - 130				
Pyrene	12190	33	166	8746	2070	45 - 130				SEO
Surr: 2,4,6-Tribromophenol	*101.7*	*0*	*166*	*0*	*61.3*	*36 - 126*				
Surr: 2-Fluorobiphenyl	*158.8*	*0*	*166*	*0*	*95.6*	*43 - 125*				
Surr: 2-Fluorophenol	*163.9*	*0*	*166*	*0*	*98.8*	*37 - 125*				
Surr: 4-Terphenyl-d14	*207*	*0*	*166*	*0*	*125*	*32 - 125*				
Surr: Nitrobenzene-d5	*187.9*	*0*	*166*	*0*	*113*	*37 - 125*				
Surr: Phenol-d6	*183.2*	*0*	*166*	*0*	*110*	*40 - 125*				

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
WorkOrder: HS16020291

QC BATCH REPORT

Batch ID: 101253 **Instrument: SV-7** **Method: SW8270**

MSD Sample ID: **HS16020291-07MSD** Units: **ug/Kg** Analysis Date: **08-Feb-2016 19:33**
Client ID: **SO-1620-BSBS1RB(0-4)-20160206** Run ID: **SV-7_268972** SeqNo: **3578568** PrepDate: **08-Feb-2016** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual
1,2-Diphenylhydrazine	185.9	66	166.1	0	112	50 - 135	273.8	38.2	30	R
2,4-Dimethylphenol	113.3	66	166.1	0	68.2	45 - 120	99.94	12.5	30	
2,4-Dinitrotoluene	148.9	66	166.1	0	89.7	50 - 130	232.6	43.8	30	R
2,6-Dinitrotoluene	192.8	66	166.1	0	116	50 - 125	101.9	61.7	30	R
2-Chloronaphthalene	103.9	66	166.1	0	62.6	50 - 145	146.6	34.1	30	R
2-Methylnaphthalene	2915	33	166.1	2152	459	50 - 120	3090	5.84	30	SO
4,6-Dinitro-2-methylphenol	U	66	166.1	0	0	15 - 135	0	0	30	S
4-Nitrophenol	111.5	130	166.1	0	67.1	40 - 147	129.6	0	30	J
Acenaphthene	3039	33	166.1	2591	270	50 - 120	3369	10.3	30	SO
Acenaphthylene	194.5	33	166.1	84.2	66.4	50 - 120	191.3	1.65	30	
Anthracene	4180	33	166.1	3589	356	50 - 123	4746	12.7	30	SEO
Benz(a)anthracene	3725	33	166.1	2572	694	50 - 131	3244	13.8	30	SEO
Benzo(a)pyrene	1952	33	166.1	1550	242	50 - 130	2000	2.42	30	SO
Bis(2-chloroethoxy)methane	149.4	66	166.1	0	89.9	50 - 120	127.6	15.7	30	
Bis(2-ethylhexyl)phthalate	142	66	166.1	0	85.5	21 - 148	210.4	38.8	30	R
Chrysene	4373	33	166.1	3585	474	50 - 130	4635	5.83	30	SEO
Dibenzofuran	2322	33	166.1	2706	-231	50 - 125	3097	28.6	30	SO
Di-n-butyl phthalate	162.5	66	166.1	0	97.8	50 - 140	193.5	17.4	30	
Fluoranthene	10380	33	166.1	12450	-1250	50 - 131	14950	36.1	30	SREO
Fluorene	3699	33	166.1	4343	-388	50 - 125	5391	37.2	30	SREO
Naphthalene	7991	33	166.1	7976	9.18	50 - 125	7903	1.1	30	SEO
Nitrobenzene	204.3	66	166.1	0	123	50 - 125	178.9	13.3	30	
N-Nitrosodiphenylamine	223.5	66	166.1	0	135	50 - 130	398.5	56.3	30	SR
Pentachlorophenol	102.2	66	166.1	0	61.5	23 - 136	88.68	14.2	30	
Phenanthrene	11510	33	166.1	14280	-1670	50 - 125	15990	32.6	30	SREO
Phenol	85.72	66	166.1	0	51.6	45 - 130	117.7	31.5	30	R
Pyrene	9368	33	166.1	8746	375	45 - 130	12190	26.1	30	SEO
Surr: 2,4,6-Tribromophenol	*173.3*	*0*	*166.1*	*0*	*104*	*36 - 126*	*101.7*	*52.1*	*30*	R
Surr: 2-Fluorobiphenyl	*120.3*	*0*	*166.1*	*0*	*72.5*	*43 - 125*	*158.8*	*27.5*	*30*	
Surr: 2-Fluorophenol	*122.1*	*0*	*166.1*	*0*	*73.5*	*37 - 125*	*163.9*	*29.3*	*30*	
Surr: 4-Terphenyl-d14	*171.4*	*0*	*166.1*	*0*	*103*	*32 - 125*	*207*	*18.8*	*30*	
Surr: Nitrobenzene-d5	*150.3*	*0*	*166.1*	*0*	*90.5*	*37 - 125*	*187.9*	*22.3*	*30*	
Surr: Phenol-d6	*158*	*0*	*166.1*	*0*	*95.1*	*40 - 125*	*183.2*	*14.8*	*30*	

The following samples were anayzed in this batch: HS16020291-01 HS16020291-02 HS16020291-03 HS16020291-04 HS16020291-05 HS16020291-06 HS16020291-07

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
WorkOrder: HS16020291

QC BATCH REPORT

Batch ID: R268970 **Instrument: Balance1** **Method: ASTM D2216**

DUP Sample ID: **HS16020291-07DUP** Units: **wt%** Analysis Date: **08-Feb-2016 12:16**
Client ID: **SO-1620-BSBS1RB(0-4)-20160206** Run ID: **Balance1_268970** SeqNo: **3578506** PrepDate: DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Percent Moisture	14	0.0100					15	6.9	20	

The following samples were anayzed in this batch: HS16020291-01 HS16020291-02 HS16020291-03 HS16020291-04 HS16020291-05 HS16020291-06 HS16020291-07

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
WorkOrder: **HS16020291**

QUALIFIERS, ACRONYMS, UNITS

Qualifier	Description
*	Value exceeds Regulatory Limit
a	Not accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte detected below quantitation limit
M	Manually integrated, see raw data for justification
n	Not offered for accreditation
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL/SDL

Acronym	Description
DCS	Detectability Check Study
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
MBLK	Method Blank
MDL	Method Detection Limit
MQL	Method Quantitation Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PDS	Post Digestion Spike
PQL	Practical Quantitaion Limit
SD	Serial Dilution
SDL	Sample Detection Limit
TRRP	Texas Risk Reduction Program

Unit Reported	Description
mg/Kg-dry	Milligrams per Kilogram- Dry weight corrected

CERTIFICATIONS,ACCREDITATIONS & LICENSES

Agency	Number	Expire Date
Arkansas	15-024-0	27-Mar-2016
California	2919	31-Jul-2016
Illinois	003622	09-May-2016
Kentucky	KY 2015-2016	30-Apr-2016
Louisiana	03087 2015/2016	30-Jun-2016
North Carolina	624 - 2016	31-Dec-2016
North Dakota	R-193 2015-2016	30-Apr-2016
Oklahoma	2015-047	31-Aug-2016
Texas	T104704231-15-15	30-Apr-2016

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
Work Order: HS16020291

SAMPLE TRACKING

Lab Samp ID	Client Sample ID	Action	Date	Person	New Location
HS16020291-01	SO-1620-GSB7(0-3)-20160206	Login	2/8/2016 11:43:21 AM	PMG	14D
HS16020291-02	SO-1620-GSB8(0-3)-20160206	Login	2/8/2016 11:43:21 AM	PMG	14D
HS16020291-03	SO-1620-GSB9(0-3)-20160206	Login	2/8/2016 11:49:36 AM	PMG	14D
HS16020291-04	SO-1620-ASBW1A(0-4)-20160206	Login	2/8/2016 11:49:36 AM	PMG	14D
HS16020291-05	SO-1620-ASBW1B(0-4)-20160206	Login	2/8/2016 11:49:36 AM	PMG	14D
HS16020291-06	SO-1620-BSBS1RA(0-4)-20160206	Login	2/8/2016 11:49:36 AM	PMG	14D
HS16020291-07	SO-1620-BSBS1RB(0-4)-20160206	Login	2/8/2016 11:49:36 AM	PMG	14D

Sample Receipt Checklist

Client Name: PBW
Work Order: HS16020291

Date/Time Received: **08-Feb-2016 11:20**
Received by: **PMG**

Checklist completed by: *Paresh M. Giga* eSignature — 8-Feb-2016 Date

Reviewed by: Dane Wacasey eSignature — 8-Feb-2016 Date

Matrices: **Soil**

Carrier name: **Client**

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on shipping container/cooler?	Yes ☐	No ☐	Not Present ☑
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☑	No ☐	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
TX1005 solids received in hermetically sealed vials?	Yes ☐	No ☐	N/A ☑
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time?	Yes ☑	No ☐	
Container/Temp Blank temperature in compliance?	Yes ☑	No ☐	
Temperature(s)/Thermometer(s):	2.5c/2.7c U/C	IR4	
Cooler(s)/Kit(s):	25098		
Date/Time sample(s) sent to storage:	2/8/16 11:55		
Water - VOA vials have zero headspace?	Yes ☐	No ☐	No VOA vials submitted ☑
Water - pH acceptable upon receipt?	Yes ☐	No ☐	N/A ☑
pH adjusted?	Yes ☐	No ☐	N/A ☑
pH adjusted by:			

Login Notes:

Client Contacted: Date Contacted: Person Contacted:

Contacted By: 0 Regarding:

Comments:

Corrective Action:

ALS Environmental

Cincinnati, OH +1 513 733 5336 | Everett, WA +1 425 356 2600 | Fort Collins, CO +1 970 490 1511 | Holland, MI +1 616 399 6070

Chain of Custody Form

Page _____ of _____

COC ID: 135235

HS16020291

Pastor, Behling & Wheeler, LLC

1620-10-Rev1 HoustonTX-Wood

ALS Project Manager:

Customer Information		Project Information			
Purchase Order	UPRR	Project Name	1620-10-Rev1 HoustonTX-Wood	A	8270_LOW_S (5632532 SemiVolatiles)
Work Order		Project Number	1620-10-Rev1	B	ICP_S_Low (5636002 5652646 Metals - As, Pb)
Company Name	Pastor, Behling & Wheeler, LLC	Bill To Company	Union Pacific Railroad- A/P	C	MOIST_ASTM (5631931 Gen.Chem. MOIST%)
Send Report To	Eric Matzner	Invoice Attn	Accounts Payable	D	
Address	2201 Double Creek Drive Suite 4004	Address	1400 Douglas Street Stop 0750	E	
				F	
City/State/Zip	Round Rock, TX 78664	City/State/Zip	Omaha, NE 681790750	G	
Phone	(512) 671-3434	Phone		H	
Fax	(512) 671-3446	Fax		I	
e-Mail Address		e-Mail Address		J	

No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
1	SO-1620-GSB7 (0-2)-20160206	2/6/16	1140	Soil	8	1	X	X	X								
2	SO-1620-GSB8 (0-3)-20160206		1205				X	X	X								
3	SO-1620-GSB9 (0-3)-20160206		1210				X	X	X								
4	SO-1620-ASBW1A (0-4)-20160206		1345				X	X	X								
5	SO-1620-ASBW1B (0-4)-20160206		1340				X	X	X								
6	SO-1620-BSBS1RA (0-4)-20160206		1510				X	X	X								
7	SO-1620-BSBS1RB (0-4)-20160206		1520				X	X	X								
8																	
9																	
10																	

Sampler(s) Please Print & Sign: Kevin Dworsky

Shipment Method:

Required Turnaround Time: (Check Box) TAT 1 days Other:

Results Due Date:

Relinquished by:	Date:	Time:	Received by:
Stephen Galm	2-8-16	1120	
Relinquished by:	Date:	Time:	Received by (Laboratory):
			2.8.16. 11:20
Logged by (Laboratory):	Date:	Time:	Checked by (Laboratory):

Notes: [UPRR Houston MWPW]

Cooler ID	Cooler Temp.
25098	2.5
	4
	2.0

QC Package: (Check One Box Below)

QC Level: TRRP LRC

Other:

Preservative Key: 1-HCl 2-HNO_3 3-H_2SO_4 4-NaOH 5-$Na_2S_2O_3$ 6-$NaHSO_4$ 7-Other 8-4°C 9-5035

Note:
1. Any changes must be made in writing once samples and COC Form have been submitted to ALS Environmental.
2. Unless otherwise agreed in a formal contract, services provided by ALS Environmental are expressly limited to the terms and conditions stated on the reverse.
3. The Chain of Custody is a legal document. All information must be completed accurately.

10450 Stancliff Rd. Suite 210
Houston, TX 77099
T: +1 281 530 5656
F: +1 281 530 5887
www.alsglobal.com

February 16, 2016

Eric Matzner
Pastor, Behling & Wheeler, LLC
2201 Double Creek Drive
Suite 4004
Round Rock, TX 78664

Work Order: **HS16020498**

Revision: **1**

Laboratory Results for: **1620-10-Rev1 HoustonTX-Wood**

Dear Eric,

ALS Environmental received 3 sample(s) on Feb 12, 2016 for the analysis presented in the following report.

This is a REVISED REPORT. Please see the Case Narrative for discussion concerning this revision.

Regards,

Generated By: Dane.Wacasey

Dane J. Wacasey

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
Work Order: HS16020498

CASE NARRATIVE

Work Order Comments

- This report was revised February 16, 2016 in order to adjust sample name for HS16020498-03 at the request of the client.

Revision: 1

Client:	Pastor, Behling & Wheeler, LLC	**TRRP Laboratory Data Package Cover Page**
Project:	1620-10-Rev1 HoustonTX-Wood	
WorkOrder:	**HS16020498**	

This data package consists of all or some of the following as applicable:

This signature page, the laboratory review checklist, and the following reportable data:

R1 Field chain-of-custody documentation;

R2 Sample identification cross-reference;

R3 Test reports (analytical data sheets) for each environmental sample that includes:

a) Items consistent with NELAC Chapter 5,
b) dilution factors,
c) preparation methods,
d) cleanup methods, and
e) if required for the project, tentatively identified compounds (TICs).

R4 Surrogate recovery data including:

a) Calculated recovery (%R), and
b) The laboratory's surrogate QC limits.

R5 Test reports/summary forms for blank samples;

R6 Test reports/summary forms for laboratory control samples (LCSs) including:

a) LCS spiking amounts,
b) Calculated %R for each analyte, and
c)The laboratory's LCS QC limits.

R7 Test reports for project matrix spike/matrix spike duplicates (MS/MSDs) including:

a) Samples associated with the MS/MSD clearly identified,
b) MS/MSD spiking amounts,
c) Concentration of each MS/MSD analyte measured in the parent and spiked samples,
d) Calculated %Rs and relative percent differences (RPDs), and
e) The laboratory's MS/MSD QC limits.

R8 Laboratory analytical duplicate (if applicable) recovery and precision:

a) the amount of analyte measured in the duplicate,
b) the calculated RPD, and
c) the laboratory's QC limits for analytical duplicates.

R9 List of method quantitation limits (MQLs) and detectability check sample results for each analyte for each method and matrix.

R10 Other problems or anomalies.
The Exception Report for each "No" or "Not Reviewed (NR)" item in Laboratory Review Checklist and for each analyte, matrix, and method for which the laboratory does not hold NELAC accreditation under the Texas Laboratory Accreditation Program.

Client:	Pastor, Behling & Wheeler, LLC
Project:	1620-10-Rev1 HoustonTX-Wood
WorkOrder:	**HS16020498**

TRRP Laboratory Data Package Cover Page

Release Statement: I am responsible for the release of this laboratory data package. This laboratory is NELAC accredited under the Texas Laboratory Accreditation Program for all the methods, analytes and matrices reported in this data package except as noted in the Exception Reports. The data have been reviewed and are technically compliant with the requirements of the methods used, except where noted by the laboratory in the attached exception reports. By my signature below, I affirm to the best of my knowledge, all problems/anomalies, observed by the laboratory have been identified by the laboratory in the Laboratory Review Checklist, and no information affecting the quality of the data has been knowingly withheld.

Check, if applicable: [NA] This laboratory meets an exception under 30 TAC §25.6 and was last inspected by [ ] TCEQ or [ ] _____ on (enter date of last inspection). Any findings affecting the data in this laboratory data package are noted in the Exception Reports herein. The official signing the cover page of the report in which these data are used is responsible for releasing this data package and is by signature affirming the above release statement is true.

Dane J. Wacasey

Laboratory Review Checklist: Reportable Data								
Laboratory Name: ALS Laboratory Group			LRC Date: 02/15/2016					
Project Name: 1620-10-Rev1 HoustonTX-Wood			Laboratory Job Number: HS16020498					
Reviewer Name: Dane Wacasey			Prep Batch Number(s): 101372,101391,R269260					
#[1]	**A[2]**	**Description**	**Yes**	**No**	**NA[3]**	**NR[4]**	**ER#[5]**
R1	OI	**Chain-of-custody (C-O-C)**					
		Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?	X				
		Were all departures from standard conditions described in an exception report?	X				
R2	OI	**Sample and quality control (QC) identification**					
		Are all field sample ID numbers cross-referenced to the laboratory ID numbers?	X				
		Are all laboratory ID numbers cross-referenced to the corresponding QC data?	X				
R3	OI	**Test reports**					
		Were all samples prepared and analyzed within holding times?	X				
		Other than those results < MQL, were all other raw values bracketed by calibration standards?	X				
		Were calculations checked by a peer or supervisor?	X				
		Were all analyte identifications checked by a peer or supervisor?	X				
		Were sample detection limits reported for all analytes not detected?	X				
		Were all results for soil and sediment samples reported on a dry weight basis?	X				
		Were % moisture (or solids) reported for all soil and sediment samples?	X				
		Were bulk soils/solids samples for volatile analysis extracted with methanol per SW-846 Method 5035?			X		
		If required for the project, TICs reported?			X		
R4	O	**Surrogate recovery data**					
		Were surrogates added prior to extraction?	X				
		Were surrogate percent recoveries in all samples within the laboratory QC limits?	X				
R5	OI	**Test reports/summary forms for blank samples**					
		Were appropriate type(s) of blanks analyzed?	X				
		Were blanks analyzed at the appropriate frequency?	X				
		Were method blanks taken through the entire analytical process, including preparation and, if applicable, cleanup procedures?	X				
		Were blank concentrations < MQL?	X				
R6	OI	**Laboratory control samples (LCS):**					
		Were all COCs included in the LCS?	X				
		Was each LCS taken through the entire analytical procedure, including prep and cleanup steps?	X				
		Were LCSs analyzed at the required frequency?	X				
		Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?	X				
		Does the detectability data document the laboratory's capability to detect the COCs at the MDL used to calculate the SDLs?	X				
		Was the LCSD RPD within QC limits?	X				
R7	OI	**Matrix spike (MS) and matrix spike duplicate (MSD) data**					
		Were the project/method specified analytes included in the MS and MSD?	X				
		Were MS/MSD analyzed at the appropriate frequency?	X				
		Were MS (and MSD, if applicable) %Rs within the laboratory QC limits?		X			1
		Were MS/MSD RPDs within laboratory QC limits?		X			2
R8	OI	**Analytical duplicate data**					
		Were appropriate analytical duplicates analyzed for each matrix?	X				
		Were analytical duplicates analyzed at the appropriate frequency?	X				
		Were RPDs or relative standard deviations within the laboratory QC limits?	X				
R9	OI	**Method quantitation limits (MQLs):**					
		Are the MQLs for each method analyte included in the laboratory data package?	X				
		Do the MQLs correspond to the concentration of the lowest non-zero calibration standard?	X				
		Are unadjusted MQLs and DCSs included in the laboratory data package?	X				
R10	OI	**Other problems/anomalies**					
		Are all known problems/anomalies/special conditions noted in this LRC and ER?	X				
		Were all necessary corrective actions performed for the reported data?	X				
		Was applicable and available technology used to lower the SDL and minimize the matrix interference affects on the sample results?	X				
		Is the laboratory NELAC-accredited under the Texas Laboratory Program for the analytes, matrices and methods associated with this laboratory data package?	X				

Laboratory Review Checklist: Reportable Data								
Laboratory Name: ALS Laboratory Group			LRC Date: 02/15/2016					
Project Name: 1620-10-Rev1 HoustonTX-Wood			Laboratory Job Number: HS16020498					
Reviewer Name: Dane Wacasey			Prep Batch Number(s): 101372,101391,R269260					
#[1]	**A[2]**	**Description**	**Yes**	**No**	**NA[3]**	**NR[4]**	**ER#[5]**
S1	OI	**Initial calibration (ICAL)**					
		Were response factors and/or relative response factors for each analyte within QC limits?	X				
		Were percent RSDs or correlation coefficient criteria met?	X				
		Was the number of standards recommended in the method used for all analytes?	X				
		Were all points generated between the lowest and highest standard used to calculate the curve?	X				
		Are ICAL data available for all instruments used?	X				
		Has the initial calibration curve been verified using an appropriate second source standard?	X				
S2	OI	**Initial and continuing calibration verification (ICCV and CCV) and continuing calibration blank (CCB)**					
		Was the CCV analyzed at the method-required frequency?	X				
		Were percent differences for each analyte within the method-required QC limits?	X				
		Was the ICAL curve verified for each analyte?	X				
		Was the absolute value of the analyte concentration in the inorganic CCB < MDL?	X				
S3	O	**Mass spectral tuning:**					
		Was the appropriate compound for the method used for tuning?	X				
		Were ion abundance data within the method-required QC limits?	X				
S4	O	**Internal standards (IS):**					
		Were IS area counts and retention times within the method-required QC limits?	X				
S5	OI	**Raw data** (NELAC section 1 appendix A glossary, and section 5.12 or ISO/IEC 17025 section					
		Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst?	X				
		Were data associated with manual integrations flagged on the raw data?	X				
S6	O	**Dual column confirmation**					
		Did dual column confirmation results meet the method-required QC?			X		
S7	O	**Tentatively identified compounds (TICs):**					
		If TICs were requested, were the mass spectra and TIC data subject to appropriate checks?			X		
S8	I	**Interference Check Sample (ICS) results:**					
		Were percent recoveries within method QC limits?	X				
S9	I	**Serial dilutions, post digestion spikes, and method of standard additions**					
		Were percent differences, recoveries, and the linearity within the QC limits specified in the method?	X				
S10	OI	**Method detection limit (MDL) studies**					
		Was a MDL study performed for each reported analyte?	X				
		Is the MDL either adjusted or supported by the analysis of DCSs?	X				
S11	OI	**Proficiency test reports:**					
		Was the laboratory's performance acceptable on the applicable proficiency tests or evaluation studies?	X				
S12	OI	**Standards documentation**					
		Are all standards used in the analyses NIST-traceable or obtained from other appropriate sources?	X				
S13	OI	**Compound/analyte identification procedures**					
		Are the procedures for compound/analyte identification documented?	X				
S14	OI	**Demonstration of analyst competency (DOC)**					
		Was DOC conducted consistent with NELAC Chapter 5C or ISO/IEC 4?	X				
		Is documentation of the analyst's competency up-to-date and on file?	X				
S15	OI	**Verification/validation documentation for methods** (NELAC Chap 5 or ISO/IEC 17025 Section 5)					
		Are all the methods used to generate the data documented, verified, and validated, where applicable?	X				
S16	OI	**Laboratory standard operating procedures (SOPs):**					
		Are laboratory SOPs current and on file for each method performed?	X				

Items identified by the letter "R" must be included in the laboratory data package submitted in the TRRP-required report(s). Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period.
O = Organic Analyses; I = Inorganic Analyses (and general chemistry, when applicable);
NA = Not Applicable;
NR = Not Reviewed;
R# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

Laboratory Review Checklist: Reportable Data	
Laboratory Name: ALS Laboratory Group	LRC Date: 02/15/2016
Project Name: 1620-10-Rev1 HoustonTX-Wood	Laboratory Job Number: HS16020498
Reviewer Name: Dane Wacasey	Prep Batch Number(s): 101372,101391,R269260

ER#[5]	Description
1	Batch 101391, Metals Method SW6020, sample SO-1620-CSDCH107E(0-2)-20160212, MSD recovered above the upper control limit for Lead due to suspect matrix effect. Batch 101372, Semivolatile Organics Method SW8270, sample HS16020272-01, MS and MSD were performed on unrelated sample.
2	Batch 101372, Semivolatile Organics Method SW8270, sample HS16020272-01, MSD RPD is for an unrelated sample.

Items identified by the letter "R" must be included in the laboratory data package submitted in the TRRP-required report(s). Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period.
O = Organic Analyses; I = Inorganic Analyses (and general chemistry, when applicable);
NA = Not Applicable;
NR = Not Reviewed;
R# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
Work Order: HS16020498

SAMPLE SUMMARY

Lab Samp ID	Client Sample ID	Matrix	TagNo	Collection Date	Date Received	Hold
HS16020498-01	SO-1620-CSDCH107E(0-2)-20160212	Soil		12-Feb-2016 08:00	12-Feb-2016 15:33	☐
HS16020498-02	SO-1620-CSDCH107W(0-2)-20160212	Soil		12-Feb-2016 08:05	12-Feb-2016 15:33	☐
HS16020498-03	SO-1620-CSG1(3)-20160212	Soil		12-Feb-2016 14:45	12-Feb-2016 15:33	☐

Revision: 1

Client: Pastor, Behling & Wheeler, LLC
ANALYTICAL REPORT
Project: 1620-10-Rev1 HoustonTX-Wood
WorkOrder:HS16020498
Sample ID: SO-1620-CSDCH107E(0-2)-20160212
Lab ID:HS16020498-01
Collection Date: 12-Feb-2016 08:00
Matrix:Soil

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES		**Method:SW8270**			Prep:SW3541 / 12-Feb-2016		Analyst: ACN
1,2-Diphenylhydrazine	U		0.0013	0.0077	mg/Kg-dry	1	12-Feb-2016 23:14
2,4-Dimethylphenol	U		0.0038	0.0077	mg/Kg-dry	1	12-Feb-2016 23:14
2,4-Dinitrotoluene	U		0.0010	0.0077	mg/Kg-dry	1	12-Feb-2016 23:14
2,6-Dinitrotoluene	U		0.0038	0.0077	mg/Kg-dry	1	12-Feb-2016 23:14
2-Chloronaphthalene	U		0.0015	0.0077	mg/Kg-dry	1	12-Feb-2016 23:14
2-Methylnaphthalene	U		0.00058	0.0038	mg/Kg-dry	1	12-Feb-2016 23:14
4,6-Dinitro-2-methylphenol	U		0.0024	0.0077	mg/Kg-dry	1	12-Feb-2016 23:14
4-Nitrophenol	U		0.0022	0.015	mg/Kg-dry	1	12-Feb-2016 23:14
Acenaphthene	U		0.00058	0.0038	mg/Kg-dry	1	12-Feb-2016 23:14
Acenaphthylene	**0.0020**	J	**0.0012**	**0.0038**	**mg/Kg-dry**	1	12-Feb-2016 23:14
Anthracene	**0.0029**	J	**0.00058**	**0.0038**	**mg/Kg-dry**	1	12-Feb-2016 23:14
Benz(a)anthracene	**0.0057**		**0.0019**	**0.0038**	**mg/Kg-dry**	1	12-Feb-2016 23:14
Benzo(a)pyrene	**0.0088**		**0.0012**	**0.0038**	**mg/Kg-dry**	1	12-Feb-2016 23:14
Bis(2-chloroethoxy)methane	U		0.0010	0.0077	mg/Kg-dry	1	12-Feb-2016 23:14
Bis(2-ethylhexyl)phthalate	**0.0021**	J	**0.0020**	**0.0077**	**mg/Kg-dry**	1	12-Feb-2016 23:14
Chrysene	**0.013**		**0.00093**	**0.0038**	**mg/Kg-dry**	1	12-Feb-2016 23:14
Dibenzofuran	U		0.00082	0.0038	mg/Kg-dry	1	12-Feb-2016 23:14
Di-n-butyl phthalate	U		0.0014	0.0077	mg/Kg-dry	1	12-Feb-2016 23:14
Fluoranthene	**0.015**		**0.0013**	**0.0038**	**mg/Kg-dry**	1	12-Feb-2016 23:14
Fluorene	U		0.0013	0.0038	mg/Kg-dry	1	12-Feb-2016 23:14
Naphthalene	U		0.00070	0.0038	mg/Kg-dry	1	12-Feb-2016 23:14
Nitrobenzene	U		0.0010	0.0077	mg/Kg-dry	1	12-Feb-2016 23:14
N-Nitrosodiphenylamine	U		0.00082	0.0077	mg/Kg-dry	1	12-Feb-2016 23:14
Pentachlorophenol	U		0.0038	0.0077	mg/Kg-dry	1	12-Feb-2016 23:14
Phenanthrene	**0.0039**		**0.0017**	**0.0038**	**mg/Kg-dry**	1	12-Feb-2016 23:14
Phenol	U		0.0013	0.0077	mg/Kg-dry	1	12-Feb-2016 23:14
Pyrene	**0.015**		**0.00070**	**0.0038**	**mg/Kg-dry**	1	12-Feb-2016 23:14
Surr: 2,4,6-Tribromophenol	*96.3*			*36-126*	*%REC*	*1*	*12-Feb-2016 23:14*
Surr: 2-Fluorobiphenyl	*66.6*			*43-125*	*%REC*	*1*	*12-Feb-2016 23:14*
Surr: 2-Fluorophenol	*43.0*			*37-125*	*%REC*	*1*	*12-Feb-2016 23:14*
Surr: 4-Terphenyl-d14	*81.7*			*32-125*	*%REC*	*1*	*12-Feb-2016 23:14*
Surr: Nitrobenzene-d5	*60.4*			*37-125*	*%REC*	*1*	*12-Feb-2016 23:14*
Surr: Phenol-d6	*54.4*			*40-125*	*%REC*	*1*	*12-Feb-2016 23:14*
METALS BY SW6020A		**Method:SW6020**			Prep:SW3050A / 14-Feb-2016		Analyst: JDE
Arsenic	**1.42**		**0.112**	**0.558**	**mg/Kg-dry**	1	15-Feb-2016 12:51
Lead	**5.87**		**0.0558**	**0.558**	**mg/Kg-dry**	1	15-Feb-2016 12:51
MOISTURE - ASTM D2216		**Method:ASTM D2216**					Analyst: DFF
Percent Moisture	**14.2**		**0.0100**	**0.0100**	**wt%**	1	12-Feb-2016 16:20

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Revision:1

Client: Pastor, Behling & Wheeler, LLC
ANALYTICAL REPORT
Project: 1620-10-Rev1 HoustonTX-Wood
WorkOrder:HS16020498
Sample ID: SO-1620-CSDCH107W(0-2)-20160212
Lab ID:HS16020498-02
Collection Date: 12-Feb-2016 08:05
Matrix:Soil

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES		**Method:SW8270**			Prep:SW3541 / 12-Feb-2016		Analyst: ACN
1,2-Diphenylhydrazine	U		0.0069	0.042	mg/Kg-dry	1	12-Feb-2016 23:52
2,4-Dimethylphenol	U		0.021	0.042	mg/Kg-dry	1	12-Feb-2016 23:52
2,4-Dinitrotoluene	U		0.0057	0.042	mg/Kg-dry	1	12-Feb-2016 23:52
2,6-Dinitrotoluene	U		0.021	0.042	mg/Kg-dry	1	12-Feb-2016 23:52
2-Chloronaphthalene	U		0.0082	0.042	mg/Kg-dry	1	12-Feb-2016 23:52
2-Methylnaphthalene	U		0.0031	0.021	mg/Kg-dry	1	12-Feb-2016 23:52
4,6-Dinitro-2-methylphenol	U		0.013	0.042	mg/Kg-dry	1	12-Feb-2016 23:52
4-Nitrophenol	U		0.012	0.083	mg/Kg-dry	1	12-Feb-2016 23:52
Acenaphthene	U		0.0031	0.021	mg/Kg-dry	1	12-Feb-2016 23:52
Acenaphthylene	**0.11**		**0.0063**	**0.021**	**mg/Kg-dry**	1	12-Feb-2016 23:52
Anthracene	**0.15**		**0.0031**	**0.021**	**mg/Kg-dry**	1	12-Feb-2016 23:52
Benz(a)anthracene	**0.055**		**0.010**	**0.021**	**mg/Kg-dry**	1	12-Feb-2016 23:52
Benzo(a)pyrene	**0.27**		**0.0063**	**0.021**	**mg/Kg-dry**	1	12-Feb-2016 23:52
Bis(2-chloroethoxy)methane	U		0.0057	0.042	mg/Kg-dry	1	12-Feb-2016 23:52
Bis(2-ethylhexyl)phthalate	U		0.011	0.042	mg/Kg-dry	1	12-Feb-2016 23:52
Chrysene	**0.084**		**0.0050**	**0.021**	**mg/Kg-dry**	1	12-Feb-2016 23:52
Dibenzofuran	**0.011**	J	**0.0044**	**0.021**	**mg/Kg-dry**	1	12-Feb-2016 23:52
Di-n-butyl phthalate	U		0.0075	0.042	mg/Kg-dry	1	12-Feb-2016 23:52
Fluoranthene	**0.14**		**0.0069**	**0.021**	**mg/Kg-dry**	1	12-Feb-2016 23:52
Fluorene	**0.015**	J	**0.0069**	**0.021**	**mg/Kg-dry**	1	12-Feb-2016 23:52
Naphthalene	**0.040**		**0.0038**	**0.021**	**mg/Kg-dry**	1	12-Feb-2016 23:52
Nitrobenzene	U		0.0057	0.042	mg/Kg-dry	1	12-Feb-2016 23:52
N-Nitrosodiphenylamine	U		0.0044	0.042	mg/Kg-dry	1	12-Feb-2016 23:52
Pentachlorophenol	U		0.021	0.042	mg/Kg-dry	1	12-Feb-2016 23:52
Phenanthrene	**0.048**		**0.0094**	**0.021**	**mg/Kg-dry**	1	12-Feb-2016 23:52
Phenol	U		0.0069	0.042	mg/Kg-dry	1	12-Feb-2016 23:52
Pyrene	**0.12**		**0.0038**	**0.021**	**mg/Kg-dry**	1	12-Feb-2016 23:52
Surr: 2,4,6-Tribromophenol	*102*			*36-126*	*%REC*	*1*	*12-Feb-2016 23:52*
Surr: 2-Fluorobiphenyl	*87.0*			*43-125*	*%REC*	*1*	*12-Feb-2016 23:52*
Surr: 2-Fluorophenol	*65.2*			*37-125*	*%REC*	*1*	*12-Feb-2016 23:52*
Surr: 4-Terphenyl-d14	*82.8*			*32-125*	*%REC*	*1*	*12-Feb-2016 23:52*
Surr: Nitrobenzene-d5	*76.0*			*37-125*	*%REC*	*1*	*12-Feb-2016 23:52*
Surr: Phenol-d6	*70.2*			*40-125*	*%REC*	*1*	*12-Feb-2016 23:52*
METALS BY SW6020A		**Method:SW6020**			Prep:SW3050A / 14-Feb-2016		Analyst: JDE
Arsenic	**2.76**		**0.120**	**0.598**	**mg/Kg-dry**	1	15-Feb-2016 13:13
Lead	**6.68**		**0.0598**	**0.598**	**mg/Kg-dry**	1	15-Feb-2016 13:13
MOISTURE - ASTM D2216		**Method:ASTM D2216**					Analyst: DFF
Percent Moisture	**20.6**		**0.0100**	**0.0100**	**wt%**	1	12-Feb-2016 16:20

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Revision:1

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
Sample ID: SO-1620-CSG1(3)-20160212
Collection Date: 12-Feb-2016 14:45

ANALYTICAL REPORT
WorkOrder:HS16020498
Lab ID:HS16020498-03
Matrix:Soil

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES	**Method:SW8270**				Prep:SW3541 / 12-Feb-2016		Analyst: ACN
1,2-Diphenylhydrazine	**0.0025**	J	**0.0013**	**0.0080**	**mg/Kg-dry**	1	12-Feb-2016 19:46
2,4-Dimethylphenol	U		0.0040	0.0080	mg/Kg-dry	1	12-Feb-2016 19:46
2,4-Dinitrotoluene	U		0.0011	0.0080	mg/Kg-dry	1	12-Feb-2016 19:46
2,6-Dinitrotoluene	U		0.0040	0.0080	mg/Kg-dry	1	12-Feb-2016 19:46
2-Chloronaphthalene	U		0.0016	0.0080	mg/Kg-dry	1	12-Feb-2016 19:46
2-Methylnaphthalene	**0.0043**		**0.00061**	**0.0040**	**mg/Kg-dry**	1	12-Feb-2016 19:46
4,6-Dinitro-2-methylphenol	U		0.0025	0.0080	mg/Kg-dry	1	12-Feb-2016 19:46
4-Nitrophenol	U		0.0023	0.016	mg/Kg-dry	1	12-Feb-2016 19:46
Acenaphthene	**0.0014**	J	**0.00061**	**0.0040**	**mg/Kg-dry**	1	12-Feb-2016 19:46
Acenaphthylene	U		0.0012	0.0040	mg/Kg-dry	1	12-Feb-2016 19:46
Anthracene	**0.0033**	J	**0.00061**	**0.0040**	**mg/Kg-dry**	1	12-Feb-2016 19:46
Benz(a)anthracene	**0.0086**		**0.0019**	**0.0040**	**mg/Kg-dry**	1	12-Feb-2016 19:46
Benzo(a)pyrene	**0.0022**	J	**0.0012**	**0.0040**	**mg/Kg-dry**	1	12-Feb-2016 19:46
Bis(2-chloroethoxy)methane	U		0.0011	0.0080	mg/Kg-dry	1	12-Feb-2016 19:46
Bis(2-ethylhexyl)phthalate	U		0.0021	0.0080	mg/Kg-dry	1	12-Feb-2016 19:46
Chrysene	**0.014**		**0.00097**	**0.0040**	**mg/Kg-dry**	1	12-Feb-2016 19:46
Dibenzofuran	**0.011**		**0.00085**	**0.0040**	**mg/Kg-dry**	1	12-Feb-2016 19:46
Di-n-butyl phthalate	U		0.0015	0.0080	mg/Kg-dry	1	12-Feb-2016 19:46
Fluoranthene	**0.099**		**0.0013**	**0.0040**	**mg/Kg-dry**	1	12-Feb-2016 19:46
Fluorene	**0.0031**	J	**0.0013**	**0.0040**	**mg/Kg-dry**	1	12-Feb-2016 19:46
Naphthalene	U		0.00073	0.0040	mg/Kg-dry	1	12-Feb-2016 19:46
Nitrobenzene	U		0.0011	0.0080	mg/Kg-dry	1	12-Feb-2016 19:46
N-Nitrosodiphenylamine	**0.0026**	J	**0.00085**	**0.0080**	**mg/Kg-dry**	1	12-Feb-2016 19:46
Pentachlorophenol	U		0.0040	0.0080	mg/Kg-dry	1	12-Feb-2016 19:46
Phenanthrene	**0.085**		**0.0018**	**0.0040**	**mg/Kg-dry**	1	12-Feb-2016 19:46
Phenol	**0.0022**	J	**0.0013**	**0.0080**	**mg/Kg-dry**	1	12-Feb-2016 19:46
Pyrene	**0.028**		**0.00073**	**0.0040**	**mg/Kg-dry**	1	12-Feb-2016 19:46
Surr: 2,4,6-Tribromophenol	*83.2*			*36-126*	*%REC*	*1*	*12-Feb-2016 19:46*
Surr: 2-Fluorobiphenyl	*67.6*			*43-125*	*%REC*	*1*	*12-Feb-2016 19:46*
Surr: 2-Fluorophenol	*43.8*			*37-125*	*%REC*	*1*	*12-Feb-2016 19:46*
Surr: 4-Terphenyl-d14	*76.1*			*32-125*	*%REC*	*1*	*12-Feb-2016 19:46*
Surr: Nitrobenzene-d5	*61.0*			*37-125*	*%REC*	*1*	*12-Feb-2016 19:46*
Surr: Phenol-d6	*54.7*			*40-125*	*%REC*	*1*	*12-Feb-2016 19:46*
METALS BY SW6020A	**Method:SW6020**				Prep:SW3050A / 14-Feb-2016		Analyst: JDE
Arsenic	**8.67**		**0.118**	**0.592**	**mg/Kg-dry**	1	15-Feb-2016 13:17
Lead	**10.8**		**0.0592**	**0.592**	**mg/Kg-dry**	1	15-Feb-2016 13:17
MOISTURE - ASTM D2216	**Method:ASTM D2216**						Analyst: DFF
Percent Moisture	**17.6**		**0.0100**	**0.0100**	**wt%**	1	12-Feb-2016 16:20

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Revision:1

WEIGHT LOG

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
WorkOrder: HS16020498

Batch ID: 101372 **Method:** LOW-LEVEL SEMIVOLATILES **Prep:** 3541_B_LOW

SampID	Container	Sample Wt/Vol	Final Volume	Prep Factor
HS16020498-01	1	30.02	1 (mL)	0.03331
HS16020498-02	1	30.03	5 (mL)	0.1665
HS16020498-03	1	30.05	1 (mL)	0.03328

Batch ID: 101391 **Method:** METALS BY SW6020A **Prep:** 3050_I_LOW

SampID	Container	Sample Wt/Vol	Final Volume	Prep Factor
HS16020498-01	1	0.5223	50 (mL)	95.73
HS16020498-02	1	0.5268	50 (mL)	94.91
HS16020498-03	1	0.5128	50 (mL)	97.5

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
WorkOrder: HS16020498

DATES REPORT

Sample ID	Client Samp ID	Collection Date	TCLP Date	Prep Date	Analysis Date	DF
Batch ID 101372	**Test Name :** LOW-LEVEL SEMIVOLATILES			**Matrix:** Soil		
HS16020498-01	SO-1620-CSDCH107E(0-2)-20160212	12 Feb 2016 08:00		12 Feb 2016 11:54	12 Feb 2016 23:14	1
HS16020498-02	SO-1620-CSDCH107W(0-2)-20160212	12 Feb 2016 08:05		12 Feb 2016 11:54	12 Feb 2016 23:52	1
HS16020498-03	SO-1620-CSG1(3)-20160212	12 Feb 2016 14:45		12 Feb 2016 11:54	12 Feb 2016 19:46	1
Batch ID 101391	**Test Name :** METALS BY SW6020A			**Matrix:** Soil		
HS16020498-01	SO-1620-CSDCH107E(0-2)-20160212	12 Feb 2016 08:00		14 Feb 2016 18:32	15 Feb 2016 12:51	1
HS16020498-02	SO-1620-CSDCH107W(0-2)-20160212	12 Feb 2016 08:05		14 Feb 2016 18:32	15 Feb 2016 13:13	1
HS16020498-03	SO-1620-CSG1(3)-20160212	12 Feb 2016 14:45		14 Feb 2016 18:32	15 Feb 2016 13:17	1
Batch ID R269260	**Test Name :** MOISTURE - ASTM D2216			**Matrix:** Soil		
HS16020498-01	SO-1620-CSDCH107E(0-2)-20160212	12 Feb 2016 08:00			12 Feb 2016 16:20	1
HS16020498-02	SO-1620-CSDCH107W(0-2)-20160212	12 Feb 2016 08:05			12 Feb 2016 16:20	1
HS16020498-03	SO-1620-CSG1(3)-20160212	12 Feb 2016 14:45			12 Feb 2016 16:20	1

Revision:1

WorkOrder: HS16020498
InstrumentID: ICPMS03
Test Code: ICP_S_Low
Test Number: SW6020
Test Name: Metals by SW6020A

METHOD DETECTION / REPORTING LIMITS

Matrix: Solid **Units:** mg/Kg

Type	Analyte	CAS	DCS Spike	DCS	MDL	PQL
A	Arsenic	7440-38-2	0.100	0.0864	0.100	0.500
A	Lead	7439-92-1	0.100	0.0898	0.0500	0.500

Revision:1

WorkOrder: HS16020498
InstrumentID: SV-6
Test Code: 8270_LOW_S
Test Number: SW8270
Test Name: Low-Level Semivolatiles

METHOD DETECTION / REPORTING LIMITS

Matrix: Solid **Units:** mg/Kg

Type	Analyte	CAS	DCS Spike	DCS	MDL	PQL
A	1,2-Diphenylhydrazine	122-66-7	0.0033	0.0037	0.0011	0.0066
A	2,4-Dimethylphenol	105-67-9	0.0033	0.0022	0.0033	0.0066
A	2,4-Dinitrotoluene	121-14-2	0.0033	0.0023	0.00090	0.0066
A	2,6-Dinitrotoluene	606-20-2	0.0033	0.0022	0.0033	0.0066
A	2-Chloronaphthalene	91-58-7	0.0033	0.0028	0.0013	0.0066
A	2-Methylnaphthalene	91-57-6	0.0017	0.0016	0.00050	0.0033
A	4,6-Dinitro-2-methylphenol	534-52-1	0.0033	0.0010	0.0021	0.0066
A	4-Nitrophenol	100-02-7	0.0033	0.0026	0.0019	0.013
A	Acenaphthene	83-32-9	0.0017	0.0016	0.00050	0.0033
A	Acenaphthylene	208-96-8	0.0017	0.0017	0.0010	0.0033
A	Anthracene	120-12-7	0.0017	0.0017	0.00050	0.0033
A	Benz(a)anthracene	56-55-3	0.0017	0.0018	0.0016	0.0033
A	Benzo(a)pyrene	50-32-8	0.0017	0.0017	0.0010	0.0033
A	Bis(2-chloroethoxy)methane	111-91-1	0.0033	0.0028	0.00090	0.0066
A	Bis(2-ethylhexyl)phthalate	117-81-7	0.0033	0.0029	0.0017	0.0066
A	Chrysene	218-01-9	0.0017	0.0019	0.00080	0.0033
A	Dibenzofuran	132-64-9	0.0033	0.0031	0.00070	0.0033
A	Di-n-butyl phthalate	84-74-2	0.0033	0.0031	0.0012	0.0066
A	Fluoranthene	206-44-0	0.0017	0.0018	0.0011	0.0033
A	Fluorene	86-73-7	0.0017	0.0015	0.0011	0.0033
A	Naphthalene	91-20-3	0.0017	0.0016	0.00060	0.0033
A	Nitrobenzene	98-95-3	0.0033	0.0034	0.00090	0.0066
A	N-Nitrosodiphenylamine	86-30-6	0.0033	0.0035	0.00070	0.0066
A	Pentachlorophenol	87-86-5	0.0033	0.0020	0.0033	0.0066
A	Phenanthrene	85-01-8	0.0017	0.0017	0.0015	0.0033
A	Phenol	108-95-2	0.0033	0.0032	0.0011	0.0066
A	Pyrene	129-00-0	0.0017	0.0019	0.00060	0.0033
S	2,4,6-Tribromophenol	118-79-6	0	0	0	0
S	2-Fluorobiphenyl	321-60-8	0	0	0	0
S	2-Fluorophenol	367-12-4	0	0	0	0
S	4-Terphenyl-d14	1718-51-0	0	0	0	0
S	Nitrobenzene-d5	4165-60-0	0	0	0	0
S	Phenol-d6	13127-88-3	0	0	0	0

Revision:1

WorkOrder: HS16020498
InstrumentID: Balance1
Test Code: MOIST_ASTM
Test Number: ASTM D2216
Test Name: Moisture - ASTM D2216

METHOD DETECTION / REPORTING LIMITS

Matrix: Solid **Units:** wt%

Type	Analyte	CAS	DCS Spike	DCS	MDL	PQL
A	Percent Moisture	MOIST	0.0100	0.0100	0.0100	0.0100

Revision:1

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
WorkOrder: HS16020498

QC BATCH REPORT

Batch ID: 101391 **Instrument: ICPMS03** **Method: SW6020**

MBLK Sample ID: **MBLK-101391** Units: **mg/Kg** Analysis Date: **15-Feb-2016 12:43**
Client ID: Run ID: **ICPMS03_269259** SeqNo: **3583612** PrepDate: **14-Feb-2016** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	U	0.500								
Lead	U	0.500								

LCS Sample ID: **MLCS-101391** Units: **mg/Kg** Analysis Date: **15-Feb-2016 12:47**
Client ID: Run ID: **ICPMS03_269259** SeqNo: **3583613** PrepDate: **14-Feb-2016** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	9.341	0.500	10	0	93.4	80 - 120				
Lead	9.652	0.500	10	0	96.5	80 - 120				

MS Sample ID: **HS16020498-01MS** Units: **mg/Kg** Analysis Date: **15-Feb-2016 13:00**
Client ID: **SO-1620-CSDCH107E(0-2)-20160212** Run ID: **ICPMS03_269259** SeqNo: **3583616** PrepDate: **14-Feb-2016** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	10.02	0.455	9.106	1.222	96.6	75 - 125				
Lead	15.12	0.455	9.106	5.035	111	75 - 125				

MSD Sample ID: **HS16020498-01MSD** Units: **mg/Kg** Analysis Date: **15-Feb-2016 13:04**
Client ID: **SO-1620-CSDCH107E(0-2)-20160212** Run ID: **ICPMS03_269259** SeqNo: **3583617** PrepDate: **14-Feb-2016** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	11.06	0.482	9.647	1.222	102	75 - 125	10.02	9.86	20	
Lead	17.39	0.482	9.647	5.035	128	75 - 125	15.12	14	20	S

PDS Sample ID: **HS16020498-01BS** Units: **mg/Kg** Analysis Date: **15-Feb-2016 13:08**
Client ID: **SO-1620-CSDCH107E(0-2)-20160212** Run ID: **ICPMS03_269259** SeqNo: **3583618** PrepDate: **14-Feb-2016** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	10.55	0.479	9.573	1.222	97.4	75 - 125				
Lead	14.6	0.479	9.573	5.035	99.9	75 - 125				

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Revision: 1

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
WorkOrder: HS16020498

QC BATCH REPORT

Batch ID: 101391 **Instrument: ICPMS03** **Method: SW6020**

SD Sample ID: **HS16020498-01 DIL SX** Units: **mg/Kg** Analysis Date: **15-Feb-2016 12:55**
Client ID: **SO-1620-CSDCH107E(0-2)-20160212** Run ID: **ICPMS03_269259** SeqNo: **3583615** PrepDate: **14-Feb-2016** DF: **5**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%D	%D Limit	Qual
Arsenic	1.352	2.39					1.222	0	10	J
Lead	5.064	2.39					5.035	0.57	10	

The following samples were anayzed in this batch: HS16020498-01 HS16020498-02 HS16020498-03

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Revision: 1

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
WorkOrder: HS16020498

QC BATCH REPORT

Batch ID: 101372 **Instrument: SV-6** **Method: SW8270**

MBLK Sample ID: **MBLK-101372** Units: **ug/Kg** Analysis Date: **12-Feb-2016 17:34**
Client ID: Run ID: **SV-6_269239** SeqNo: **3583253** PrepDate: **12-Feb-2016** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Diphenylhydrazine	U	6.6								
2,4-Dimethylphenol	U	6.6								
2,4-Dinitrotoluene	U	6.6								
2,6-Dinitrotoluene	U	6.6								
2-Chloronaphthalene	U	6.6								
2-Methylnaphthalene	U	3.3								
4,6-Dinitro-2-methylphenol	U	6.6								
4-Nitrophenol	U	13								
Acenaphthene	U	3.3								
Acenaphthylene	U	3.3								
Anthracene	U	3.3								
Benz(a)anthracene	U	3.3								
Benzo(a)pyrene	U	3.3								
Bis(2-chloroethoxy)methane	U	6.6								
Bis(2-ethylhexyl)phthalate	U	6.6								
Chrysene	U	3.3								
Dibenzofuran	U	3.3								
Di-n-butyl phthalate	U	6.6								
Fluoranthene	U	3.3								
Fluorene	U	3.3								
Naphthalene	U	3.3								
Nitrobenzene	U	6.6								
N-Nitrosodiphenylamine	U	6.6								
Pentachlorophenol	U	6.6								
Phenanthrene	U	3.3								
Phenol	U	6.6								
Pyrene	U	3.3								
Surr: 2,4,6-Tribromophenol	*130.6*	*0*	*167*	*0*	*78.2*	*36 - 126*				
Surr: 2-Fluorobiphenyl	*130.3*	*0*	*167*	*0*	*78.0*	*43 - 125*				
Surr: 2-Fluorophenol	*109.6*	*0*	*167*	*0*	*65.6*	*37 - 125*				
Surr: 4-Terphenyl-d14	*135.4*	*0*	*167*	*0*	*81.1*	*32 - 125*				
Surr: Nitrobenzene-d5	*126.1*	*0*	*167*	*0*	*75.5*	*37 - 125*				
Surr: Phenol-d6	*117.9*	*0*	*167*	*0*	*70.6*	*40 - 125*				

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Revision: 1

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
WorkOrder: HS16020498

QC BATCH REPORT

Batch ID: 101372 **Instrument: SV-6** **Method: SW8270**

LCS Sample ID: **LCS-101372** Units: **ug/Kg** Analysis Date: **12-Feb-2016 17:53**
Client ID: Run ID: **SV-6_269239** SeqNo: **3583254** PrepDate: **12-Feb-2016** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Diphenylhydrazine	119.7	6.6	167	0	71.7	50 - 135				
2,4-Dimethylphenol	122.6	6.6	167	0	73.4	45 - 120				
2,4-Dinitrotoluene	132	6.6	167	0	79.0	50 - 130				
2,6-Dinitrotoluene	137.3	6.6	167	0	82.2	50 - 125				
2-Chloronaphthalene	171.8	6.6	167	0	103	50 - 145				
2-Methylnaphthalene	127.7	3.3	167	0	76.5	50 - 120				
4,6-Dinitro-2-methylphenol	120.1	6.6	167	0	71.9	15 - 135				
4-Nitrophenol	151.7	13	167	0	90.8	40 - 147				
Acenaphthene	124.8	3.3	167	0	74.7	50 - 120				
Acenaphthylene	141	3.3	167	0	84.4	50 - 120				
Anthracene	125.6	3.3	167	0	75.2	50 - 123				
Benz(a)anthracene	136.2	3.3	167	0	81.5	50 - 131				
Benzo(a)pyrene	140	3.3	167	0	83.8	50 - 130				
Bis(2-chloroethoxy)methane	134	6.6	167	0	80.3	50 - 120				
Bis(2-ethylhexyl)phthalate	132.9	6.6	167	0	79.6	21 - 148				
Chrysene	135.6	3.3	167	0	81.2	50 - 130				
Dibenzofuran	135.1	3.3	167	0	80.9	50 - 125				
Di-n-butyl phthalate	136.5	6.6	167	0	81.8	50 - 140				
Fluoranthene	137.6	3.3	167	0	82.4	50 - 131				
Fluorene	136.2	3.3	167	0	81.6	50 - 125				
Naphthalene	135.2	3.3	167	0	81.0	50 - 125				
Nitrobenzene	136.5	6.6	167	0	81.7	50 - 125				
N-Nitrosodiphenylamine	132.4	6.6	167	0	79.3	50 - 130				
Pentachlorophenol	120.5	6.6	167	0	72.2	23 - 136				
Phenanthrene	131	3.3	167	0	78.4	50 - 125				
Phenol	125.9	6.6	167	0	75.4	45 - 130				
Pyrene	132	3.3	167	0	79.0	45 - 130				
Surr: 2,4,6-Tribromophenol	*172.9*	*0*	*167*	*0*	*104*	*36 - 126*				
Surr: 2-Fluorobiphenyl	*164.2*	*0*	*167*	*0*	*98.3*	*43 - 125*				
Surr: 2-Fluorophenol	*136.3*	*0*	*167*	*0*	*81.6*	*37 - 125*				
Surr: 4-Terphenyl-d14	*152.9*	*0*	*167*	*0*	*91.5*	*32 - 125*				
Surr: Nitrobenzene-d5	*149.5*	*0*	*167*	*0*	*89.5*	*37 - 125*				
Surr: Phenol-d6	*138.9*	*0*	*167*	*0*	*83.2*	*40 - 125*				

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Revision: 1

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
WorkOrder: HS16020498

QC BATCH REPORT

Batch ID: 101372 **Instrument: SV-6** **Method: SW8270**

MS Sample ID: **HS16020272-01MS** Units: **ug/Kg** Analysis Date: **12-Feb-2016 18:30**
Client ID: Run ID: **SV-6_269239** SeqNo: **3583256** PrepDate: **12-Feb-2016** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Diphenylhydrazine	167.8	6.6	166.7	0	101	50 - 135				
2,4-Dimethylphenol	118	6.6	166.7	0	70.8	45 - 120				
2,4-Dinitrotoluene	150.8	6.6	166.7	0	90.5	50 - 130				
2,6-Dinitrotoluene	125.9	6.6	166.7	0	75.5	50 - 125				
2-Chloronaphthalene	132.7	6.6	166.7	0	79.6	50 - 145				
2-Methylnaphthalene	188.4	3.3	166.7	58.18	78.1	50 - 120				
4,6-Dinitro-2-methylphenol	131.6	6.6	166.7	0	78.9	15 - 135				
4-Nitrophenol	102.7	13	166.7	0	61.6	40 - 147				
Acenaphthene	102.9	3.3	166.7	0	61.7	50 - 120				
Acenaphthylene	117.7	3.3	166.7	0	70.6	50 - 120				
Anthracene	131.1	3.3	166.7	5.171	75.5	50 - 123				
Benz(a)anthracene	144.9	3.3	166.7	1.689	85.9	50 - 131				
Benzo(a)pyrene	138	3.3	166.7	0	82.8	50 - 130				
Bis(2-chloroethoxy)methane	126.5	6.6	166.7	0	75.9	50 - 120				
Bis(2-ethylhexyl)phthalate	130.9	6.6	166.7	3.36	76.5	21 - 148				
Chrysene	149.7	3.3	166.7	2.056	88.5	50 - 130				
Dibenzofuran	126.7	3.3	166.7	0	76.0	50 - 125				
Di-n-butyl phthalate	133.4	6.6	166.7	0	80.0	50 - 140				
Fluoranthene	185.9	3.3	166.7	0	111	50 - 131				
Fluorene	153.1	3.3	166.7	0	91.8	50 - 125				
Naphthalene	159	3.3	166.7	0	95.4	50 - 125				
Nitrobenzene	132.3	6.6	166.7	0	79.4	50 - 125				
N-Nitrosodiphenylamine	195.1	6.6	166.7	0	117	50 - 130				
Pentachlorophenol	121.6	6.6	166.7	0	72.9	23 - 136				
Phenanthrene	214.9	3.3	166.7	10.9	122	50 - 125				
Phenol	103.3	6.6	166.7	0	61.9	45 - 130				
Pyrene	165.6	3.3	166.7	16.24	89.6	45 - 130				
Surr: 2,4,6-Tribromophenol	*156.6*	*0*	*166.7*	*0*	*93.9*	*36 - 126*				
Surr: 2-Fluorobiphenyl	*125.5*	*0*	*166.7*	*0*	*75.3*	*43 - 125*				
Surr: 2-Fluorophenol	*110.1*	*0*	*166.7*	*0*	*66.0*	*37 - 125*				
Surr: 4-Terphenyl-d14	*134.2*	*0*	*166.7*	*0*	*80.5*	*32 - 125*				
Surr: Nitrobenzene-d5	*137*	*0*	*166.7*	*0*	*82.2*	*37 - 125*				
Surr: Phenol-d6	*121.8*	*0*	*166.7*	*0*	*73.1*	*40 - 125*				

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Revision: 1

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
WorkOrder: HS16020498

QC BATCH REPORT

Batch ID: 101372 **Instrument: SV-6** **Method: SW8270**

MSD Sample ID: **HS16020272-01MSD** Units: **ug/Kg** Analysis Date: **12-Feb-2016 18:49**
Client ID: Run ID: **SV-6_269239** SeqNo: **3583257** PrepDate: **12-Feb-2016** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual
1,2-Diphenylhydrazine	147.5	6.6	166.9	0	88.4	50 - 135	167.8	12.9	30	
2,4-Dimethylphenol	98.54	6.6	166.9	0	59.0	45 - 120	118	17.9	30	
2,4-Dinitrotoluene	139.2	6.6	166.9	0	83.4	50 - 130	150.8	7.99	30	
2,6-Dinitrotoluene	118.4	6.6	166.9	0	70.9	50 - 125	125.9	6.13	30	
2-Chloronaphthalene	106.3	6.6	166.9	0	63.6	50 - 145	132.7	22.1	30	
2-Methylnaphthalene	193.2	3.3	166.9	58.18	80.9	50 - 120	188.4	2.54	30	
4,6-Dinitro-2-methylphenol	118.6	6.6	166.9	0	71.1	15 - 135	131.6	10.3	30	
4-Nitrophenol	115.2	13	166.9	0	69.0	40 - 147	102.7	11.4	30	
Acenaphthene	91.91	3.3	166.9	0	55.1	50 - 120	102.9	11.3	30	
Acenaphthylene	99.93	3.3	166.9	0	59.9	50 - 120	117.7	16.3	30	
Anthracene	128.2	3.3	166.9	5.171	73.7	50 - 123	131.1	2.25	30	
Benz(a)anthracene	140.1	3.3	166.9	1.689	82.9	50 - 131	144.9	3.41	30	
Benzo(a)pyrene	128.2	3.3	166.9	0	76.8	50 - 130	138	7.39	30	
Bis(2-chloroethoxy)methane	100.7	6.6	166.9	0	60.3	50 - 120	126.5	22.7	30	
Bis(2-ethylhexyl)phthalate	123.2	6.6	166.9	3.36	71.8	21 - 148	130.9	6.02	30	
Chrysene	144.3	3.3	166.9	2.056	85.2	50 - 130	149.7	3.69	30	
Dibenzofuran	102.7	3.3	166.9	0	61.5	50 - 125	126.7	20.9	30	
Di-n-butyl phthalate	126.7	6.6	166.9	0	75.9	50 - 140	133.4	5.14	30	
Fluoranthene	198.4	3.3	166.9	0	119	50 - 131	185.9	6.51	30	
Fluorene	139.2	3.3	166.9	0	83.4	50 - 125	153.1	9.54	30	
Naphthalene	143.6	3.3	166.9	0	86.0	50 - 125	159	10.2	30	
Nitrobenzene	110.8	6.6	166.9	0	66.4	50 - 125	132.3	17.7	30	
N-Nitrosodiphenylamine	204.5	6.6	166.9	0	122	50 - 130	195.1	4.71	30	
Pentachlorophenol	116.7	6.6	166.9	0	69.9	23 - 136	121.6	4.11	30	
Phenanthrene	264.2	3.3	166.9	10.9	152	50 - 125	214.9	20.6	30	S
Phenol	89.75	6.6	166.9	0	53.8	45 - 130	103.3	14	30	
Pyrene	172.6	3.3	166.9	16.24	93.7	45 - 130	165.6	4.11	30	
Surr: 2,4,6-Tribromophenol	*144.5*	*0*	*166.9*	*0*	*86.5*	*36 - 126*	*156.6*	*8.09*	*30*	
Surr: 2-Fluorobiphenyl	*101*	*0*	*166.9*	*0*	*60.5*	*43 - 125*	*125.5*	*21.6*	*30*	
Surr: 2-Fluorophenol	*79.56*	*0*	*166.9*	*0*	*47.7*	*37 - 125*	*110.1*	*32.2*	*30*	R
Surr: 4-Terphenyl-d14	*131.9*	*0*	*166.9*	*0*	*79.0*	*32 - 125*	*134.2*	*1.69*	*30*	
Surr: Nitrobenzene-d5	*122.4*	*0*	*166.9*	*0*	*73.3*	*37 - 125*	*137*	*11.2*	*30*	
Surr: Phenol-d6	*84.68*	*0*	*166.9*	*0*	*50.7*	*40 - 125*	*121.8*	*36*	*30*	R

The following samples were anayzed in this batch: HS16020498-01 HS16020498-02 HS16020498-03

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Revision: 1

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
WorkOrder: HS16020498

QC BATCH REPORT

Batch ID: R269260 **Instrument: Balance1** **Method: ASTM D2216**

DUP Sample ID: **HS16020447-01DUP** Units: **wt%** Analysis Date: **12-Feb-2016 09:41**
Client ID: Run ID: **Balance1_269260** SeqNo: **3583559** PrepDate: DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Percent Moisture	23.3	0.0100					23.6	1.28	20	

The following samples were anayzed in this batch: HS16020498-01 HS16020498-02 HS16020498-03

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Revision: 1

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
WorkOrder: **HS16020498**

QUALIFIERS, ACRONYMS, UNITS

Qualifier	Description
*	Value exceeds Regulatory Limit
a	Not accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte detected below quantitation limit
M	Manually integrated, see raw data for justification
n	Not offered for accreditation
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL/SDL

Acronym	Description
DCS	Detectability Check Study
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
MBLK	Method Blank
MDL	Method Detection Limit
MQL	Method Quantitation Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PDS	Post Digestion Spike
PQL	Practical Quantitaion Limit
SD	Serial Dilution
SDL	Sample Detection Limit
TRRP	Texas Risk Reduction Program

Unit Reported	Description
mg/Kg-dry	Milligrams per Kilogram- Dry weight corrected

CERTIFICATIONS,ACCREDITATIONS & LICENSES

Agency	Number	Expire Date
Arkansas	15-024-0	27-Mar-2016
California	2919	31-Jul-2016
Illinois	003622	09-May-2016
Kentucky	KY 2015-2016	30-Apr-2016
Louisiana	03087 2015/2016	30-Jun-2016
North Carolina	624 - 2016	31-Dec-2016
North Dakota	R-193 2015-2016	30-Apr-2016
Oklahoma	2015-047	31-Aug-2016
Texas	T104704231-15-15	30-Apr-2016

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
Work Order: HS16020498

SAMPLE TRACKING

Lab Samp ID	Client Sample ID	Action	Date	Person	New Location
HS16020498-01	SO-1620-CSDCH107E(0-2)-20160212	Login	2/12/2016 4:06:20 PM	PMG	16D
HS16020498-02	SO-1620-CSDCH107W(0-2)-20160212	Login	2/12/2016 4:06:20 PM	PMG	16D
HS16020498-03	SO-1620-CSG1(3)-20160212	Login	2/12/2016 4:09:50 PM	PMG	16D

Revision:1

Sample Receipt Checklist

Client Name: PBW
Work Order: HS16020498

Date/Time Received: **12-Feb-2016 15:33**
Received by: **DCP**

Checklist completed by: *Paresh M. Giga* eSignature — 12-Feb-2016 Date

Reviewed by: *Dane J. Wacasey* eSignature — 12-Feb-2016 Date

Matrices: **Soil**

Carrier name: **ALS Courier**

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on shipping container/cooler?	Yes ☐	No ☐	Not Present ☑
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☐	No ☑	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
TX1005 solids received in hermetically sealed vials?	Yes ☐	No ☐	N/A ☑
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time?	Yes ☑	No ☐	
Container/Temp Blank temperature in compliance?	Yes ☑	No ☐	
Temperature(s)/Thermometer(s):	5.0c/5.5c U/C	IR5	
Cooler(s)/Kit(s):	23709		
Date/Time sample(s) sent to storage:	2/12/16 16:15		
Water - VOA vials have zero headspace?	Yes ☐	No ☐	No VOA vials submitted ☑
Water - pH acceptable upon receipt?	Yes ☐	No ☐	N/A ☑
pH adjusted?	Yes ☐	No ☐	N/A ☑
pH adjusted by:			

Login Notes: Chain of custody is related to aqueous samples. Analysis logged per project history for solid matrix samples.

Client Contacted: Date Contacted: Person Contacted:

Contacted By: 0 Regarding:

Comments:

Corrective Action:

ALS Environmental

Cincinnati, OH +1 513 733 5336 | Everett, WA +1 425 356 2600 | Fort Collins, CO +1 970 490 1511 | Holland, MI +1 616 399 6070

Chain of Custody Form

Page _____ of _____

COC ID: 141363

HS16020498

Pastor, Behling & Wheeler, LLC

1620-10-Rev1 HoustonTX-Wood

ALS Project Manager:

Customer Information		Project Information			
Purchase Order	UPRR	Project Name	1620-10-Rev1 HoustonTX-Wood	A	8260_LL_W (5632528 Volatile Organics)
Work Order		Project Number	1620-10-Rev1	B	8270_LOW_W (5632532 SemiVolatiles)
Company Name	Pastor, Behling & Wheeler, LLC	Bill To Company	Union Pacific Railroad- A/P	C	ICP_TW (5636002 5652646 Metals - As, Pb)
Send Report To	Eric Matzner	Invoice Attn	Accounts Payable	D	
Address	2201 Double Creek Drive Suite 4004	Address	1400 Douglas Street Stop 0750	E	
				F	
City/State/Zip	Round Rock, TX 78664	City/State/Zip	Omaha, NE 681790750	G	
Phone	(512) 671-3434	Phone		H	
Fax	(512) 671-3446	Fax		I	
e-Mail Address		e-Mail Address		J	

No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
1	SO-1620-CSDCH107E(0-2)-20160212	2/12/2016	800	Soil	8	1					Rush TAT						
2	SO-1620-CSDCH107W(0-2)-20160212	2/12/2016	805	Soil	8	1					Rush TAT						
3	SO-1620-BSA1(5)-20160212	2/12/2016	1245	Soil	8	1					← Standard TAT						
4	SO-1620-CSG1(0-3)-20160212	2/12/2016	1445	Soil	8	1					Rush TAT						
5																	
6																	
7																	
8																	
9																	
10																	

Sampler(s) Please Print & Sign: Stephen Grahmann Stephen Grahmann

Shipment Method:

Required Turnaround Time: (Check Box) TAT 1 days Other:

Results Due Date:

Relinquished by:	Date:	Time:	Received by:
Stephen Grahmann	2/12/2016	1455	Laird Pangrazio
Relinquished by:	Date:	Time:	Received by (Laboratory):
Laird Pangrazio	2/12/2016	1533	Laird Pangrazio
Logged by (Laboratory):	Date:	Time:	Checked by (Laboratory):

Notes: [UPRR Houston MWPW]

Cooler ID	Cooler Temp.
23709	UIC 3.00
	4.5 CF-0.50

QC Package: (Check One Box Below)

QC Level: TRRP LRC

Other:

Preservative Key: 1-HCl 2-HNO_3 3-H_2SO_4 4-NaOH 5-$Na_2S_2O_3$ 6-$NaHSO_4$ 7-Other 8-4°C 9-5035

Note:
1. Any changes must be made in writing once samples and COC Form have been submitted to ALS Environmental.
2. Unless otherwise agreed in a formal contract, services provided by ALS Environmental are expressly limited to the terms and conditions stated on the reverse.
3. The Chain of Custody is a legal document. All information must be completed accurately.

10450 Stancliff Rd. Suite 210
Houston, TX 77099
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F: +1 281 530 5887
www.alsglobal.com

February 23, 2016

Eric Matzner
Pastor, Behling & Wheeler, LLC
2201 Double Creek Drive
Suite 4004
Round Rock, TX 78664

Work Order: **HS16020499**

Laboratory Results for: **1620-10-Rev1 HoustonTX-Wood**

Dear Eric,

ALS Environmental received 1 sample(s) on Feb 12, 2016 for the analysis presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested. Results are expressed as "as received" unless otherwise noted.

QC sample results for this data met EPA or laboratory specifications except as noted in the Case Narrative or as noted with qualifiers in the QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained by ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

If you have any questions regarding this report, please feel free to call me.

Sincerely,

Generated By: Jumoke.Lawal
Dane J. Wacasey

Client:	Pastor, Behling & Wheeler, LLC	**TRRP Laboratory Data Package Cover Page**
Project:	1620-10-Rev1 HoustonTX-Wood	
WorkOrder:	**HS16020499**	

This data package consists of all or some of the following as applicable:

This signature page, the laboratory review checklist, and the following reportable data:

R1 Field chain-of-custody documentation;

R2 Sample identification cross-reference;

R3 Test reports (analytical data sheets) for each environmental sample that includes:

a) Items consistent with NELAC Chapter 5,
b) dilution factors,
c) preparation methods,
d) cleanup methods, and
e) if required for the project, tentatively identified compounds (TICs).

R4 Surrogate recovery data including:

a) Calculated recovery (%R), and
b) The laboratory's surrogate QC limits.

R5 Test reports/summary forms for blank samples;

R6 Test reports/summary forms for laboratory control samples (LCSs) including:

a) LCS spiking amounts,
b) Calculated %R for each analyte, and
c)The laboratory's LCS QC limits.

R7 Test reports for project matrix spike/matrix spike duplicates (MS/MSDs) including:

a) Samples associated with the MS/MSD clearly identified,
b) MS/MSD spiking amounts,
c) Concentration of each MS/MSD analyte measured in the parent and spiked samples,
d) Calculated %Rs and relative percent differences (RPDs), and
e) The laboratory's MS/MSD QC limits.

R8 Laboratory analytical duplicate (if applicable) recovery and precision:

a) the amount of analyte measured in the duplicate,
b) the calculated RPD, and
c) the laboratory's QC limits for analytical duplicates.

R9 List of method quantitation limits (MQLs) and detectability check sample results for each analyte for each method and matrix.

R10 Other problems or anomalies.
The Exception Report for each "No" or "Not Reviewed (NR)" item in Laboratory Review Checklist and for each analyte, matrix, and method for which the laboratory does not hold NELAC accreditation under the Texas Laboratory Accreditation Program.

Client:	Pastor, Behling & Wheeler, LLC
Project:	1620-10-Rev1 HoustonTX-Wood
WorkOrder:	**HS16020499**

TRRP Laboratory Data Package Cover Page

Release Statement: I am responsible for the release of this laboratory data package. This laboratory is NELAC accredited under the Texas Laboratory Accreditation Program for all the methods, analytes and matrices reported in this data package except as noted in the Exception Reports. The data have been reviewed and are technically compliant with the requirements of the methods used, except where noted by the laboratory in the attached exception reports. By my signature below, I affirm to the best of my knowledge, all problems/anomalies, observed by the laboratory have been identified by the laboratory in the Laboratory Review Checklist, and no information affecting the quality of the data has been knowingly withheld.

Check, if applicable: [NA] This laboratory meets an exception under 30 TAC §25.6 and was last inspected by [ ] TCEQ or [ ] _____ on (enter date of last inspection). Any findings affecting the data in this laboratory data package are noted in the Exception Reports herein. The official signing the cover page of the report in which these data are used is responsible for releasing this data package and is by signature affirming the above release statement is true.

Dane J. Wacasey

Laboratory Review Checklist: Reportable Data								
Laboratory Name: ALS Laboratory Group			LRC Date: 02/23/2016					
Project Name: 1620-10-Rev1 HoustonTX-Wood			Laboratory Job Number: HS16020499					
Reviewer Name: Dane Wacasey			Prep Batch Number(s): 101507,101520,R269307					
#[1]	A[2]	Description	Yes	No	NA[3]	NR[4]	ER#[5]	
R1	OI	**Chain-of-custody (C-O-C)**						
		Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?	X					
		Were all departures from standard conditions described in an exception report?	X					
R2	OI	**Sample and quality control (QC) identification**						
		Are all field sample ID numbers cross-referenced to the laboratory ID numbers?	X					
		Are all laboratory ID numbers cross-referenced to the corresponding QC data?	X					
R3	OI	**Test reports**						
		Were all samples prepared and analyzed within holding times?	X					
		Other than those results < MQL, were all other raw values bracketed by calibration standards?	X					
		Were calculations checked by a peer or supervisor?	X					
		Were all analyte identifications checked by a peer or supervisor?	X					
		Were sample detection limits reported for all analytes not detected?	X					
		Were all results for soil and sediment samples reported on a dry weight basis?	X					
		Were % moisture (or solids) reported for all soil and sediment samples?	X					
		Were bulk soils/solids samples for volatile analysis extracted with methanol per SW-846 Method 5035?			X			
		If required for the project, TICs reported?			X			
R4	O	**Surrogate recovery data**						
		Were surrogates added prior to extraction?	X					
		Were surrogate percent recoveries in all samples within the laboratory QC limits?	X					
R5	OI	**Test reports/summary forms for blank samples**						
		Were appropriate type(s) of blanks analyzed?	X					
		Were blanks analyzed at the appropriate frequency?	X					
		Were method blanks taken through the entire analytical process, including preparation and, if applicable, cleanup procedures?	X					
		Were blank concentrations < MQL?	X					
R6	OI	**Laboratory control samples (LCS):**						
		Were all COCs included in the LCS?	X					
		Was each LCS taken through the entire analytical procedure, including prep and cleanup steps?	X					
		Were LCSs analyzed at the required frequency?	X					
		Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?	X					
		Does the detectability data document the laboratory's capability to detect the COCs at the MDL used to calculate the SDLs?	X					
		Was the LCSD RPD within QC limits?	X					
R7	OI	**Matrix spike (MS) and matrix spike duplicate (MSD) data**						
		Were the project/method specified analytes included in the MS and MSD?	X					
		Were MS/MSD analyzed at the appropriate frequency?	X					
		Were MS (and MSD, if applicable) %Rs within the laboratory QC limits?		X			1	
		Were MS/MSD RPDs within laboratory QC limits?		X			2	
R8	OI	**Analytical duplicate data**						
		Were appropriate analytical duplicates analyzed for each matrix?	X					
		Were analytical duplicates analyzed at the appropriate frequency?	X					
		Were RPDs or relative standard deviations within the laboratory QC limits?	X					
R9	OI	**Method quantitation limits (MQLs):**						
		Are the MQLs for each method analyte included in the laboratory data package?	X					
		Do the MQLs correspond to the concentration of the lowest non-zero calibration standard?	X					
		Are unadjusted MQLs and DCSs included in the laboratory data package?	X					
R10	OI	**Other problems/anomalies**						
		Are all known problems/anomalies/special conditions noted in this LRC and ER?	X					
		Were all necessary corrective actions performed for the reported data?	X					
		Was applicable and available technology used to lower the SDL and minimize the matrix interference affects on the sample results?	X					
		Is the laboratory NELAC-accredited under the Texas Laboratory Program for the analytes, matrices and methods associated with this laboratory data package?	X					

Laboratory Review Checklist: Reportable Data							
Laboratory Name: ALS Laboratory Group			LRC Date: 02/23/2016				
Project Name: 1620-10-Rev1 HoustonTX-Wood			Laboratory Job Number: HS16020499				
Reviewer Name: Dane Wacasey			Prep Batch Number(s): 101507,101520,R269307				
#[1]	A[2]	Description	Yes	No	NA[3]	NR[4]	ER#[5]
S1	OI	**Initial calibration (ICAL)**					
		Were response factors and/or relative response factors for each analyte within QC limits?	X				
		Were percent RSDs or correlation coefficient criteria met?	X				
		Was the number of standards recommended in the method used for all analytes?	X				
		Were all points generated between the lowest and highest standard used to calculate the curve?	X				
		Are ICAL data available for all instruments used?	X				
		Has the initial calibration curve been verified using an appropriate second source standard?	X				
S2	OI	**Initial and continuing calibration verification (ICCV and CCV) and continuing calibration blank (CCB)**					
		Was the CCV analyzed at the method-required frequency?	X				
		Were percent differences for each analyte within the method-required QC limits?	X				
		Was the ICAL curve verified for each analyte?	X				
		Was the absolute value of the analyte concentration in the inorganic CCB < MDL?	X				
S3	O	**Mass spectral tuning:**					
		Was the appropriate compound for the method used for tuning?	X				
		Were ion abundance data within the method-required QC limits?	X				
S4	O	**Internal standards (IS):**					
		Were IS area counts and retention times within the method-required QC limits?	X				
S5	OI	**Raw data** (NELAC section 1 appendix A glossary, and section 5.12 or ISO/IEC 17025 section					
		Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst?	X				
		Were data associated with manual integrations flagged on the raw data?	X				
S6	O	**Dual column confirmation**					
		Did dual column confirmation results meet the method-required QC?			X		
S7	O	**Tentatively identified compounds (TICs):**					
		If TICs were requested, were the mass spectra and TIC data subject to appropriate checks?			X		
S8	I	**Interference Check Sample (ICS) results:**					
		Were percent recoveries within method QC limits?	X				
S9	I	**Serial dilutions, post digestion spikes, and method of standard additions**					
		Were percent differences, recoveries, and the linearity within the QC limits specified in the method?	X				
S10	OI	**Method detection limit (MDL) studies**					
		Was a MDL study performed for each reported analyte?	X				
		Is the MDL either adjusted or supported by the analysis of DCSs?	X				
S11	OI	**Proficiency test reports:**					
		Was the laboratory's performance acceptable on the applicable proficiency tests or evaluation studies?	X				
S12	OI	**Standards documentation**					
		Are all standards used in the analyses NIST-traceable or obtained from other appropriate sources?	X				
S13	OI	**Compound/analyte identification procedures**					
		Are the procedures for compound/analyte identification documented?	X				
S14	OI	**Demonstration of analyst competency (DOC)**					
		Was DOC conducted consistent with NELAC Chapter 5C or ISO/IEC 4?	X				
		Is documentation of the analyst's competency up-to-date and on file?	X				
S15	OI	**Verification/validation documentation for methods** (NELAC Chap 5 or ISO/IEC 17025 Section 5)					
		Are all the methods used to generate the data documented, verified, and validated, where applicable?	X				
S16	OI	**Laboratory standard operating procedures (SOPs):**					
		Are laboratory SOPs current and on file for each method performed?	X				

Items identified by the letter "R" must be included in the laboratory data package submitted in the TRRP-required report(s). Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period.
O = Organic Analyses; I = Inorganic Analyses (and general chemistry, when applicable);
NA = Not Applicable;
NR = Not Reviewed;
R# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

Laboratory Review Checklist: Reportable Data	
Laboratory Name: ALS Laboratory Group	LRC Date: 02/23/2016
Project Name: 1620-10-Rev1 HoustonTX-Wood	Laboratory Job Number: HS16020499
Reviewer Name: Dane Wacasey	Prep Batch Number(s): 101507,101520,R269307

ER#[5]	Description
1	Batch 101507, Metals Method SW6020, sample HS16020509-16, MS and MSD were performed on unrelated sample. Batch 101520, Semivolatile Organics Method SW8270, sample SO-1620-BSA1(5)-20160212, MSD recovered below the lower control limit for 4,6-Dinitro-2-methylphenol due to sample matrix.
2	Batch 101507, Metals Method SW6020, sample HS16020509-16, MSD RPD is for an unrelated sample. Batch 101520, Semivolatile Organics Method SW8270, sample SO-1620-BSA1(5)-20160212, MSD RPD criterion was exceeded for 4,6-Dinitro-2-methylphenol and surrogate 2-Fluorophenol.

Items identified by the letter "R" must be included in the laboratory data package submitted in the TRRP-required report(s). Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period.
O = Organic Analyses; I = Inorganic Analyses (and general chemistry, when applicable);
NA = Not Applicable;
NR = Not Reviewed;
R# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
Work Order: HS16020499

SAMPLE SUMMARY

Lab Samp ID	Client Sample ID	Matrix	TagNo	Collection Date	Date Received	Hold
HS16020499-01	SO-1620-BSA1(5)-20160212	Soil		12-Feb-2016 12:45	12-Feb-2016 15:33	☐

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
Sample ID: SO-1620-BSA1(5)-20160212
Collection Date: 12-Feb-2016 12:45

ANALYTICAL REPORT
WorkOrder:HS16020499
Lab ID:HS16020499-01
Matrix:Soil

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES		**Method:SW8270**			Prep:SW3541 / 18-Feb-2016		Analyst: STH
1,2-Diphenylhydrazine	U		0.0013	0.0080	mg/Kg-dry	1	22-Feb-2016 15:34
2,4-Dimethylphenol	U		0.0040	0.0080	mg/Kg-dry	1	22-Feb-2016 15:34
2,4-Dinitrotoluene	U		0.0011	0.0080	mg/Kg-dry	1	22-Feb-2016 15:34
2,6-Dinitrotoluene	U		0.0040	0.0080	mg/Kg-dry	1	22-Feb-2016 15:34
2-Chloronaphthalene	U		0.0016	0.0080	mg/Kg-dry	1	22-Feb-2016 15:34
2-Methylnaphthalene	U		0.00061	0.0040	mg/Kg-dry	1	22-Feb-2016 15:34
4,6-Dinitro-2-methylphenol	U		0.0025	0.0080	mg/Kg-dry	1	22-Feb-2016 15:34
4-Nitrophenol	U		0.0023	0.016	mg/Kg-dry	1	22-Feb-2016 15:34
Acenaphthene	U		0.00061	0.0040	mg/Kg-dry	1	22-Feb-2016 15:34
Acenaphthylene	U		0.0012	0.0040	mg/Kg-dry	1	22-Feb-2016 15:34
Anthracene	**0.0026**	J	**0.00061**	**0.0040**	**mg/Kg-dry**	1	22-Feb-2016 15:34
Benz(a)anthracene	U		0.0019	0.0040	mg/Kg-dry	1	22-Feb-2016 15:34
Benzo(a)pyrene	U		0.0012	0.0040	mg/Kg-dry	1	22-Feb-2016 15:34
Bis(2-chloroethoxy)methane	U		0.0011	0.0080	mg/Kg-dry	1	22-Feb-2016 15:34
Bis(2-ethylhexyl)phthalate	U		0.0021	0.0080	mg/Kg-dry	1	22-Feb-2016 15:34
Chrysene	U		0.00097	0.0040	mg/Kg-dry	1	22-Feb-2016 15:34
Dibenzofuran	**0.0021**	J	**0.00085**	**0.0040**	**mg/Kg-dry**	1	22-Feb-2016 15:34
Di-n-butyl phthalate	U		0.0015	0.0080	mg/Kg-dry	1	22-Feb-2016 15:34
Fluoranthene	**0.0080**		**0.0013**	**0.0040**	**mg/Kg-dry**	1	22-Feb-2016 15:34
Fluorene	U		0.0013	0.0040	mg/Kg-dry	1	22-Feb-2016 15:34
Naphthalene	U		0.00073	0.0040	mg/Kg-dry	1	22-Feb-2016 15:34
Nitrobenzene	U		0.0011	0.0080	mg/Kg-dry	1	22-Feb-2016 15:34
N-Nitrosodiphenylamine	U		0.00085	0.0080	mg/Kg-dry	1	22-Feb-2016 15:34
Pentachlorophenol	U		0.0040	0.0080	mg/Kg-dry	1	22-Feb-2016 15:34
Phenanthrene	**0.0061**		**0.0018**	**0.0040**	**mg/Kg-dry**	1	22-Feb-2016 15:34
Phenol	U		0.0013	0.0080	mg/Kg-dry	1	22-Feb-2016 15:34
Pyrene	**0.0063**		**0.00073**	**0.0040**	**mg/Kg-dry**	1	22-Feb-2016 15:34
Surr: 2,4,6-Tribromophenol	*92.6*			*36-126*	*%REC*	*1*	*22-Feb-2016 15:34*
Surr: 2-Fluorobiphenyl	*63.2*			*43-125*	*%REC*	*1*	*22-Feb-2016 15:34*
Surr: 2-Fluorophenol	*41.4*			*37-125*	*%REC*	*1*	*22-Feb-2016 15:34*
Surr: 4-Terphenyl-d14	*66.6*			*32-125*	*%REC*	*1*	*22-Feb-2016 15:34*
Surr: Nitrobenzene-d5	*70.2*			*37-125*	*%REC*	*1*	*22-Feb-2016 15:34*
Surr: Phenol-d6	*45.8*			*40-125*	*%REC*	*1*	*22-Feb-2016 15:34*
METALS BY SW6020A		**Method:SW6020**			Prep:SW3050A / 18-Feb-2016		Analyst: JDE
Arsenic	**1.85**		**0.117**	**0.587**	**mg/Kg-dry**	1	18-Feb-2016 18:59
Lead	**6.32**		**0.0587**	**0.587**	**mg/Kg-dry**	1	18-Feb-2016 18:59
MOISTURE - ASTM D2216		**Method:ASTM D2216**					Analyst: DFF
Percent Moisture	**17.8**		**0.0100**	**0.0100**	**wt%**	1	15-Feb-2016 10:26

Note: See Qualifiers Page for a list of qualifiers and their explanation.

WEIGHT LOG

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
WorkOrder: HS16020499

Batch ID: 101507 **Method:** METALS BY SW6020A **Prep:** 3050_I_LOW

SampID	Container	Sample Wt/Vol	Final Volume	Prep Factor
HS16020499-01	1	0.5183	50 (mL)	96.47

Batch ID: 101520 **Method:** LOW-LEVEL SEMIVOLATILES **Prep:** 3541_B_LOW

SampID	Container	Sample Wt/Vol	Final Volume	Prep Factor
HS16020499-01	1	30.15	1 (mL)	0.03317

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
WorkOrder: HS16020499

DATES REPORT

Sample ID	Client Samp ID	Collection Date	TCLP Date	Prep Date	Analysis Date	DF
Batch ID 101507	**Test Name :** METALS BY SW6020A			**Matrix:** Soil		
HS16020499-01	SO-1620-BSA1(5)-20160212	12 Feb 2016 12:45		18 Feb 2016 09:21	18 Feb 2016 18:59	1
Batch ID 101520	**Test Name :** LOW-LEVEL SEMIVOLATILES			**Matrix:** Soil		
HS16020499-01	SO-1620-BSA1(5)-20160212	12 Feb 2016 12:45		18 Feb 2016 09:15	22 Feb 2016 15:34	1
Batch ID R269307	**Test Name :** MOISTURE - ASTM D2216			**Matrix:** Soil		
HS16020499-01	SO-1620-BSA1(5)-20160212	12 Feb 2016 12:45			15 Feb 2016 10:26	1

WorkOrder: HS16020499
InstrumentID: ICPMS03
Test Code: ICP_S_Low
Test Number: SW6020
Test Name: Metals by SW6020A

METHOD DETECTION / REPORTING LIMITS

Matrix: Solid **Units:** mg/Kg

Type	Analyte	CAS	DCS Spike	DCS	MDL	PQL
A	Arsenic	7440-38-2	0.100	0.0864	0.100	0.500
A	Lead	7439-92-1	0.100	0.0898	0.0500	0.500

WorkOrder: HS16020499
InstrumentID: SV-6
Test Code: 8270_LOW_S
Test Number: SW8270
Test Name: Low-Level Semivolatiles

METHOD DETECTION / REPORTING LIMITS

Matrix: Solid **Units:** mg/Kg

Type	Analyte	CAS	DCS Spike	DCS	MDL	PQL
A	1,2-Diphenylhydrazine	122-66-7	0.0033	0.0037	0.0011	0.0066
A	2,4-Dimethylphenol	105-67-9	0.0033	0.0022	0.0033	0.0066
A	2,4-Dinitrotoluene	121-14-2	0.0033	0.0023	0.00090	0.0066
A	2,6-Dinitrotoluene	606-20-2	0.0033	0.0022	0.0033	0.0066
A	2-Chloronaphthalene	91-58-7	0.0033	0.0028	0.0013	0.0066
A	2-Methylnaphthalene	91-57-6	0.0017	0.0016	0.00050	0.0033
A	4,6-Dinitro-2-methylphenol	534-52-1	0.0033	0.0010	0.0021	0.0066
A	4-Nitrophenol	100-02-7	0.0033	0.0026	0.0019	0.013
A	Acenaphthene	83-32-9	0.0017	0.0016	0.00050	0.0033
A	Acenaphthylene	208-96-8	0.0017	0.0017	0.0010	0.0033
A	Anthracene	120-12-7	0.0017	0.0017	0.00050	0.0033
A	Benz(a)anthracene	56-55-3	0.0017	0.0018	0.0016	0.0033
A	Benzo(a)pyrene	50-32-8	0.0017	0.0017	0.0010	0.0033
A	Bis(2-chloroethoxy)methane	111-91-1	0.0033	0.0028	0.00090	0.0066
A	Bis(2-ethylhexyl)phthalate	117-81-7	0.0033	0.0029	0.0017	0.0066
A	Chrysene	218-01-9	0.0017	0.0019	0.00080	0.0033
A	Dibenzofuran	132-64-9	0.0033	0.0031	0.00070	0.0033
A	Di-n-butyl phthalate	84-74-2	0.0033	0.0031	0.0012	0.0066
A	Fluoranthene	206-44-0	0.0017	0.0018	0.0011	0.0033
A	Fluorene	86-73-7	0.0017	0.0015	0.0011	0.0033
A	Naphthalene	91-20-3	0.0017	0.0016	0.00060	0.0033
A	Nitrobenzene	98-95-3	0.0033	0.0034	0.00090	0.0066
A	N-Nitrosodiphenylamine	86-30-6	0.0033	0.0035	0.00070	0.0066
A	Pentachlorophenol	87-86-5	0.0033	0.0020	0.0033	0.0066
A	Phenanthrene	85-01-8	0.0017	0.0017	0.0015	0.0033
A	Phenol	108-95-2	0.0033	0.0032	0.0011	0.0066
A	Pyrene	129-00-0	0.0017	0.0019	0.00060	0.0033
S	2,4,6-Tribromophenol	118-79-6	0	0	0	0
S	2-Fluorobiphenyl	321-60-8	0	0	0	0
S	2-Fluorophenol	367-12-4	0	0	0	0
S	4-Terphenyl-d14	1718-51-0	0	0	0	0
S	Nitrobenzene-d5	4165-60-0	0	0	0	0
S	Phenol-d6	13127-88-3	0	0	0	0

WorkOrder: HS16020499
InstrumentID: Balance1
Test Code: MOIST_ASTM
Test Number: ASTM D2216
Test Name: Moisture - ASTM D2216

METHOD DETECTION / REPORTING LIMITS

Matrix: Solid **Units:** wt%

Type	Analyte	CAS	DCS Spike	DCS	MDL	PQL
A	Percent Moisture	MOIST	0.0100	0.0100	0.0100	0.0100

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
WorkOrder: HS16020499

QC BATCH REPORT

Batch ID: 101507 **Instrument: ICPMS03** **Method: SW6020**

MBLK Sample ID: **MBLK-101507** Units: **mg/Kg** Analysis Date: **18-Feb-2016 18:50**
Client ID: Run ID: **ICPMS03_269492** SeqNo: **3588566** PrepDate: **18-Feb-2016** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	U	0.568								
Lead	U	0.568								

LCS Sample ID: **MLCS-101507** Units: **mg/Kg** Analysis Date: **18-Feb-2016 18:54**
Client ID: Run ID: **ICPMS03_269492** SeqNo: **3588567** PrepDate: **18-Feb-2016** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	11.21	0.570	11.4	0	98.3	80 - 120				
Lead	11.09	0.570	11.4	0	97.3	80 - 120				

MS Sample ID: **HS16020509-16MS** Units: **mg/Kg** Analysis Date: **18-Feb-2016 19:11**
Client ID: Run ID: **ICPMS03_269492** SeqNo: **3588571** PrepDate: **18-Feb-2016** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	14.43	0.481	9.619	4.5	103	75 - 125				
Lead	55.05	0.481	9.619	23.64	327	75 - 125				S

MSD Sample ID: **HS16020509-16MSD** Units: **mg/Kg** Analysis Date: **18-Feb-2016 19:16**
Client ID: Run ID: **ICPMS03_269492** SeqNo: **3588572** PrepDate: **18-Feb-2016** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	13.69	0.462	9.246	4.5	99.4	75 - 125	14.43	5.23	20	
Lead	34.77	0.462	9.246	23.64	120	75 - 125	55.05	45.2	20	R

PDS Sample ID: **HS16020509-16BS** Units: **mg/Kg** Analysis Date: **18-Feb-2016 19:20**
Client ID: Run ID: **ICPMS03_269492** SeqNo: **3588573** PrepDate: **18-Feb-2016** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	13.12	0.461	9.217	4.5	93.5	75 - 125				
Lead	32.01	0.461	9.217	23.64	90.8	75 - 125				

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
WorkOrder: HS16020499

QC BATCH REPORT

Batch ID: 101507 **Instrument: ICPMS03** **Method: SW6020**

SD Sample ID: **HS16020509-16 DIL SX** Units: **mg/Kg** Analysis Date: **18-Feb-2016 19:07**
Client ID: Run ID: **ICPMS03_269492** SeqNo: **3588570** PrepDate: **18-Feb-2016** DF: **5**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%D	%D Limit	Qual
Arsenic	4.589	2.30					4.5	1.97	10	
Lead	24.4	2.30					23.64	3.22	10	

The following samples were anayzed in this batch: HS16020499-01

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
WorkOrder: HS16020499

QC BATCH REPORT

Batch ID: 101520 **Instrument: SV-6** **Method: SW8270**

MBLK Sample ID: **MBLK-101520** Units: **ug/Kg** Analysis Date: **18-Feb-2016 20:28**
Client ID: Run ID: **SV-6_269537** SeqNo: **3588965** PrepDate: **18-Feb-2016** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Diphenylhydrazine	U	6.6								
2,4-Dimethylphenol	U	6.6								
2,4-Dinitrotoluene	U	6.6								
2,6-Dinitrotoluene	U	6.6								
2-Chloronaphthalene	U	6.6								
2-Methylnaphthalene	U	3.3								
4,6-Dinitro-2-methylphenol	U	6.6								
4-Nitrophenol	U	13								
Acenaphthene	U	3.3								
Acenaphthylene	U	3.3								
Anthracene	U	3.3								
Benz(a)anthracene	U	3.3								
Benzo(a)pyrene	U	3.3								
Bis(2-chloroethoxy)methane	U	6.6								
Bis(2-ethylhexyl)phthalate	U	6.6								
Chrysene	U	3.3								
Dibenzofuran	U	3.3								
Di-n-butyl phthalate	U	6.6								
Fluoranthene	U	3.3								
Fluorene	U	3.3								
Naphthalene	U	3.3								
Nitrobenzene	U	6.6								
N-Nitrosodiphenylamine	U	6.6								
Pentachlorophenol	U	6.6								
Phenanthrene	U	3.3								
Phenol	U	6.6								
Pyrene	U	3.3								
Surr: 2,4,6-Tribromophenol	*106.6*	*0*	*167*	*0*	*63.8*	*36 - 126*				
Surr: 2-Fluorobiphenyl	*119.1*	*0*	*167*	*0*	*71.3*	*43 - 125*				
Surr: 2-Fluorophenol	*114.1*	*0*	*167*	*0*	*68.3*	*37 - 125*				
Surr: 4-Terphenyl-d14	*124.1*	*0*	*167*	*0*	*74.3*	*32 - 125*				
Surr: Nitrobenzene-d5	*114.9*	*0*	*167*	*0*	*68.8*	*37 - 125*				
Surr: Phenol-d6	*114.4*	*0*	*167*	*0*	*68.5*	*40 - 125*				

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
WorkOrder: HS16020499

QC BATCH REPORT

Batch ID: 101520 **Instrument: SV-6** **Method: SW8270**

LCS Sample ID: **LCS-101520** Units: **ug/Kg** Analysis Date: **19-Feb-2016 14:05**
Client ID: Run ID: **SV-6_269537** SeqNo: **3589251** PrepDate: **18-Feb-2016** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Diphenylhydrazine	129.1	6.6	167	0	77.3	50 - 135				
2,4-Dimethylphenol	113	6.6	167	0	67.7	45 - 120				
2,4-Dinitrotoluene	133.3	6.6	167	0	79.8	50 - 130				
2,6-Dinitrotoluene	139.7	6.6	167	0	83.6	50 - 125				
2-Chloronaphthalene	126.7	6.6	167	0	75.9	50 - 145				
2-Methylnaphthalene	130.4	3.3	167	0	78.1	50 - 120				
4,6-Dinitro-2-methylphenol	78.14	6.6	167	0	46.8	15 - 135				
4-Nitrophenol	86.79	13	167	0	52.0	40 - 147				
Acenaphthene	123	3.3	167	0	73.7	50 - 120				
Acenaphthylene	127.2	3.3	167	0	76.2	50 - 120				
Anthracene	132.3	3.3	167	0	79.2	50 - 123				
Benz(a)anthracene	143.1	3.3	167	0	85.7	50 - 131				
Benzo(a)pyrene	143	3.3	167	0	85.6	50 - 130				
Bis(2-chloroethoxy)methane	136.3	6.6	167	0	81.6	50 - 120				
Bis(2-ethylhexyl)phthalate	140	6.6	167	0	83.9	21 - 148				
Chrysene	133.3	3.3	167	0	79.8	50 - 130				
Dibenzofuran	128.3	3.3	167	0	76.8	50 - 125				
Di-n-butyl phthalate	128.9	6.6	167	0	77.2	50 - 140				
Fluoranthene	136.7	3.3	167	0	81.9	50 - 131				
Fluorene	132.6	3.3	167	0	79.4	50 - 125				
Naphthalene	127.2	3.3	167	0	76.1	50 - 125				
Nitrobenzene	156.2	6.6	167	0	93.5	50 - 125				
N-Nitrosodiphenylamine	132.1	6.6	167	0	79.1	50 - 130				
Pentachlorophenol	112.2	6.6	167	0	67.2	23 - 136				
Phenanthrene	129.1	3.3	167	0	77.3	50 - 125				
Phenol	134.2	6.6	167	0	80.4	45 - 130				
Pyrene	140.7	3.3	167	0	84.3	45 - 130				
Surr: 2,4,6-Tribromophenol	*164.7*	*0*	*167*	*0*	*98.6*	*36 - 126*				
Surr: 2-Fluorobiphenyl	*121.4*	*0*	*167*	*0*	*72.7*	*43 - 125*				
Surr: 2-Fluorophenol	*127*	*0*	*167*	*0*	*76.0*	*37 - 125*				
Surr: 4-Terphenyl-d14	*142.7*	*0*	*167*	*0*	*85.4*	*32 - 125*				
Surr: Nitrobenzene-d5	*157.3*	*0*	*167*	*0*	*94.2*	*37 - 125*				
Surr: Phenol-d6	*132.6*	*0*	*167*	*0*	*79.4*	*40 - 125*				

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
WorkOrder: HS16020499

QC BATCH REPORT

Batch ID: 101520 **Instrument: SV-6** **Method: SW8270**

MS Sample ID: **HS16020499-01MS** Units: **ug/Kg** Analysis Date: **18-Feb-2016 23:57**
Client ID: **SO-1620-BSA1(5)-20160212** Run ID: **SV-6_269537** SeqNo: **3588969** PrepDate: **18-Feb-2016** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Diphenylhydrazine	91.03	6.6	166	0	54.8	50 - 135				
2,4-Dimethylphenol	97.67	6.6	166	0	58.8	45 - 120				
2,4-Dinitrotoluene	105.9	6.6	166	0	63.8	50 - 130				
2,6-Dinitrotoluene	105.4	6.6	166	0	63.5	50 - 125				
2-Chloronaphthalene	112.7	6.6	166	0	67.9	50 - 145				
2-Methylnaphthalene	105.2	3.3	166	0	63.4	50 - 120				
4,6-Dinitro-2-methylphenol	30.94	6.6	166	0	18.6	15 - 135				
4-Nitrophenol	112.1	13	166	0	67.5	40 - 147				
Acenaphthene	91.5	3.3	166	0	55.1	50 - 120				
Acenaphthylene	107.3	3.3	166	0	64.6	50 - 120				
Anthracene	116.4	3.3	166	4.935	67.1	50 - 123				
Benz(a)anthracene	114.5	3.3	166	0	68.9	50 - 131				
Benzo(a)pyrene	118.8	3.3	166	0	71.6	50 - 130				
Bis(2-chloroethoxy)methane	104.4	6.6	166	0	62.9	50 - 120				
Bis(2-ethylhexyl)phthalate	108.9	6.6	166	0	65.6	21 - 148				
Chrysene	123.6	3.3	166	0	74.5	50 - 130				
Dibenzofuran	108	3.3	166	0	65.0	50 - 125				
Di-n-butyl phthalate	110.7	6.6	166	0	66.7	50 - 140				
Fluoranthene	129.4	3.3	166	11.31	71.2	50 - 131				
Fluorene	108.5	3.3	166	0	65.4	50 - 125				
Naphthalene	106.7	3.3	166	0	64.3	50 - 125				
Nitrobenzene	104.3	6.6	166	0	62.8	50 - 125				
N-Nitrosodiphenylamine	114.3	6.6	166	0	68.9	50 - 130				
Pentachlorophenol	85.63	6.6	166	0	51.6	23 - 136				
Phenanthrene	122	3.3	166	6.289	69.7	50 - 125				
Phenol	90.36	6.6	166	0	54.4	45 - 130				
Pyrene	117.8	3.3	166	10.55	64.6	45 - 130				
Surr: 2,4,6-Tribromophenol	*137.1*	*0*	*166*	*0*	*82.6*	*36 - 126*				
Surr: 2-Fluorobiphenyl	*103*	*0*	*166*	*0*	*62.0*	*43 - 125*				
Surr: 2-Fluorophenol	*92.02*	*0*	*166*	*0*	*55.4*	*37 - 125*				
Surr: 4-Terphenyl-d14	*111.1*	*0*	*166*	*0*	*66.9*	*32 - 125*				
Surr: Nitrobenzene-d5	*100.4*	*0*	*166*	*0*	*60.5*	*37 - 125*				
Surr: Phenol-d6	*89.46*	*0*	*166*	*0*	*53.9*	*40 - 125*				

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
WorkOrder: HS16020499

QC BATCH REPORT

Batch ID: 101520 **Instrument: SV-6** **Method: SW8270**

MSD Sample ID: **HS16020499-01MSD** Units: **ug/Kg** Analysis Date: **19-Feb-2016 00:16**
Client ID: **SO-1620-BSA1(5)-20160212** Run ID: **SV-6_269537** SeqNo: **3588970** PrepDate: **18-Feb-2016** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual
1,2-Diphenylhydrazine	94.75	6.6	166	0	57.1	50 - 135	91.03	4	30	
2,4-Dimethylphenol	87.05	6.6	166	0	52.4	45 - 120	97.67	11.5	30	
2,4-Dinitrotoluene	109.9	6.6	166	0	66.2	50 - 130	105.9	3.78	30	
2,6-Dinitrotoluene	105.9	6.6	166	0	63.8	50 - 125	105.4	0.494	30	
2-Chloronaphthalene	111.5	6.6	166	0	67.2	50 - 145	112.7	1.08	30	
2-Methylnaphthalene	100.1	3.3	166	0	60.3	50 - 120	105.2	4.95	30	
4,6-Dinitro-2-methylphenol	15.08	6.6	166	0	9.08	15 - 135	30.94	68.9	30	SR
4-Nitrophenol	101.3	13	166	0	61.0	40 - 147	112.1	10.1	30	
Acenaphthene	101.6	3.3	166	0	61.2	50 - 120	91.5	10.4	30	
Acenaphthylene	112.8	3.3	166	0	68.0	50 - 120	107.3	5.01	30	
Anthracene	115.2	3.3	166	4.935	66.4	50 - 123	116.4	1.05	30	
Benz(a)anthracene	114.3	3.3	166	0	68.9	50 - 131	114.5	0.0956	30	
Benzo(a)pyrene	121	3.3	166	0	72.9	50 - 130	118.8	1.85	30	
Bis(2-chloroethoxy)methane	101.4	6.6	166	0	61.1	50 - 120	104.4	2.91	30	
Bis(2-ethylhexyl)phthalate	114.6	6.6	166	0	69.1	21 - 148	108.9	5.13	30	
Chrysene	126.4	3.3	166	0	76.1	50 - 130	123.6	2.23	30	
Dibenzofuran	113.2	3.3	166	0	68.2	50 - 125	108	4.78	30	
Di-n-butyl phthalate	112.1	6.6	166	0	67.5	50 - 140	110.7	1.25	30	
Fluoranthene	123.6	3.3	166	11.31	67.6	50 - 131	129.4	4.61	30	
Fluorene	114.6	3.3	166	0	69.1	50 - 125	108.5	5.46	30	
Naphthalene	98.1	3.3	166	0	59.1	50 - 125	106.7	8.4	30	
Nitrobenzene	99.9	6.6	166	0	60.2	50 - 125	104.3	4.29	30	
N-Nitrosodiphenylamine	111.9	6.6	166	0	67.4	50 - 130	114.3	2.13	30	
Pentachlorophenol	69.66	6.6	166	0	42.0	23 - 136	85.63	20.6	30	
Phenanthrene	104.9	3.3	166	6.289	59.4	50 - 125	122	15.1	30	
Phenol	86.12	6.6	166	0	51.9	45 - 130	90.36	4.81	30	
Pyrene	117.2	3.3	166	10.55	64.3	45 - 130	117.8	0.501	30	
Surr: 2,4,6-Tribromophenol	*144.2*	*0*	*166*	*0*	*86.8*	*36 - 126*	*137.1*	*5.01*	*30*	
Surr: 2-Fluorobiphenyl	*105.5*	*0*	*166*	*0*	*63.6*	*43 - 125*	*103*	*2.43*	*30*	
Surr: 2-Fluorophenol	*64.78*	*0*	*166*	*0*	*39.0*	*37 - 125*	*92.02*	*34.7*	*30*	R
Surr: 4-Terphenyl-d14	*116.8*	*0*	*166*	*0*	*70.4*	*32 - 125*	*111.1*	*5.06*	*30*	
Surr: Nitrobenzene-d5	*92.33*	*0*	*166*	*0*	*55.6*	*37 - 125*	*100.4*	*8.33*	*30*	
Surr: Phenol-d6	*88.9*	*0*	*166*	*0*	*53.6*	*40 - 125*	*89.46*	*0.62*	*30*	

The following samples were anayzed in this batch: HS16020499-01

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
WorkOrder: HS16020499

QC BATCH REPORT

Batch ID: R269307 **Instrument: Balance1** **Method: ASTM D2216**

DUP Sample ID: **HS16020490-01DUP** Units: **wt%** Analysis Date: **15-Feb-2016 10:26**
Client ID: Run ID: **Balance1_269307** SeqNo: **3584520** PrepDate: DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Percent Moisture	9.53	0.0100					9.67	1.46	20	

The following samples were anayzed in this batch: HS16020499-01

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
WorkOrder: **HS16020499**

QUALIFIERS, ACRONYMS, UNITS

Qualifier	Description
*	Value exceeds Regulatory Limit
a	Not accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte detected below quantitation limit
M	Manually integrated, see raw data for justification
n	Not offered for accreditation
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL/SDL

Acronym	Description
DCS	Detectability Check Study
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
MBLK	Method Blank
MDL	Method Detection Limit
MQL	Method Quantitation Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PDS	Post Digestion Spike
PQL	Practical Quantitaion Limit
SD	Serial Dilution
SDL	Sample Detection Limit
TRRP	Texas Risk Reduction Program

Unit Reported	Description
mg/Kg-dry	Milligrams per Kilogram- Dry weight corrected

CERTIFICATIONS,ACCREDITATIONS & LICENSES

Agency	Number	Expire Date
Arkansas	15-024-0	27-Mar-2016
California	2919	31-Jul-2016
Illinois	003622	09-May-2016
Kentucky	KY 2015-2016	30-Apr-2016
Louisiana	03087 2015/2016	30-Jun-2016
North Carolina	624 - 2016	31-Dec-2016
North Dakota	R-193 2015-2016	30-Apr-2016
Oklahoma	2015-047	31-Aug-2016
Texas	T104704231-15-15	30-Apr-2016

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
Work Order: HS16020499

SAMPLE TRACKING

Lab Samp ID	Client Sample ID	Action	Date	Person	New Location
HS16020499-01	SO-1620-BSA1(5)-20160212	Login	2/12/2016 4:18:21 PM	PMG	16D

ALS Group USA, Corp Date: 23-Feb-16

Sample Receipt Checklist

Client Name: PBW Date/Time Received: **12-Feb-2016 15:33**

Work Order: HS16020499 Received by: **DCP**

Checklist completed by: *Paresh M. Giga* eSignature 12-Feb-2016 Date

Reviewed by: *Dane J. Wacasey* eSignature 15-Feb-2016 Date

Matrices: **Soil** Carrier name: **ALS Courier**

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on shipping container/cooler?	Yes ☐	No ☐	Not Present ☑
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☑	No ☐	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
TX1005 solids received in hermetically sealed vials?	Yes ☐	No ☐	N/A ☑
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time?	Yes ☑	No ☐	
Container/Temp Blank temperature in compliance?	Yes ☑	No ☐	
Temperature(s)/Thermometer(s):	5.0c/5.5c U/C	IR5	
Cooler(s)/Kit(s):	23709		
Date/Time sample(s) sent to storage:	2/12/16 16:25		
Water - VOA vials have zero headspace?	Yes ☐	No ☐	No VOA vials submitted ☑
Water - pH acceptable upon receipt?	Yes ☐	No ☐	N/A ☑
pH adjusted?	Yes ☐	No ☐	N/A ☑
pH adjusted by:			

Login Notes:

Client Contacted: Date Contacted: Person Contacted:

Contacted By: 0 Regarding:

Comments:

Corrective Action:

ALS Environmental

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Spring City, PA +1 610 948 4903
Salt Lake City, UT +1 801 266 7700
South Charleston, WV +1 304 356 3168
York, PA +1 717 505 5280

Chain of Custody Form

Page _____ of _____

COC ID: 141363

ALS Project Manager: | ALS Work Order #:

Customer Information		Project Information		Parameter/Method Request for Analysis	
Purchase Order	UPRR	Project Name	1620-10-Rev1 HoustonTX-Wood	A	8260_LL_W (5832528 Volatile Organics)
Work Order		Project Number	1620-10-Rev1	B	8270_LOW_W (5832532 SemiVolatiles)
Company Name	Pastor, Behling & Wheeler, LLC	Bill To Company	Union Pacific Railroad- A/P	C	ICP_TW (5836002 5852646 Metals - As, Pb)
Send Report To	Eric Matzner	Invoice Attn	Accounts Payable	D	
Address	2201 Double Creek Drive Suite 4004	Address	1400 Douglas Street Stop 0750	E	HS16020499
				F	Pastor, Behling & Wheeler, LLC
City/State/Zip	Round Rock, TX 78664	City/State/Zip	Omaha, NE 681790750	G	1620-10-Rev1 HoustonTX-Wood
Phone	(512) 671-3434	Phone		H	
Fax	(512) 671-3446	Fax		I	
e-Mail Address		e-Mail Address		J	

No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
1	SO-1620-CSDCH107E(0-2)-20160212	2/12/2016	800	Soil	8	1	X	X	X		Rush TAT						
2	SO-1620-CSDCH107W(0-2)-20160212	2/12/2016	805	Soil	8	1	X	X	X		Rush TAT						
3	SO-1620-BSA1(5)-20160212	2/12/2016	1245	Soil	8	1	X	X	X		← Standard TAT						
4	SO-1620-CSG1(0-3)-20160212	2/12/2016	1445	Soil	8	1	X	X	X		Rush TAT						
5																	
6																	
7																	
8																	
9																	
10																	

Sampler(s) Please Print & Sign: Stephen Grahmann Stephen Grahmann

Shipment Method:

Required Turnaround Time: (Check Box) TAT 1 days Other:

Results Due Date:

Relinquished by:	Date:	Time:	Received by:
Stephen Grahmann	2/12/2016	1455	David Pangrazio
David Pangrazio	2/12/2016	1533	David Pangrazio
Logged by (Laboratory):	Date:	Time:	Checked by (Laboratory):

Notes: [UPRR Houston MWPW]

Cooler ID	Cooler Temp.
23709	UIC 5.00 #5 CF-0.5

QC Package: (Check One Box Below)

QC Level: TRRP LRC

Other:

Preservative Key: 1-HCl 2-HNO_3 3-H_2SO_4 4-NaOH 5-$Na_2S_2O_3$ 6-$NaHSO_4$ 7-Other 8-4°C 9-5035

Note: 1. Any changes must be made in writing once samples and COC Form have been submitted to ALS Environmental.
2. Unless otherwise agreed in a formal contract, services provided by ALS Environmental are expressly limited to the terms and conditions stated on the reverse.
3. The Chain of Custody is a legal document. All information must be completed accurately.

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F: +1 281 530 5887
www.alsglobal.com

February 16, 2016

Eric Matzner
Pastor, Behling & Wheeler, LLC
2201 Double Creek Drive
Suite 4004
Round Rock, TX 78664

Work Order: **HS16020567**

Laboratory Results for: **1620-10-Rev1 HoustonTX-Wood**

Dear Eric,

ALS Environmental received 3 sample(s) on Feb 15, 2016 for the analysis presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested. Results are expressed as "as received" unless otherwise noted.

QC sample results for this data met EPA or laboratory specifications except as noted in the Case Narrative or as noted with qualifiers in the QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained by ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

If you have any questions regarding this report, please feel free to call me.

Sincerely,

Generated By: Jumoke.Lawal
Dane J. Wacasey

Client:	Pastor, Behling & Wheeler, LLC	**TRRP Laboratory Data Package Cover Page**
Project:	1620-10-Rev1 HoustonTX-Wood	
WorkOrder:	**HS16020567**	

This data package consists of all or some of the following as applicable:

This signature page, the laboratory review checklist, and the following reportable data:

R1 Field chain-of-custody documentation;

R2 Sample identification cross-reference;

R3 Test reports (analytical data sheets) for each environmental sample that includes:

a) Items consistent with NELAC Chapter 5,
b) dilution factors,
c) preparation methods,
d) cleanup methods, and
e) if required for the project, tentatively identified compounds (TICs).

R4 Surrogate recovery data including:

a) Calculated recovery (%R), and
b) The laboratory's surrogate QC limits.

R5 Test reports/summary forms for blank samples;

R6 Test reports/summary forms for laboratory control samples (LCSs) including:

a) LCS spiking amounts,
b) Calculated %R for each analyte, and
c)The laboratory's LCS QC limits.

R7 Test reports for project matrix spike/matrix spike duplicates (MS/MSDs) including:

a) Samples associated with the MS/MSD clearly identified,
b) MS/MSD spiking amounts,
c) Concentration of each MS/MSD analyte measured in the parent and spiked samples,
d) Calculated %Rs and relative percent differences (RPDs), and
e) The laboratory's MS/MSD QC limits.

R8 Laboratory analytical duplicate (if applicable) recovery and precision:

a) the amount of analyte measured in the duplicate,
b) the calculated RPD, and
c) the laboratory's QC limits for analytical duplicates.

R9 List of method quantitation limits (MQLs) and detectability check sample results for each analyte for each method and matrix.

R10 Other problems or anomalies.
The Exception Report for each "No" or "Not Reviewed (NR)" item in Laboratory Review Checklist and for each analyte, matrix, and method for which the laboratory does not hold NELAC accreditation under the Texas Laboratory Accreditation Program.

Client:	Pastor, Behling & Wheeler, LLC
Project:	1620-10-Rev1 HoustonTX-Wood
WorkOrder:	**HS16020567**

TRRP Laboratory Data Package Cover Page

Release Statement: I am responsible for the release of this laboratory data package. This laboratory is NELAC accredited under the Texas Laboratory Accreditation Program for all the methods, analytes and matrices reported in this data package except as noted in the Exception Reports. The data have been reviewed and are technically compliant with the requirements of the methods used, except where noted by the laboratory in the attached exception reports. By my signature below, I affirm to the best of my knowledge, all problems/anomalies, observed by the laboratory have been identified by the laboratory in the Laboratory Review Checklist, and no information affecting the quality of the data has been knowingly withheld.

Check, if applicable: [NA] This laboratory meets an exception under 30 TAC §25.6 and was last inspected by [ ] TCEQ or [ ] _____ on (enter date of last inspection). Any findings affecting the data in this laboratory data package are noted in the Exception Reports herein. The official signing the cover page of the report in which these data are used is responsible for releasing this data package and is by signature affirming the above release statement is true.

Dane J. Wacasey

Laboratory Review Checklist: Reportable Data							
Laboratory Name: ALS Laboratory Group			LRC Date: 02/16/2016				
Project Name: 1620-10-Rev1 HoustonTX-Wood			Laboratory Job Number: HS16020567				
Reviewer Name: Dane Wacasey			Prep Batch Number(s): 101406, 101437,R269307				
#[1]	A[2]	**Description**	**Yes**	**No**	**NA[3]**	**NR[4]**	**ER#[5]**
R1	OI	**Chain-of-custody (C-O-C)**					
		Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?	X				
		Were all departures from standard conditions described in an exception report?	X				
R2	OI	**Sample and quality control (QC) identification**					
		Are all field sample ID numbers cross-referenced to the laboratory ID numbers?	X				
		Are all laboratory ID numbers cross-referenced to the corresponding QC data?	X				
R3	OI	**Test reports**					
		Were all samples prepared and analyzed within holding times?	X				
		Other than those results < MQL, were all other raw values bracketed by calibration standards?	X				
		Were calculations checked by a peer or supervisor?	X				
		Were all analyte identifications checked by a peer or supervisor?	X				
		Were sample detection limits reported for all analytes not detected?	X				
		Were all results for soil and sediment samples reported on a dry weight basis?	X				
		Were % moisture (or solids) reported for all soil and sediment samples?	X				
		Were bulk soils/solids samples for volatile analysis extracted with methanol per SW-846 Method 5035?			X		
		If required for the project, TICs reported?			X		
R4	O	**Surrogate recovery data**					
		Were surrogates added prior to extraction?	X				
		Were surrogate percent recoveries in all samples within the laboratory QC limits?		X			1
R5	OI	**Test reports/summary forms for blank samples**					
		Were appropriate type(s) of blanks analyzed?	X				
		Were blanks analyzed at the appropriate frequency?	X				
		Were method blanks taken through the entire analytical process, including preparation and, if applicable, cleanup procedures?	X				
		Were blank concentrations < MQL?	X				
R6	OI	**Laboratory control samples (LCS):**					
		Were all COCs included in the LCS?	X				
		Was each LCS taken through the entire analytical procedure, including prep and cleanup steps?	X				
		Were LCSs analyzed at the required frequency?	X				
		Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?	X				
		Does the detectability data document the laboratory's capability to detect the COCs at the MDL used to calculate the SDLs?	X				
		Was the LCSD RPD within QC limits?	X				
R7	OI	**Matrix spike (MS) and matrix spike duplicate (MSD) data**					
		Were the project/method specified analytes included in the MS and MSD?	X				
		Were MS/MSD analyzed at the appropriate frequency?	X				
		Were MS (and MSD, if applicable) %Rs within the laboratory QC limits?		X			2
		Were MS/MSD RPDs within laboratory QC limits?		X			3
R8	OI	**Analytical duplicate data**					
		Were appropriate analytical duplicates analyzed for each matrix?	X				
		Were analytical duplicates analyzed at the appropriate frequency?	X				
		Were RPDs or relative standard deviations within the laboratory QC limits?	X				
R9	OI	**Method quantitation limits (MQLs):**					
		Are the MQLs for each method analyte included in the laboratory data package?	X				
		Do the MQLs correspond to the concentration of the lowest non-zero calibration standard?	X				
		Are unadjusted MQLs and DCSs included in the laboratory data package?	X				
R10	OI	**Other problems/anomalies**					
		Are all known problems/anomalies/special conditions noted in this LRC and ER?	X				
		Were all necessary corrective actions performed for the reported data?	X				
		Was applicable and available technology used to lower the SDL and minimize the matrix interference affects on the sample results?	X				
		Is the laboratory NELAC-accredited under the Texas Laboratory Program for the analytes, matrices and methods associated with this laboratory data package?	X				

Laboratory Review Checklist: Reportable Data							
Laboratory Name: ALS Laboratory Group			LRC Date: 02/16/2016				
Project Name: 1620-10-Rev1 HoustonTX-Wood			Laboratory Job Number: HS16020567				
Reviewer Name: Dane Wacasey			Prep Batch Number(s): 101406, 101437,R269307				
#[1]	A[2]	Description	Yes	No	NA[3]	NR[4]	ER#[5]
S1	OI	**Initial calibration (ICAL)**					
		Were response factors and/or relative response factors for each analyte within QC limits?	X				
		Were percent RSDs or correlation coefficient criteria met?	X				
		Was the number of standards recommended in the method used for all analytes?	X				
		Were all points generated between the lowest and highest standard used to calculate the curve?	X				
		Are ICAL data available for all instruments used?	X				
		Has the initial calibration curve been verified using an appropriate second source standard?	X				
S2	OI	**Initial and continuing calibration verification (ICCV and CCV) and continuing calibration blank (CCB)**					
		Was the CCV analyzed at the method-required frequency?	X				
		Were percent differences for each analyte within the method-required QC limits?	X				
		Was the ICAL curve verified for each analyte?	X				
		Was the absolute value of the analyte concentration in the inorganic CCB < MDL?	X				
S3	O	**Mass spectral tuning:**					
		Was the appropriate compound for the method used for tuning?	X				
		Were ion abundance data within the method-required QC limits?	X				
S4	O	**Internal standards (IS):**					
		Were IS area counts and retention times within the method-required QC limits?	X				
S5	OI	**Raw data** (NELAC section 1 appendix A glossary, and section 5.12 or ISO/IEC 17025 section					
		Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst?	X				
		Were data associated with manual integrations flagged on the raw data?	X				
S6	O	**Dual column confirmation**					
		Did dual column confirmation results meet the method-required QC?			X		
S7	O	**Tentatively identified compounds (TICs):**					
		If TICs were requested, were the mass spectra and TIC data subject to appropriate checks?			X		
S8	I	**Interference Check Sample (ICS) results:**					
		Were percent recoveries within method QC limits?	X				
S9	I	**Serial dilutions, post digestion spikes, and method of standard additions**					
		Were percent differences, recoveries, and the linearity within the QC limits specified in the method?	X				
S10	OI	**Method detection limit (MDL) studies**					
		Was a MDL study performed for each reported analyte?	X				
		Is the MDL either adjusted or supported by the analysis of DCSs?	X				
S11	OI	**Proficiency test reports:**					
		Was the laboratory's performance acceptable on the applicable proficiency tests or evaluation studies?	X				
S12	OI	**Standards documentation**					
		Are all standards used in the analyses NIST-traceable or obtained from other appropriate sources?	X				
S13	OI	**Compound/analyte identification procedures**					
		Are the procedures for compound/analyte identification documented?	X				
S14	OI	**Demonstration of analyst competency (DOC)**					
		Was DOC conducted consistent with NELAC Chapter 5C or ISO/IEC 4?	X				
		Is documentation of the analyst's competency up-to-date and on file?	X				
S15	OI	**Verification/validation documentation for methods** (NELAC Chap 5 or ISO/IEC 17025 Section 5)					
		Are all the methods used to generate the data documented, verified, and validated, where applicable?	X				
S16	OI	**Laboratory standard operating procedures (SOPs):**					
		Are laboratory SOPs current and on file for each method performed?	X				

Items identified by the letter "R" must be included in the laboratory data package submitted in the TRRP-required report(s). Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period.
O = Organic Analyses; I = Inorganic Analyses (and general chemistry, when applicable);
NA = Not Applicable;
NR = Not Reviewed;
R# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

Laboratory Review Checklist: Reportable Data	
Laboratory Name: ALS Laboratory Group	LRC Date: 02/16/2016
Project Name: 1620-10-Rev1 HoustonTX-Wood	Laboratory Job Number: HS16020567
Reviewer Name: Dane Wacasey	Prep Batch Number(s): 101406, 101437,R269307

ER#[5]	Description
1	Semivolatile Organics Method SW8270, sample SO-1620-CSG3(0-3)-20160213; The surrogate recoveries could not be determined in the 100X analysis due to dilution below the calibration range. Semivolatile Organics Method SW8270, sample SO-1620-CSG3(0-3)-20160213; surrogate 2-Fluorobiphenyl recovered low due to matrix in the original (1x) analysis. All surrogates were within the QC limits in the 10x dilution
2	Batch 101406, Semivolatile Organics Method SW8270, sample HS16020490-01, MS and MSD were performed on unrelated sample.
3	Batch 101406, Semivolatile Organics Method SW8270, sample HS16020490-01, MSD RPD is for an unrelated sample.

Items identified by the letter "R" must be included in the laboratory data package submitted in the TRRP-required report(s). Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period.
O = Organic Analyses; I = Inorganic Analyses (and general chemistry, when applicable);
NA = Not Applicable;
NR = Not Reviewed;
R# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
Work Order: HS16020567

SAMPLE SUMMARY

Lab Samp ID	Client Sample ID	Matrix	TagNo	Collection Date	Date Received	Hold
HS16020567-01	SO-1620-CSG2(3)-20160213	Soil		13-Feb-2016 13:30	15-Feb-2016 15:25	☐
HS16020567-02	SO-1620-CSG3(0-3)-20160213	Soil		13-Feb-2016 14:40	15-Feb-2016 15:25	☐
HS16020567-03	SO-1620-CSG4(3)-20160213	Soil		13-Feb-2016 11:15	15-Feb-2016 15:25	☐

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
Sample ID: SO-1620-CSG2(3)-20160213
Collection Date: 13-Feb-2016 13:30

ANALYTICAL REPORT
WorkOrder:HS16020567
Lab ID:HS16020567-01
Matrix:Soil

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES		**Method:SW8270**			Prep:SW3541 / 15-Feb-2016		Analyst: ACN
1,2-Diphenylhydrazine	U		0.0013	0.0078	mg/Kg-dry	1	16-Feb-2016 00:12
2,4-Dimethylphenol	U		0.0039	0.0078	mg/Kg-dry	1	16-Feb-2016 00:12
2,4-Dinitrotoluene	U		0.0011	0.0078	mg/Kg-dry	1	16-Feb-2016 00:12
2,6-Dinitrotoluene	U		0.0039	0.0078	mg/Kg-dry	1	16-Feb-2016 00:12
2-Chloronaphthalene	U		0.0015	0.0078	mg/Kg-dry	1	16-Feb-2016 00:12
2-Methylnaphthalene	U		0.00059	0.0039	mg/Kg-dry	1	16-Feb-2016 00:12
4,6-Dinitro-2-methylphenol	U		0.0025	0.0078	mg/Kg-dry	1	16-Feb-2016 00:12
4-Nitrophenol	U		0.0023	0.016	mg/Kg-dry	1	16-Feb-2016 00:12
Acenaphthene	**0.035**		**0.00059**	**0.0039**	**mg/Kg-dry**	1	16-Feb-2016 00:12
Acenaphthylene	U		0.0012	0.0039	mg/Kg-dry	1	16-Feb-2016 00:12
Anthracene	**0.019**		**0.00059**	**0.0039**	**mg/Kg-dry**	1	16-Feb-2016 00:12
Benz(a)anthracene	**0.0069**		**0.0019**	**0.0039**	**mg/Kg-dry**	1	16-Feb-2016 00:12
Benzo(a)pyrene	**0.0044**		**0.0012**	**0.0039**	**mg/Kg-dry**	1	16-Feb-2016 00:12
Bis(2-chloroethoxy)methane	U		0.0011	0.0078	mg/Kg-dry	1	16-Feb-2016 00:12
Bis(2-ethylhexyl)phthalate	**0.0038**	J	**0.0020**	**0.0078**	**mg/Kg-dry**	1	16-Feb-2016 00:12
Chrysene	**0.019**		**0.00095**	**0.0039**	**mg/Kg-dry**	1	16-Feb-2016 00:12
Dibenzofuran	**0.024**		**0.00083**	**0.0039**	**mg/Kg-dry**	1	16-Feb-2016 00:12
Di-n-butyl phthalate	U		0.0014	0.0078	mg/Kg-dry	1	16-Feb-2016 00:12
Fluoranthene	**0.058**		**0.0013**	**0.0039**	**mg/Kg-dry**	1	16-Feb-2016 00:12
Fluorene	**0.042**		**0.0013**	**0.0039**	**mg/Kg-dry**	1	16-Feb-2016 00:12
Naphthalene	U		0.00071	0.0039	mg/Kg-dry	1	16-Feb-2016 00:12
Nitrobenzene	U		0.0011	0.0078	mg/Kg-dry	1	16-Feb-2016 00:12
N-Nitrosodiphenylamine	U		0.00083	0.0078	mg/Kg-dry	1	16-Feb-2016 00:12
Pentachlorophenol	U		0.0039	0.0078	mg/Kg-dry	1	16-Feb-2016 00:12
Phenanthrene	**0.13**		**0.0018**	**0.0039**	**mg/Kg-dry**	1	16-Feb-2016 00:12
Phenol	U		0.0013	0.0078	mg/Kg-dry	1	16-Feb-2016 00:12
Pyrene	**0.040**		**0.00071**	**0.0039**	**mg/Kg-dry**	1	16-Feb-2016 00:12
Surr: 2,4,6-Tribromophenol	*74.6*			*36-126*	*%REC*	*1*	*16-Feb-2016 00:12*
Surr: 2-Fluorobiphenyl	*58.4*			*43-125*	*%REC*	*1*	*16-Feb-2016 00:12*
Surr: 2-Fluorophenol	*52.5*			*37-125*	*%REC*	*1*	*16-Feb-2016 00:12*
Surr: 4-Terphenyl-d14	*65.7*			*32-125*	*%REC*	*1*	*16-Feb-2016 00:12*
Surr: Nitrobenzene-d5	*70.3*			*37-125*	*%REC*	*1*	*16-Feb-2016 00:12*
Surr: Phenol-d6	*55.2*			*40-125*	*%REC*	*1*	*16-Feb-2016 00:12*
METALS BY SW6020A		**Method:SW6020**			Prep:SW3050A / 15-Feb-2016		Analyst: JDE
Arsenic	**1.46**		**0.116**	**0.579**	**mg/Kg-dry**	1	16-Feb-2016 12:50
Lead	**7.24**		**0.0579**	**0.579**	**mg/Kg-dry**	1	16-Feb-2016 12:50
MOISTURE - ASTM D2216		**Method:ASTM D2216**					Analyst: DFF
Percent Moisture	**16.0**		**0.0100**	**0.0100**	**wt%**	1	15-Feb-2016 10:26

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
Sample ID: SO-1620-CSG3(0-3)-20160213
Collection Date: 13-Feb-2016 14:40

ANALYTICAL REPORT
WorkOrder:HS16020567
Lab ID:HS16020567-02
Matrix:Soil

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES	**Method:SW8270**				Prep:SW3541 / 15-Feb-2016		Analyst: ACN
1,2-Diphenylhydrazine	U		0.0013	0.0080	mg/Kg-dry	1	16-Feb-2016 00:32
2,4-Dimethylphenol	U		0.0040	0.0080	mg/Kg-dry	1	16-Feb-2016 00:32
2,4-Dinitrotoluene	U		0.0011	0.0080	mg/Kg-dry	1	16-Feb-2016 00:32
2,6-Dinitrotoluene	U		0.0040	0.0080	mg/Kg-dry	1	16-Feb-2016 00:32
2-Chloronaphthalene	U		0.0016	0.0080	mg/Kg-dry	1	16-Feb-2016 00:32
2-Methylnaphthalene	**2.5**		**0.0061**	**0.040**	**mg/Kg-dry**	10	16-Feb-2016 12:45
4,6-Dinitro-2-methylphenol	U		0.0026	0.0080	mg/Kg-dry	1	16-Feb-2016 00:32
4-Nitrophenol	U		0.0023	0.016	mg/Kg-dry	1	16-Feb-2016 00:32
Acenaphthene	**8.2**		**0.061**	**0.40**	**mg/Kg-dry**	100	16-Feb-2016 13:24
Acenaphthylene	**0.098**		**0.0012**	**0.0040**	**mg/Kg-dry**	1	16-Feb-2016 00:32
Anthracene	**3.5**		**0.0061**	**0.040**	**mg/Kg-dry**	10	16-Feb-2016 12:45
Benz(a)anthracene	**1.8**		**0.019**	**0.040**	**mg/Kg-dry**	10	16-Feb-2016 12:45
Benzo(a)pyrene	**0.45**		**0.012**	**0.040**	**mg/Kg-dry**	10	16-Feb-2016 12:45
Bis(2-chloroethoxy)methane	U		0.0011	0.0080	mg/Kg-dry	1	16-Feb-2016 00:32
Bis(2-ethylhexyl)phthalate	**0.027**		**0.0021**	**0.0080**	**mg/Kg-dry**	1	16-Feb-2016 00:32
Chrysene	**1.6**		**0.0097**	**0.040**	**mg/Kg-dry**	10	16-Feb-2016 12:45
Dibenzofuran	**6.6**		**0.085**	**0.40**	**mg/Kg-dry**	100	16-Feb-2016 13:24
Di-n-butyl phthalate	U		0.0015	0.0080	mg/Kg-dry	1	16-Feb-2016 00:32
Fluoranthene	**16**		**0.13**	**0.40**	**mg/Kg-dry**	100	16-Feb-2016 13:24
Fluorene	**10**		**0.13**	**0.40**	**mg/Kg-dry**	100	16-Feb-2016 13:24
Naphthalene	**6.6**		**0.073**	**0.40**	**mg/Kg-dry**	100	16-Feb-2016 13:24
Nitrobenzene	U		0.0011	0.0080	mg/Kg-dry	1	16-Feb-2016 00:32
N-Nitrosodiphenylamine	U		0.00085	0.0080	mg/Kg-dry	1	16-Feb-2016 00:32
Pentachlorophenol	U		0.0040	0.0080	mg/Kg-dry	1	16-Feb-2016 00:32
Phenanthrene	**30**		**0.18**	**0.40**	**mg/Kg-dry**	100	16-Feb-2016 13:24
Phenol	**0.0041**	J	**0.0013**	**0.0080**	**mg/Kg-dry**	1	16-Feb-2016 00:32
Pyrene	**8.5**		**0.073**	**0.40**	**mg/Kg-dry**	100	16-Feb-2016 13:24
Surr: 2,4,6-Tribromophenol	*71.3*			*36-126*	*%REC*	*1*	*16-Feb-2016 00:32*
Surr: 2,4,6-Tribromophenol	*84.9*			*36-126*	*%REC*	*10*	*16-Feb-2016 12:45*
Surr: 2,4,6-Tribromophenol	*0*	*S*		*36-126*	*%REC*	*100*	*16-Feb-2016 13:24*
Surr: 2-Fluorobiphenyl	*0*	*S*		*43-125*	*%REC*	*100*	*16-Feb-2016 13:24*
Surr: 2-Fluorobiphenyl	*57.0*			*43-125*	*%REC*	*10*	*16-Feb-2016 12:45*
Surr: 2-Fluorobiphenyl	*35.6*	*S*		*43-125*	*%REC*	*1*	*16-Feb-2016 00:32*
Surr: 2-Fluorophenol	*44.2*			*37-125*	*%REC*	*1*	*16-Feb-2016 00:32*
Surr: 2-Fluorophenol	*49.4*			*37-125*	*%REC*	*10*	*16-Feb-2016 12:45*
Surr: 2-Fluorophenol	*0*	*S*		*37-125*	*%REC*	*100*	*16-Feb-2016 13:24*
Surr: 4-Terphenyl-d14	*77.9*			*32-125*	*%REC*	*10*	*16-Feb-2016 12:45*
Surr: 4-Terphenyl-d14	*0*	*S*		*32-125*	*%REC*	*100*	*16-Feb-2016 13:24*
Surr: 4-Terphenyl-d14	*74.3*			*32-125*	*%REC*	*1*	*16-Feb-2016 00:32*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
Sample ID: SO-1620-CSG3(0-3)-20160213
Collection Date: 13-Feb-2016 14:40

ANALYTICAL REPORT
WorkOrder:HS16020567
Lab ID:HS16020567-02
Matrix:Soil

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES		**Method:SW8270**			Prep:SW3541 / 15-Feb-2016		Analyst: ACN
Surr: Nitrobenzene-d5	*0*	*S*		*37-125*	*%REC*	*100*	*16-Feb-2016 13:24*
Surr: Nitrobenzene-d5	*74.4*			*37-125*	*%REC*	*1*	*16-Feb-2016 00:32*
Surr: Nitrobenzene-d5	*62.3*			*37-125*	*%REC*	*10*	*16-Feb-2016 12:45*
Surr: Phenol-d6	*63.7*			*40-125*	*%REC*	*10*	*16-Feb-2016 12:45*
Surr: Phenol-d6	*60.1*			*40-125*	*%REC*	*1*	*16-Feb-2016 00:32*
Surr: Phenol-d6	*0*	*S*		*40-125*	*%REC*	*100*	*16-Feb-2016 13:24*
METALS BY SW6020A		**Method:SW6020**			Prep:SW3050A / 15-Feb-2016		Analyst: JDE
Arsenic	**2.88**		**0.114**	**0.572**	**mg/Kg-dry**	1	16-Feb-2016 13:20
Lead	**8.86**		**0.0572**	**0.572**	**mg/Kg-dry**	1	16-Feb-2016 13:20
MOISTURE - ASTM D2216		**Method:ASTM D2216**					Analyst: DFF
Percent Moisture	**18.2**		**0.0100**	**0.0100**	**wt%**	1	15-Feb-2016 10:26

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
Sample ID: SO-1620-CSG4(3)-20160213
Collection Date: 13-Feb-2016 11:15

ANALYTICAL REPORT
WorkOrder:HS16020567
Lab ID:HS16020567-03
Matrix:Soil

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES	**Method:SW8270**				Prep:SW3541 / 15-Feb-2016		Analyst: ACN
1,2-Diphenylhydrazine	U		0.0013	0.0079	mg/Kg-dry	1	16-Feb-2016 00:51
2,4-Dimethylphenol	U		0.0040	0.0079	mg/Kg-dry	1	16-Feb-2016 00:51
2,4-Dinitrotoluene	U		0.0011	0.0079	mg/Kg-dry	1	16-Feb-2016 00:51
2,6-Dinitrotoluene	U		0.0040	0.0079	mg/Kg-dry	1	16-Feb-2016 00:51
2-Chloronaphthalene	U		0.0016	0.0079	mg/Kg-dry	1	16-Feb-2016 00:51
2-Methylnaphthalene	**0.034**		**0.00060**	**0.0040**	**mg/Kg-dry**	1	16-Feb-2016 00:51
4,6-Dinitro-2-methylphenol	U		0.0025	0.0079	mg/Kg-dry	1	16-Feb-2016 00:51
4-Nitrophenol	U		0.0023	0.016	mg/Kg-dry	1	16-Feb-2016 00:51
Acenaphthene	**2.4**		**0.0060**	**0.040**	**mg/Kg-dry**	10	16-Feb-2016 13:04
Acenaphthylene	**0.038**		**0.0012**	**0.0040**	**mg/Kg-dry**	1	16-Feb-2016 00:51
Anthracene	**1.4**		**0.0060**	**0.040**	**mg/Kg-dry**	10	16-Feb-2016 13:04
Benz(a)anthracene	**0.90**		**0.019**	**0.040**	**mg/Kg-dry**	10	16-Feb-2016 13:04
Benzo(a)pyrene	**0.22**		**0.0012**	**0.0040**	**mg/Kg-dry**	1	16-Feb-2016 00:51
Bis(2-chloroethoxy)methane	U		0.0011	0.0079	mg/Kg-dry	1	16-Feb-2016 00:51
Bis(2-ethylhexyl)phthalate	**0.0050**	J	**0.0020**	**0.0079**	**mg/Kg-dry**	1	16-Feb-2016 00:51
Chrysene	**0.81**		**0.0096**	**0.040**	**mg/Kg-dry**	10	16-Feb-2016 13:04
Dibenzofuran	**1.8**		**0.0084**	**0.040**	**mg/Kg-dry**	10	16-Feb-2016 13:04
Di-n-butyl phthalate	U		0.0014	0.0079	mg/Kg-dry	1	16-Feb-2016 00:51
Fluoranthene	**7.1**		**0.066**	**0.20**	**mg/Kg-dry**	50	16-Feb-2016 14:03
Fluorene	**3.0**		**0.013**	**0.040**	**mg/Kg-dry**	10	16-Feb-2016 13:04
Naphthalene	**0.073**		**0.00072**	**0.0040**	**mg/Kg-dry**	1	16-Feb-2016 00:51
Nitrobenzene	U		0.0011	0.0079	mg/Kg-dry	1	16-Feb-2016 00:51
N-Nitrosodiphenylamine	U		0.00084	0.0079	mg/Kg-dry	1	16-Feb-2016 00:51
Pentachlorophenol	U		0.0040	0.0079	mg/Kg-dry	1	16-Feb-2016 00:51
Phenanthrene	**11**		**0.090**	**0.20**	**mg/Kg-dry**	50	16-Feb-2016 14:03
Phenol	U		0.0013	0.0079	mg/Kg-dry	1	16-Feb-2016 00:51
Pyrene	**3.0**		**0.0072**	**0.040**	**mg/Kg-dry**	10	16-Feb-2016 13:04
Surr: 2,4,6-Tribromophenol	*53.0*			*36-126*	*%REC*	*50*	*16-Feb-2016 14:03*
Surr: 2,4,6-Tribromophenol	*79.4*			*36-126*	*%REC*	*10*	*16-Feb-2016 13:04*
Surr: 2,4,6-Tribromophenol	*64.1*			*36-126*	*%REC*	*1*	*16-Feb-2016 00:51*
Surr: 2-Fluorobiphenyl	*44.1*			*43-125*	*%REC*	*1*	*16-Feb-2016 00:51*
Surr: 2-Fluorobiphenyl	*50.0*			*43-125*	*%REC*	*10*	*16-Feb-2016 13:04*
Surr: 2-Fluorobiphenyl	*57.4*			*43-125*	*%REC*	*50*	*16-Feb-2016 14:03*
Surr: 2-Fluorophenol	*58.4*			*37-125*	*%REC*	*50*	*16-Feb-2016 14:03*
Surr: 2-Fluorophenol	*48.4*			*37-125*	*%REC*	*10*	*16-Feb-2016 13:04*
Surr: 2-Fluorophenol	*56.2*			*37-125*	*%REC*	*1*	*16-Feb-2016 00:51*
Surr: 4-Terphenyl-d14	*62.0*			*32-125*	*%REC*	*10*	*16-Feb-2016 13:04*
Surr: 4-Terphenyl-d14	*78.5*			*32-125*	*%REC*	*50*	*16-Feb-2016 14:03*
Surr: 4-Terphenyl-d14	*55.5*			*32-125*	*%REC*	*1*	*16-Feb-2016 00:51*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
Sample ID: SO-1620-CSG4(3)-20160213
Collection Date: 13-Feb-2016 11:15

ANALYTICAL REPORT
WorkOrder:HS16020567
Lab ID:HS16020567-03
Matrix:Soil

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES	**Method:SW8270**				Prep:SW3541 / 15-Feb-2016		Analyst: ACN
Surr: Nitrobenzene-d5	*57.2*			*37-125*	*%REC*	*10*	*16-Feb-2016 13:04*
Surr: Nitrobenzene-d5	*65.2*			*37-125*	*%REC*	*1*	*16-Feb-2016 00:51*
Surr: Nitrobenzene-d5	*73.2*			*37-125*	*%REC*	*50*	*16-Feb-2016 14:03*
Surr: Phenol-d6	*51.2*			*40-125*	*%REC*	*50*	*16-Feb-2016 14:03*
Surr: Phenol-d6	*63.6*			*40-125*	*%REC*	*1*	*16-Feb-2016 00:51*
Surr: Phenol-d6	*62.3*			*40-125*	*%REC*	*10*	*16-Feb-2016 13:04*
METALS BY SW6020A	**Method:SW6020**				Prep:SW3050A / 15-Feb-2016		Analyst: JDE
Arsenic	**6.03**		**0.112**	**0.562**	**mg/Kg-dry**	1	16-Feb-2016 13:24
Lead	**14.0**		**0.0562**	**0.562**	**mg/Kg-dry**	1	16-Feb-2016 13:24
MOISTURE - ASTM D2216	**Method:ASTM D2216**						Analyst: DFF
Percent Moisture	**17.0**		**0.0100**	**0.0100**	**wt%**	1	15-Feb-2016 10:26

Note: See Qualifiers Page for a list of qualifiers and their explanation.

WEIGHT LOG

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
WorkOrder: HS16020567

Batch ID: 101406 **Method:** LOW-LEVEL SEMIVOLATILES **Prep:** 3541_B_LOW

SampID	Container	Sample Wt/Vol	Final Volume	Prep Factor
HS16020567-01	1	30.15	1 (mL)	0.03317
HS16020567-02	1	30.19	1 (mL)	0.03312
HS16020567-03	1	30.17	1 (mL)	0.03315

Batch ID: 101437 **Method:** METALS BY SW6020A **Prep:** 3050_I_LOW

SampID	Container	Sample Wt/Vol	Final Volume	Prep Factor
HS16020567-01	1	0.5142	50 (mL)	97.24
HS16020567-02	1	0.5344	50 (mL)	93.56
HS16020567-03	1	0.5361	50 (mL)	93.27

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
WorkOrder: HS16020567

DATES REPORT

Sample ID	Client Samp ID	Collection Date	TCLP Date	Prep Date	Analysis Date	DF
Batch ID 101406	**Test Name :** LOW-LEVEL SEMIVOLATILES			**Matrix:** Soil		
HS16020567-01	SO-1620-CSG2(3)-20160213	13 Feb 2016 13:30		15 Feb 2016 08:34	16 Feb 2016 00:12	1
HS16020567-02	SO-1620-CSG3(0-3)-20160213	13 Feb 2016 14:40		15 Feb 2016 08:34	16 Feb 2016 13:24	100
HS16020567-02	SO-1620-CSG3(0-3)-20160213	13 Feb 2016 14:40		15 Feb 2016 08:34	16 Feb 2016 12:45	10
HS16020567-02	SO-1620-CSG3(0-3)-20160213	13 Feb 2016 14:40		15 Feb 2016 08:34	16 Feb 2016 00:32	1
HS16020567-03	SO-1620-CSG4(3)-20160213	13 Feb 2016 11:15		15 Feb 2016 08:34	16 Feb 2016 14:03	50
HS16020567-03	SO-1620-CSG4(3)-20160213	13 Feb 2016 11:15		15 Feb 2016 08:34	16 Feb 2016 13:04	10
HS16020567-03	SO-1620-CSG4(3)-20160213	13 Feb 2016 11:15		15 Feb 2016 08:34	16 Feb 2016 00:51	1
Batch ID 101437	**Test Name :** METALS BY SW6020A			**Matrix:** Soil		
HS16020567-01	SO-1620-CSG2(3)-20160213	13 Feb 2016 13:30		15 Feb 2016 20:15	16 Feb 2016 12:50	1
HS16020567-02	SO-1620-CSG3(0-3)-20160213	13 Feb 2016 14:40		15 Feb 2016 20:15	16 Feb 2016 13:20	1
HS16020567-03	SO-1620-CSG4(3)-20160213	13 Feb 2016 11:15		15 Feb 2016 20:15	16 Feb 2016 13:24	1
Batch ID R269307	**Test Name :** MOISTURE - ASTM D2216			**Matrix:** Soil		
HS16020567-01	SO-1620-CSG2(3)-20160213	13 Feb 2016 13:30			15 Feb 2016 10:26	1
HS16020567-02	SO-1620-CSG3(0-3)-20160213	13 Feb 2016 14:40			15 Feb 2016 10:26	1
HS16020567-03	SO-1620-CSG4(3)-20160213	13 Feb 2016 11:15			15 Feb 2016 10:26	1

WorkOrder: HS16020567
InstrumentID: ICPMS03
Test Code: ICP_S_Low
Test Number: SW6020
Test Name: Metals by SW6020A

METHOD DETECTION / REPORTING LIMITS

Matrix: Solid **Units:** mg/Kg

Type	Analyte	CAS	DCS Spike	DCS	MDL	PQL
A	Arsenic	7440-38-2	0.100	0.0864	0.100	0.500
A	Lead	7439-92-1	0.100	0.0898	0.0500	0.500

WorkOrder: HS16020567
InstrumentID: SV-7
Test Code: 8270_LOW_S
Test Number: SW8270
Test Name: Low-Level Semivolatiles

METHOD DETECTION / REPORTING LIMITS

Matrix: Solid **Units:** mg/Kg

Type	Analyte	CAS	DCS Spike	DCS	MDL	PQL
A	1,2-Diphenylhydrazine	122-66-7	0.0033	0.0029	0.0011	0.0066
A	2,4-Dimethylphenol	105-67-9	0.0033	0.00084	0.0033	0.0066
A	2,4-Dinitrotoluene	121-14-2	0.0033	0.0025	0.00090	0.0066
A	2,6-Dinitrotoluene	606-20-2	0.0033	0.0030	0.0033	0.0066
A	2-Chloronaphthalene	91-58-7	0.0033	0.0025	0.0013	0.0066
A	2-Methylnaphthalene	91-57-6	0.0033	0.0034	0.00050	0.0033
A	4,6-Dinitro-2-methylphenol	534-52-1	0.0033	0.0036	0.0021	0.0066
A	4-Nitrophenol	100-02-7	0.0033	0.0043	0.0019	0.013
A	Acenaphthene	83-32-9	0.0033	0.0029	0.00050	0.0033
A	Acenaphthene	83-32-9	0.0017	0.0015	0.00050	0.0033
A	Acenaphthylene	208-96-8	0.0017	0.0017	0.0010	0.0033
A	Acenaphthylene	208-96-8	0.0033	0.0023	0.0010	0.0033
A	Anthracene	120-12-7	0.0033	0.0031	0.00050	0.0033
A	Anthracene	120-12-7	0.0017	0.0017	0.00050	0.0033
A	Benz(a)anthracene	56-55-3	0.0017	0.0020	0.0016	0.0033
A	Benz(a)anthracene	56-55-3	0.0033	0.0032	0.0016	0.0033
A	Benzo(a)pyrene	50-32-8	0.0017	0.0018	0.0010	0.0033
A	Bis(2-chloroethoxy)methane	111-91-1	0.0033	0.0033	0.00090	0.0066
A	Bis(2-ethylhexyl)phthalate	117-81-7	0.0033	0.0060	0.0017	0.0066
A	Chrysene	218-01-9	0.0033	0.0044	0.00080	0.0033
A	Chrysene	218-01-9	0.0017	0.0017	0.00080	0.0033
A	Dibenzofuran	132-64-9	0.0033	0.0028	0.00070	0.0033
A	Di-n-butyl phthalate	84-74-2	0.0033	0.0038	0.0012	0.0066
A	Fluoranthene	206-44-0	0.0033	0.0038	0.0011	0.0033
A	Fluorene	86-73-7	0.0017	0.0015	0.0011	0.0033
A	Fluorene	86-73-7	0.0033	0.0027	0.0011	0.0033
A	Naphthalene	91-20-3	0.0017	0.0019	0.00060	0.0033
A	Naphthalene	91-20-3	0.0033	0.0034	0.00060	0.0033
A	Nitrobenzene	98-95-3	0.0033	0.0038	0.00090	0.0066
A	N-Nitrosodiphenylamine	86-30-6	0.0033	0.0037	0.00070	0.0066
A	Pentachlorophenol	87-86-5	0.0033	0.0023	0.0033	0.0066
A	Phenanthrene	85-01-8	0.0017	0.0017	0.0015	0.0033
A	Phenol	108-95-2	0.0033	0.0038	0.0011	0.0066
A	Pyrene	129-00-0	0.0033	0.0045	0.00060	0.0033
A	Pyrene	129-00-0	0.0017	0.0019	0.00060	0.0033
S	2,4,6-Tribromophenol	118-79-6	0	0	0	0
S	2-Fluorobiphenyl	321-60-8	0	0	0	0
S	2-Fluorophenol	367-12-4	0	0	0	0
S	4-Terphenyl-d14	1718-51-0	0	0	0	0
S	Nitrobenzene-d5	4165-60-0	0	0	0	0
S	Phenol-d6	13127-88-3	0	0	0	0

WorkOrder: HS16020567
InstrumentID: Balance1
Test Code: MOIST_ASTM
Test Number: ASTM D2216
Test Name: Moisture - ASTM D2216

METHOD DETECTION / REPORTING LIMITS

Matrix: Solid **Units:** wt%

Type	Analyte	CAS	DCS Spike	DCS	MDL	PQL
A	Percent Moisture	MOIST	0.0100	0.0100	0.0100	0.0100

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
WorkOrder: HS16020567

QC BATCH REPORT

Batch ID: 101437 **Instrument: ICPMS03** **Method: SW6020**

MBLK Sample ID: **MBLK-101437** Units: **mg/Kg** Analysis Date: **16-Feb-2016 12:33**
Client ID: Run ID: **ICPMS03_269326** SeqNo: **3584984** PrepDate: **15-Feb-2016** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	U	0.500								
Lead	U	0.500								

LCS Sample ID: **MLCS-101437** Units: **mg/Kg** Analysis Date: **16-Feb-2016 12:37**
Client ID: Run ID: **ICPMS03_269326** SeqNo: **3584985** PrepDate: **15-Feb-2016** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	9.242	0.500	10	0	92.4	80 - 120				
Lead	9.505	0.500	10	0	95.0	80 - 120				

MS Sample ID: **HS16020567-01MS** Units: **mg/Kg** Analysis Date: **16-Feb-2016 13:07**
Client ID: **SO-1620-CSG2(3)-20160213** Run ID: **ICPMS03_269326** SeqNo: **3584995** PrepDate: **15-Feb-2016** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	11.16	0.495	9.907	1.225	100	75 - 125				
Lead	16.76	0.495	9.907	6.077	108	75 - 125				

MSD Sample ID: **HS16020567-01MSD** Units: **mg/Kg** Analysis Date: **16-Feb-2016 13:11**
Client ID: **SO-1620-CSG2(3)-20160213** Run ID: **ICPMS03_269326** SeqNo: **3584996** PrepDate: **15-Feb-2016** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	10.15	0.486	9.722	1.225	91.8	75 - 125	11.16	9.44	20	
Lead	16.39	0.486	9.722	6.077	106	75 - 125	16.76	2.24	20	

PDS Sample ID: **HS16020567-01BS** Units: **mg/Kg** Analysis Date: **16-Feb-2016 13:15**
Client ID: **SO-1620-CSG2(3)-20160213** Run ID: **ICPMS03_269326** SeqNo: **3584997** PrepDate: **15-Feb-2016** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	10.3	0.486	9.724	1.225	93.3	75 - 125				
Lead	15.23	0.486	9.724	6.077	94.1	75 - 125				

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
WorkOrder: HS16020567

QC BATCH REPORT

Batch ID: 101437 **Instrument: ICPMS03** **Method: SW6020**

SD Sample ID: **HS16020567-01 DIL SX** Units: **mg/Kg** Analysis Date: **16-Feb-2016 12:54**
Client ID: **SO-1620-CSG2(3)-20160213** Run ID: **ICPMS03_269326** SeqNo: **3584989** PrepDate: **15-Feb-2016** DF: **5**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%D	%D Limit	Qual
Arsenic	1.203	2.43					1.225	0	10	J
Lead	6.102	2.43					6.077	0.4	10	

The following samples were anayzed in this batch: HS16020567-01 HS16020567-02 HS16020567-03

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
WorkOrder: HS16020567

QC BATCH REPORT

Batch ID: 101406 **Instrument: SV-7** **Method: SW8270**

MBLK Sample ID: **MBLK-101406** Units: **ug/Kg** Analysis Date: **15-Feb-2016 19:40**
Client ID: Run ID: **SV-7_269329** SeqNo: **3585028** PrepDate: **15-Feb-2016** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Diphenylhydrazine	U	6.6								
2,4-Dimethylphenol	U	6.6								
2,4-Dinitrotoluene	U	6.6								
2,6-Dinitrotoluene	U	6.6								
2-Chloronaphthalene	U	6.6								
2-Methylnaphthalene	U	3.3								
4,6-Dinitro-2-methylphenol	U	6.6								
4-Nitrophenol	U	13								
Acenaphthene	U	3.3								
Acenaphthylene	U	3.3								
Anthracene	U	3.3								
Benz(a)anthracene	U	3.3								
Benzo(a)pyrene	U	3.3								
Bis(2-chloroethoxy)methane	U	6.6								
Bis(2-ethylhexyl)phthalate	U	6.6								
Chrysene	U	3.3								
Dibenzofuran	U	3.3								
Di-n-butyl phthalate	U	6.6								
Fluoranthene	U	3.3								
Fluorene	U	3.3								
Naphthalene	U	3.3								
Nitrobenzene	U	6.6								
N-Nitrosodiphenylamine	U	6.6								
Pentachlorophenol	U	6.6								
Phenanthrene	U	3.3								
Phenol	U	6.6								
Pyrene	U	3.3								
Surr: 2,4,6-Tribromophenol	*162*	*0*	*167*	*0*	*97.0*	*36 - 126*				
Surr: 2-Fluorobiphenyl	*138.9*	*0*	*167*	*0*	*83.2*	*43 - 125*				
Surr: 2-Fluorophenol	*127.3*	*0*	*167*	*0*	*76.2*	*37 - 125*				
Surr: 4-Terphenyl-d14	*139.9*	*0*	*167*	*0*	*83.8*	*32 - 125*				
Surr: Nitrobenzene-d5	*182.5*	*0*	*167*	*0*	*109*	*37 - 125*				
Surr: Phenol-d6	*143.8*	*0*	*167*	*0*	*86.1*	*40 - 125*				

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
WorkOrder: HS16020567

QC BATCH REPORT

Batch ID: 101406 **Instrument: SV-7** **Method: SW8270**

LCS Sample ID: **LCS-101406** Units: **ug/Kg** Analysis Date: **15-Feb-2016 20:00**
Client ID: Run ID: **SV-7_269329** SeqNo: **3585029** PrepDate: **15-Feb-2016** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Diphenylhydrazine	123.5	6.6	167	0	74.0	50 - 135				
2,4-Dimethylphenol	125.9	6.6	167	0	75.4	45 - 120				
2,4-Dinitrotoluene	144.8	6.6	167	0	86.7	50 - 130				
2,6-Dinitrotoluene	138	6.6	167	0	82.7	50 - 125				
2-Chloronaphthalene	164.4	6.6	167	0	98.4	50 - 145				
2-Methylnaphthalene	133.3	3.3	167	0	79.8	50 - 120				
4,6-Dinitro-2-methylphenol	157.6	6.6	167	0	94.4	15 - 135				
4-Nitrophenol	138.2	13	167	0	82.7	40 - 147				
Acenaphthene	156.1	3.3	167	0	93.5	50 - 120				
Acenaphthylene	143.5	3.3	167	0	85.9	50 - 120				
Anthracene	130.8	3.3	167	0	78.3	50 - 123				
Benz(a)anthracene	150.7	3.3	167	0	90.3	50 - 131				
Benzo(a)pyrene	148.5	3.3	167	0	88.9	50 - 130				
Bis(2-chloroethoxy)methane	144.5	6.6	167	0	86.5	50 - 120				
Bis(2-ethylhexyl)phthalate	129	6.6	167	0	77.2	21 - 148				
Chrysene	137.3	3.3	167	0	82.2	50 - 130				
Dibenzofuran	143.7	3.3	167	0	86.1	50 - 125				
Di-n-butyl phthalate	127	6.6	167	0	76.0	50 - 140				
Fluoranthene	149	3.3	167	0	89.2	50 - 131				
Fluorene	147.4	3.3	167	0	88.3	50 - 125				
Naphthalene	137.4	3.3	167	0	82.3	50 - 125				
Nitrobenzene	171	6.6	167	0	102	50 - 125				
N-Nitrosodiphenylamine	113.3	6.6	167	0	67.8	50 - 130				
Pentachlorophenol	171.2	6.6	167	0	103	23 - 136				
Phenanthrene	135.4	3.3	167	0	81.1	50 - 125				
Phenol	129.6	6.6	167	0	77.6	45 - 130				
Pyrene	133.8	3.3	167	0	80.1	45 - 130				
Surr: 2,4,6-Tribromophenol	*176.8*	*0*	*167*	*0*	*106*	*36 - 126*				
Surr: 2-Fluorobiphenyl	*147.7*	*0*	*167*	*0*	*88.4*	*43 - 125*				
Surr: 2-Fluorophenol	*134.3*	*0*	*167*	*0*	*80.4*	*37 - 125*				
Surr: 4-Terphenyl-d14	*136.2*	*0*	*167*	*0*	*81.5*	*32 - 125*				
Surr: Nitrobenzene-d5	*177.1*	*0*	*167*	*0*	*106*	*37 - 125*				
Surr: Phenol-d6	*142.6*	*0*	*167*	*0*	*85.4*	*40 - 125*				

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
WorkOrder: HS16020567

QC BATCH REPORT

Batch ID: 101406 **Instrument: SV-7** **Method: SW8270**

MS Sample ID: **HS16020490-01MS** Units: **ug/Kg** Analysis Date: **16-Feb-2016 01:30**
Client ID: Run ID: **SV-7_269329** SeqNo: **3585034** PrepDate: **15-Feb-2016** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Diphenylhydrazine	123.3	6.6	166.6	0	74.1	50 - 135				
2,4-Dimethylphenol	117.5	6.6	166.6	0	70.5	45 - 120				
2,4-Dinitrotoluene	141	6.6	166.6	11.53	77.7	50 - 130				
2,6-Dinitrotoluene	137.1	6.6	166.6	0	82.3	50 - 125				
2-Chloronaphthalene	124.3	6.6	166.6	0	74.6	50 - 145				
2-Methylnaphthalene	117.2	3.3	166.6	2.668	68.8	50 - 120				
4,6-Dinitro-2-methylphenol	128.3	6.6	166.6	0	77.0	15 - 135				
4-Nitrophenol	138.9	13	166.6	0	83.4	40 - 147				
Acenaphthene	124.9	3.3	166.6	13.5	66.9	50 - 120				
Acenaphthylene	126.6	3.3	166.6	3.287	74.0	50 - 120				
Anthracene	155	3.3	166.6	39.77	69.2	50 - 123				
Benz(a)anthracene	237	3.3	166.6	112.5	74.7	50 - 131				
Benzo(a)pyrene	230.2	3.3	166.6	101.8	77.1	50 - 130				
Bis(2-chloroethoxy)methane	117.3	6.6	166.6	0	70.4	50 - 120				
Bis(2-ethylhexyl)phthalate	125	6.6	166.6	0	75.1	21 - 148				
Chrysene	225.9	3.3	166.6	110.2	69.5	50 - 130				
Dibenzofuran	136.4	3.3	166.6	9.575	76.1	50 - 125				
Di-n-butyl phthalate	115.3	6.6	166.6	46.28	41.4	50 - 140				S
Fluoranthene	369.9	3.3	166.6	273.7	57.8	50 - 131				E
Fluorene	145.6	3.3	166.6	16.41	77.6	50 - 125				
Naphthalene	113.9	3.3	166.6	2.314	67.0	50 - 125				
Nitrobenzene	136.1	6.6	166.6	0	81.7	50 - 125				
N-Nitrosodiphenylamine	124.5	6.6	166.6	1.899	73.6	50 - 130				
Pentachlorophenol	161.4	6.6	166.6	0	96.9	23 - 136				
Phenanthrene	271.3	3.3	166.6	181.2	54.1	50 - 125				
Phenol	111.3	6.6	166.6	0	66.9	45 - 130				
Pyrene	293.8	3.3	166.6	203.5	54.2	45 - 130				
Surr: 2,4,6-Tribromophenol	*181.7*	*0*	*166.6*	*0*	*109*	*36 - 126*				
Surr: 2-Fluorobiphenyl	*135.3*	*0*	*166.6*	*0*	*81.3*	*43 - 125*				
Surr: 2-Fluorophenol	*95.16*	*0*	*166.6*	*0*	*57.1*	*37 - 125*				
Surr: 4-Terphenyl-d14	*138.9*	*0*	*166.6*	*0*	*83.4*	*32 - 125*				
Surr: Nitrobenzene-d5	*145.5*	*0*	*166.6*	*0*	*87.3*	*37 - 125*				
Surr: Phenol-d6	*118.3*	*0*	*166.6*	*0*	*71.0*	*40 - 125*				

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
WorkOrder: HS16020567

QC BATCH REPORT

Batch ID: 101406 **Instrument: SV-7** **Method: SW8270**

MSD Sample ID: **HS16020490-01MSD** Units: **ug/Kg** Analysis Date: **16-Feb-2016 01:49**
Client ID: Run ID: **SV-7_269329** SeqNo: **3585035** PrepDate: **15-Feb-2016** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual
1,2-Diphenylhydrazine	131.4	6.6	166.5	0	78.9	50 - 135	123.3	6.3	30	
2,4-Dimethylphenol	117.8	6.6	166.5	0	70.8	45 - 120	117.5	0.292	30	
2,4-Dinitrotoluene	135.6	6.6	166.5	11.53	74.5	50 - 130	141	3.86	30	
2,6-Dinitrotoluene	134.5	6.6	166.5	0	80.8	50 - 125	137.1	1.9	30	
2-Chloronaphthalene	123.3	6.6	166.5	0	74.0	50 - 145	124.3	0.821	30	
2-Methylnaphthalene	123.1	3.3	166.5	2.668	72.4	50 - 120	117.2	4.93	30	
4,6-Dinitro-2-methylphenol	75.8	6.6	166.5	0	45.5	15 - 135	128.3	51.4	30	R
4-Nitrophenol	122	13	166.5	0	73.3	40 - 147	138.9	13	30	
Acenaphthene	128.9	3.3	166.5	13.5	69.3	50 - 120	124.9	3.18	30	
Acenaphthylene	131.5	3.3	166.5	3.287	77.0	50 - 120	126.6	3.75	30	
Anthracene	155.1	3.3	166.5	39.77	69.3	50 - 123	155	0.0702	30	
Benz(a)anthracene	222.4	3.3	166.5	112.5	66.0	50 - 131	237	6.36	30	
Benzo(a)pyrene	221.5	3.3	166.5	101.8	71.8	50 - 130	230.2	3.87	30	
Bis(2-chloroethoxy)methane	123.9	6.6	166.5	0	74.4	50 - 120	117.3	5.44	30	
Bis(2-ethylhexyl)phthalate	116.3	6.6	166.5	0	69.9	21 - 148	125	7.25	30	
Chrysene	213.8	3.3	166.5	110.2	62.2	50 - 130	225.9	5.52	30	
Dibenzofuran	137.2	3.3	166.5	9.575	76.6	50 - 125	136.4	0.565	30	
Di-n-butyl phthalate	117.3	6.6	166.5	46.28	42.7	50 - 140	115.3	1.76	30	S
Fluoranthene	373	3.3	166.5	273.7	59.7	50 - 131	369.9	0.837	30	E
Fluorene	144	3.3	166.5	16.41	76.7	50 - 125	145.6	1.07	30	
Naphthalene	120.3	3.3	166.5	2.314	70.8	50 - 125	113.9	5.46	30	
Nitrobenzene	144.7	6.6	166.5	0	86.9	50 - 125	136.1	6.11	30	
N-Nitrosodiphenylamine	135.2	6.6	166.5	1.899	80.0	50 - 130	124.5	8.22	30	
Pentachlorophenol	169.3	6.6	166.5	0	102	23 - 136	161.4	4.75	30	
Phenanthrene	259.1	3.3	166.5	181.2	46.8	50 - 125	271.3	4.6	30	S
Phenol	113.3	6.6	166.5	0	68.0	45 - 130	111.3	1.7	30	
Pyrene	280.6	3.3	166.5	203.5	46.3	45 - 130	293.8	4.59	30	
Surr: 2,4,6-Tribromophenol	*166.3*	*0*	*166.5*	*0*	*99.9*	*36 - 126*	*181.7*	*8.84*	*30*	
Surr: 2-Fluorobiphenyl	*132.4*	*0*	*166.5*	*0*	*79.5*	*43 - 125*	*135.3*	*2.2*	*30*	
Surr: 2-Fluorophenol	*106.2*	*0*	*166.5*	*0*	*63.8*	*37 - 125*	*95.16*	*11*	*30*	
Surr: 4-Terphenyl-d14	*122.5*	*0*	*166.5*	*0*	*73.6*	*32 - 125*	*138.9*	*12.6*	*30*	
Surr: Nitrobenzene-d5	*148.6*	*0*	*166.5*	*0*	*89.3*	*37 - 125*	*145.5*	*2.14*	*30*	
Surr: Phenol-d6	*150.4*	*0*	*166.5*	*0*	*90.3*	*40 - 125*	*118.3*	*23.9*	*30*	

The following samples were anayzed in this batch: HS16020567-01 HS16020567-02 HS16020567-03

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
WorkOrder: HS16020567

QC BATCH REPORT

Batch ID: R269307 **Instrument: Balance1** **Method: ASTM D2216**

DUP Sample ID: **HS16020490-01DUP** Units: **wt%** Analysis Date: **15-Feb-2016 10:26**
Client ID: Run ID: **Balance1_269307** SeqNo: **3584520** PrepDate: DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Percent Moisture	9.53	0.0100					9.67	1.46	20	

The following samples were anayzed in this batch: HS16020567-01 HS16020567-02 HS16020567-03

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
WorkOrder: **HS16020567**

QUALIFIERS, ACRONYMS, UNITS

Qualifier	Description
*	Value exceeds Regulatory Limit
a	Not accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte detected below quantitation limit
M	Manually integrated, see raw data for justification
n	Not offered for accreditation
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL/SDL

Acronym	Description
DCS	Detectability Check Study
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
MBLK	Method Blank
MDL	Method Detection Limit
MQL	Method Quantitation Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PDS	Post Digestion Spike
PQL	Practical Quantitaion Limit
SD	Serial Dilution
SDL	Sample Detection Limit
TRRP	Texas Risk Reduction Program

Unit Reported	Description
mg/Kg-dry	Milligrams per Kilogram- Dry weight corrected

CERTIFICATIONS,ACCREDITATIONS & LICENSES

Agency	Number	Expire Date
Arkansas	15-024-0	27-Mar-2016
California	2919	31-Jul-2016
Illinois	003622	09-May-2016
Kentucky	KY 2015-2016	30-Apr-2016
Louisiana	03087 2015/2016	30-Jun-2016
North Carolina	624 - 2016	31-Dec-2016
North Dakota	R-193 2015-2016	30-Apr-2016
Oklahoma	2015-047	31-Aug-2016
Texas	T104704231-15-15	30-Apr-2016

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
Work Order: HS16020567

SAMPLE TRACKING

Lab Samp ID	Client Sample ID	Action	Date	Person	New Location
HS16020567-01	SO-1620-CSG2(3)-20160213	Login	2/15/2016 3:51:55 PM	RPG	17D
HS16020567-02	SO-1620-CSG3(0-3)-20160213	Login	2/15/2016 3:51:55 PM	RPG	17D
HS16020567-03	SO-1620-CSG4(3)-20160213	Login	2/15/2016 3:51:55 PM	RPG	17D

ALS Group USA, Corp Date: 16-Feb-16

Sample Receipt Checklist

Client Name: PBW Date/Time Received: **15-Feb-2016 15:25**

Work Order: HS16020567 Received by: **CGG**

Checklist completed by: *Dane J. Wacasey* eSignature 15-Feb-2016 Date

Reviewed by: *Dane J. Wacasey* eSignature 15-Feb-2016 Date

Matrices: **Soil** Carrier name: **ALS Courier**

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on shipping container/cooler?	Yes ☐	No ☐	Not Present ☑
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☑	No ☐	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
TX1005 solids received in hermetically sealed vials?	Yes ☐	No ☐	N/A ☑
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time?	Yes ☑	No ☐	
Container/Temp Blank temperature in compliance?	Yes ☑	No ☐	
Temperature(s)/Thermometer(s):	2.3 C / 2.8 C uc/c	IR 5	
Cooler(s)/Kit(s):	42578		
Date/Time sample(s) sent to storage:			
Water - VOA vials have zero headspace?	Yes ☐	No ☐	No VOA vials submitted ☑
Water - pH acceptable upon receipt?	Yes ☐	No ☐	N/A ☑
pH adjusted?	Yes ☐	No ☐	N/A ☑
pH adjusted by:			

Login Notes:

Client Contacted: Date Contacted: Person Contacted:

Contacted By: 0 Regarding:

Comments:

Corrective Action:

ALS Environmental

Cincinnati, OH +1 513 733 5336 | Everett, WA +1 425 356 2600 | Fort Collins, CO +1 970 490 1511 | Holland, MI +1 616 399 6070

Chain of Custody Form

Page 1 of 1

COC ID: 141487

HS16020567

Pastor, Behling & Wheeler, LLC

1620-10-Rev1 HoustonTX-Wood

ALS Project Manager:

Customer Information		Project Information			
Purchase Order	UPRR	Project Name	1620-10-Rev1 HoustonTX-Wood	A	8270_LOW_S (5632532 SemiVolatiles)
Work Order		Project Number	1620-10-Rev1	B	ICP_S_Low (5636002 5652646 Metals - As, Pb)
Company Name	Pastor, Behling & Wheeler, LLC	Bill To Company	Union Pacific Railroad- A/P	C	MOIST_ASTM (5631931 Gen.Chem. MOIST%)
Send Report To	Eric Matzner	Invoice Attn	Accounts Payable	D	
Address	2201 Double Creek Drive Suite 4004	Address	1400 Douglas Street Stop 0750	E	
				F	
City/State/Zip	Round Rock, TX 78664	City/State/Zip	Omaha, NE 681790750	G	
Phone	(512) 671-3434	Phone		H	
Fax	(512) 671-3446	Fax		I	
e-Mail Address		e-Mail Address		J	

No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
1	So-1620-CSG2(3)-20160213	2/13/2016	1330	Soil	8	1	X	X	X								
2	So-1620-CSG3(0-3)-20160213	2/13/2016	1440	Soil	8	1	X	X	X								
3	So-1620-CSG4(3)-20160215	2/15/2016	1115	Soil	8	1	X	X	X								
4																	
5																	
6																	
7																	
8																	
9																	
10																	

Sampler(s) Please Print & Sign: Stephen Grahmann Stephen Grahmann

Shipment Method:

Required Turnaround Time: (Check Box) TAT 1 days Other:

Results Due Date:

Relinquished by: Stephen Grahmann Date: 2/15/2016 Time: 1500 Received by: cu 2/15/16 1500

Relinquished by: cu 2 Date: 2/19/16 Time: 1925 Received by (Laboratory): cu 2/19/16 1925

Logged by (Laboratory): Date: Time: Checked by (Laboratory):

Notes: [UPRR Houston MWPW]

Cooler ID	Cooler Temp.
42578	2-3

QC Package: (Check One Box Below)

QC Level: TRRP LRC

Other:

Preservative Key: 1-HCl 2-HNO_3 3-H_2SO_4 4-NaOH 5-$Na_2S_2O_3$ 6-$NaHSO_4$ 7-Other 8-4°C 9-5035

Note: 1. Any changes must be made in writing once samples and COC Form have been submitted to ALS Environmental.
2. Unless otherwise agreed in a formal contract, services provided by ALS Environmental are expressly limited to the terms and conditions stated on the reverse.
3. The Chain of Custody is a legal document. All information must be completed accurately.

SR# 5 CFO-5

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www.alsglobal.com

February 17, 2016

Eric Matzner
Pastor, Behling & Wheeler, LLC
2201 Double Creek Drive
Suite 4004
Round Rock, TX 78664

Work Order: **HS16020580**

Laboratory Results for: **1620-10-Rev1 HoustonTX-Wood**

Dear Eric,

ALS Environmental received 1 sample(s) on Feb 15, 2016 for the analysis presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested. Results are expressed as "as received" unless otherwise noted.

QC sample results for this data met EPA or laboratory specifications except as noted in the Case Narrative or as noted with qualifiers in the QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained by ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

If you have any questions regarding this report, please feel free to call me.

Sincerely,

Generated By: Jumoke.Lawal
Dane J. Wacasey

Client:	Pastor, Behling & Wheeler, LLC	**TRRP Laboratory Data Package Cover Page**
Project:	1620-10-Rev1 HoustonTX-Wood	
WorkOrder:	**HS16020580**	

This data package consists of all or some of the following as applicable:

This signature page, the laboratory review checklist, and the following reportable data:

R1 Field chain-of-custody documentation;

R2 Sample identification cross-reference;

R3 Test reports (analytical data sheets) for each environmental sample that includes:

a) Items consistent with NELAC Chapter 5,
b) dilution factors,
c) preparation methods,
d) cleanup methods, and
e) if required for the project, tentatively identified compounds (TICs).

R4 Surrogate recovery data including:

a) Calculated recovery (%R), and
b) The laboratory's surrogate QC limits.

R5 Test reports/summary forms for blank samples;

R6 Test reports/summary forms for laboratory control samples (LCSs) including:

a) LCS spiking amounts,
b) Calculated %R for each analyte, and
c)The laboratory's LCS QC limits.

R7 Test reports for project matrix spike/matrix spike duplicates (MS/MSDs) including:

a) Samples associated with the MS/MSD clearly identified,
b) MS/MSD spiking amounts,
c) Concentration of each MS/MSD analyte measured in the parent and spiked samples,
d) Calculated %Rs and relative percent differences (RPDs), and
e) The laboratory's MS/MSD QC limits.

R8 Laboratory analytical duplicate (if applicable) recovery and precision:

a) the amount of analyte measured in the duplicate,
b) the calculated RPD, and
c) the laboratory's QC limits for analytical duplicates.

R9 List of method quantitation limits (MQLs) and detectability check sample results for each analyte for each method and matrix.

R10 Other problems or anomalies.
The Exception Report for each "No" or "Not Reviewed (NR)" item in Laboratory Review Checklist and for each analyte, matrix, and method for which the laboratory does not hold NELAC accreditation under the Texas Laboratory Accreditation Program.

Client:	Pastor, Behling & Wheeler, LLC
Project:	1620-10-Rev1 HoustonTX-Wood
WorkOrder:	**HS16020580**

TRRP Laboratory Data Package Cover Page

Release Statement: I am responsible for the release of this laboratory data package. This laboratory is NELAC accredited under the Texas Laboratory Accreditation Program for all the methods, analytes and matrices reported in this data package except as noted in the Exception Reports. The data have been reviewed and are technically compliant with the requirements of the methods used, except where noted by the laboratory in the attached exception reports. By my signature below, I affirm to the best of my knowledge, all problems/anomalies, observed by the laboratory have been identified by the laboratory in the Laboratory Review Checklist, and no information affecting the quality of the data has been knowingly withheld.

Check, if applicable: [NA] This laboratory meets an exception under 30 TAC §25.6 and was last inspected by [ ] TCEQ or [ ] _____ on (enter date of last inspection). Any findings affecting the data in this laboratory data package are noted in the Exception Reports herein. The official signing the cover page of the report in which these data are used is responsible for releasing this data package and is by signature affirming the above release statement is true.

Dane J. Wacasey

Laboratory Review Checklist: Reportable Data								
Laboratory Name: ALS Laboratory Group			LRC Date: 02/17/2016					
Project Name: 1620-10-Rev1 HoustonTX-Wood			Laboratory Job Number: HS16020580					
Reviewer Name: Dane Wacasey			Prep Batch Number(s): 101437,101451,R269349					
#[1]	**A[2]**	**Description**	**Yes**	**No**	**NA[3]**	**NR[4]**	**ER#[5]**
R1	OI	**Chain-of-custody (C-O-C)**					
		Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?	X				
		Were all departures from standard conditions described in an exception report?	X				
R2	OI	**Sample and quality control (QC) identification**					
		Are all field sample ID numbers cross-referenced to the laboratory ID numbers?	X				
		Are all laboratory ID numbers cross-referenced to the corresponding QC data?	X				
R3	OI	**Test reports**					
		Were all samples prepared and analyzed within holding times?	X				
		Other than those results < MQL, were all other raw values bracketed by calibration standards?	X				
		Were calculations checked by a peer or supervisor?	X				
		Were all analyte identifications checked by a peer or supervisor?	X				
		Were sample detection limits reported for all analytes not detected?	X				
		Were all results for soil and sediment samples reported on a dry weight basis?	X				
		Were % moisture (or solids) reported for all soil and sediment samples?	X				
		Were bulk soils/solids samples for volatile analysis extracted with methanol per SW-846 Method 5035?			X		
		If required for the project, TICs reported?			X		
R4	O	**Surrogate recovery data**					
		Were surrogates added prior to extraction?	X				
		Were surrogate percent recoveries in all samples within the laboratory QC limits?	X				
R5	OI	**Test reports/summary forms for blank samples**					
		Were appropriate type(s) of blanks analyzed?	X				
		Were blanks analyzed at the appropriate frequency?	X				
		Were method blanks taken through the entire analytical process, including preparation and, if applicable, cleanup procedures?	X				
		Were blank concentrations < MQL?	X				
R6	OI	**Laboratory control samples (LCS):**					
		Were all COCs included in the LCS?	X				
		Was each LCS taken through the entire analytical procedure, including prep and cleanup steps?	X				
		Were LCSs analyzed at the required frequency?	X				
		Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?	X				
		Does the detectability data document the laboratory's capability to detect the COCs at the MDL used to calculate the SDLs?	X				
		Was the LCSD RPD within QC limits?	X				
R7	OI	**Matrix spike (MS) and matrix spike duplicate (MSD) data**					
		Were the project/method specified analytes included in the MS and MSD?	X				
		Were MS/MSD analyzed at the appropriate frequency?	X				
		Were MS (and MSD, if applicable) %Rs within the laboratory QC limits?		X			1
		Were MS/MSD RPDs within laboratory QC limits?		X			2
R8	OI	**Analytical duplicate data**					
		Were appropriate analytical duplicates analyzed for each matrix?	X				
		Were analytical duplicates analyzed at the appropriate frequency?	X				
		Were RPDs or relative standard deviations within the laboratory QC limits?	X				
R9	OI	**Method quantitation limits (MQLs):**					
		Are the MQLs for each method analyte included in the laboratory data package?	X				
		Do the MQLs correspond to the concentration of the lowest non-zero calibration standard?	X				
		Are unadjusted MQLs and DCSs included in the laboratory data package?	X				
R10	OI	**Other problems/anomalies**					
		Are all known problems/anomalies/special conditions noted in this LRC and ER?	X				
		Were all necessary corrective actions performed for the reported data?	X				
		Was applicable and available technology used to lower the SDL and minimize the matrix interference affects on the sample results?	X				
		Is the laboratory NELAC-accredited under the Texas Laboratory Program for the analytes, matrices and methods associated with this laboratory data package?	X				

Laboratory Review Checklist: Reportable Data							
Laboratory Name: ALS Laboratory Group			LRC Date: 02/17/2016				
Project Name: 1620-10-Rev1 HoustonTX-Wood			Laboratory Job Number: HS16020580				
Reviewer Name: Dane Wacasey			Prep Batch Number(s): 101437,101451,R269349				
#[1]	A[2]	Description	Yes	No	NA[3]	NR[4]	ER#[5]
S1	OI	**Initial calibration (ICAL)**					
		Were response factors and/or relative response factors for each analyte within QC limits?	X				
		Were percent RSDs or correlation coefficient criteria met?	X				
		Was the number of standards recommended in the method used for all analytes?	X				
		Were all points generated between the lowest and highest standard used to calculate the curve?	X				
		Are ICAL data available for all instruments used?	X				
		Has the initial calibration curve been verified using an appropriate second source standard?	X				
S2	OI	**Initial and continuing calibration verification (ICCV and CCV) and continuing calibration blank (CCB)**					
		Was the CCV analyzed at the method-required frequency?	X				
		Were percent differences for each analyte within the method-required QC limits?	X				
		Was the ICAL curve verified for each analyte?	X				
		Was the absolute value of the analyte concentration in the inorganic CCB < MDL?	X				
S3	O	**Mass spectral tuning:**					
		Was the appropriate compound for the method used for tuning?	X				
		Were ion abundance data within the method-required QC limits?	X				
S4	O	**Internal standards (IS):**					
		Were IS area counts and retention times within the method-required QC limits?	X				
S5	OI	**Raw data** (NELAC section 1 appendix A glossary, and section 5.12 or ISO/IEC 17025 section					
		Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst?	X				
		Were data associated with manual integrations flagged on the raw data?	X				
S6	O	**Dual column confirmation**					
		Did dual column confirmation results meet the method-required QC?			X		
S7	O	**Tentatively identified compounds (TICs):**					
		If TICs were requested, were the mass spectra and TIC data subject to appropriate checks?			X		
S8	I	**Interference Check Sample (ICS) results:**					
		Were percent recoveries within method QC limits?	X				
S9	I	**Serial dilutions, post digestion spikes, and method of standard additions**					
		Were percent differences, recoveries, and the linearity within the QC limits specified in the method?	X				
S10	OI	**Method detection limit (MDL) studies**					
		Was a MDL study performed for each reported analyte?	X				
		Is the MDL either adjusted or supported by the analysis of DCSs?	X				
S11	OI	**Proficiency test reports:**					
		Was the laboratory's performance acceptable on the applicable proficiency tests or evaluation studies?	X				
S12	OI	**Standards documentation**					
		Are all standards used in the analyses NIST-traceable or obtained from other appropriate sources?	X				
S13	OI	**Compound/analyte identification procedures**					
		Are the procedures for compound/analyte identification documented?	X				
S14	OI	**Demonstration of analyst competency (DOC)**					
		Was DOC conducted consistent with NELAC Chapter 5C or ISO/IEC 4?	X				
		Is documentation of the analyst's competency up-to-date and on file?	X				
S15	OI	**Verification/validation documentation for methods** (NELAC Chap 5 or ISO/IEC 17025 Section 5)					
		Are all the methods used to generate the data documented, verified, and validated, where applicable?	X				
S16	OI	**Laboratory standard operating procedures (SOPs):**					
		Are laboratory SOPs current and on file for each method performed?	X				

Items identified by the letter "R" must be included in the laboratory data package submitted in the TRRP-required report(s). Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period.
O = Organic Analyses; I = Inorganic Analyses (and general chemistry, when applicable);
NA = Not Applicable;
NR = Not Reviewed;
R# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

Laboratory Review Checklist: Reportable Data	
Laboratory Name: ALS Laboratory Group	LRC Date: 02/17/2016
Project Name: 1620-10-Rev1 HoustonTX-Wood	Laboratory Job Number: HS16020580
Reviewer Name: Dane Wacasey	Prep Batch Number(s): 101437,101451,R269349

ER#[5]	Description
1	Batch 101451, Semivolatile Organics Method SW8270, sample HS16020423-04, MS and MSD were performed on unrelated sample
2	Batch 101451, Semivolatile Organics Method SW8270, sample HS16020423-04, MSD RPD is for an unrelated sample.

Items identified by the letter "R" must be included in the laboratory data package submitted in the TRRP-required report(s). Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period.
O = Organic Analyses; I = Inorganic Analyses (and general chemistry, when applicable);
NA = Not Applicable;
NR = Not Reviewed;
R# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
Work Order: HS16020580

SAMPLE SUMMARY

Lab Samp ID	Client Sample ID	Matrix	TagNo	Collection Date	Date Received	Hold
HS16020580-01	SO-1620-CSG5(0-3)-20160215	Soil		15-Feb-2016 16:20	15-Feb-2016 18:20	☐

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
Sample ID: SO-1620-CSG5(0-3)-20160215
Collection Date: 15-Feb-2016 16:20

ANALYTICAL REPORT
WorkOrder:HS16020580
Lab ID:HS16020580-01
Matrix:Soil

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES		**Method:SW8270**			Prep:SW3541 / 16-Feb-2016		Analyst: ACN
1,2-Diphenylhydrazine	U		0.0013	0.0080	mg/Kg-dry	1	16-Feb-2016 17:41
2,4-Dimethylphenol	U		0.0040	0.0080	mg/Kg-dry	1	16-Feb-2016 17:41
2,4-Dinitrotoluene	U		0.0011	0.0080	mg/Kg-dry	1	16-Feb-2016 17:41
2,6-Dinitrotoluene	U		0.0040	0.0080	mg/Kg-dry	1	16-Feb-2016 17:41
2-Chloronaphthalene	U		0.0016	0.0080	mg/Kg-dry	1	16-Feb-2016 17:41
2-Methylnaphthalene	U		0.00060	0.0040	mg/Kg-dry	1	16-Feb-2016 17:41
4,6-Dinitro-2-methylphenol	U		0.0025	0.0080	mg/Kg-dry	1	16-Feb-2016 17:41
4-Nitrophenol	U		0.0023	0.016	mg/Kg-dry	1	16-Feb-2016 17:41
Acenaphthene	U		0.00060	0.0040	mg/Kg-dry	1	16-Feb-2016 17:41
Acenaphthylene	**0.0060**		**0.0012**	**0.0040**	**mg/Kg-dry**	1	16-Feb-2016 17:41
Anthracene	**0.0076**		**0.00060**	**0.0040**	**mg/Kg-dry**	1	16-Feb-2016 17:41
Benz(a)anthracene	**0.016**		**0.0019**	**0.0040**	**mg/Kg-dry**	1	16-Feb-2016 17:41
Benzo(a)pyrene	**0.017**		**0.0012**	**0.0040**	**mg/Kg-dry**	1	16-Feb-2016 17:41
Bis(2-chloroethoxy)methane	U		0.0011	0.0080	mg/Kg-dry	1	16-Feb-2016 17:41
Bis(2-ethylhexyl)phthalate	**0.011**		**0.0021**	**0.0080**	**mg/Kg-dry**	1	16-Feb-2016 17:41
Chrysene	**0.020**		**0.00097**	**0.0040**	**mg/Kg-dry**	1	16-Feb-2016 17:41
Dibenzofuran	U		0.00085	0.0040	mg/Kg-dry	1	16-Feb-2016 17:41
Di-n-butyl phthalate	**0.0040**	J	**0.0015**	**0.0080**	**mg/Kg-dry**	1	16-Feb-2016 17:41
Fluoranthene	**0.030**		**0.0013**	**0.0040**	**mg/Kg-dry**	1	16-Feb-2016 17:41
Fluorene	U		0.0013	0.0040	mg/Kg-dry	1	16-Feb-2016 17:41
Naphthalene	U		0.00073	0.0040	mg/Kg-dry	1	16-Feb-2016 17:41
Nitrobenzene	U		0.0011	0.0080	mg/Kg-dry	1	16-Feb-2016 17:41
N-Nitrosodiphenylamine	U		0.00085	0.0080	mg/Kg-dry	1	16-Feb-2016 17:41
Pentachlorophenol	U		0.0040	0.0080	mg/Kg-dry	1	16-Feb-2016 17:41
Phenanthrene	**0.0054**		**0.0018**	**0.0040**	**mg/Kg-dry**	1	16-Feb-2016 17:41
Phenol	U		0.0013	0.0080	mg/Kg-dry	1	16-Feb-2016 17:41
Pyrene	**0.030**		**0.00073**	**0.0040**	**mg/Kg-dry**	1	16-Feb-2016 17:41
Surr: 2,4,6-Tribromophenol	*107*			*36-126*	*%REC*	*1*	*16-Feb-2016 17:41*
Surr: 2-Fluorobiphenyl	*69.9*			*43-125*	*%REC*	*1*	*16-Feb-2016 17:41*
Surr: 2-Fluorophenol	*49.3*			*37-125*	*%REC*	*1*	*16-Feb-2016 17:41*
Surr: 4-Terphenyl-d14	*82.7*			*32-125*	*%REC*	*1*	*16-Feb-2016 17:41*
Surr: Nitrobenzene-d5	*71.5*			*37-125*	*%REC*	*1*	*16-Feb-2016 17:41*
Surr: Phenol-d6	*63.4*			*40-125*	*%REC*	*1*	*16-Feb-2016 17:41*
METALS BY SW6020A		**Method:SW6020**			Prep:SW3050A / 15-Feb-2016		Analyst: JDE
Arsenic	**5.54**		**0.118**	**0.589**	**mg/Kg-dry**	1	16-Feb-2016 13:28
Lead	**10.0**		**0.0589**	**0.589**	**mg/Kg-dry**	1	16-Feb-2016 13:28
MOISTURE - ASTM D2216		**Method:ASTM D2216**					Analyst: DFF
Percent Moisture	**17.8**		**0.0100**	**0.0100**	**wt%**	1	16-Feb-2016 16:16

Note: See Qualifiers Page for a list of qualifiers and their explanation.

WEIGHT LOG

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
WorkOrder: HS16020580

Batch ID: 101437 **Method:** METALS BY SW6020A **Prep:** 3050_I_LOW

SampID	Container	Sample Wt/Vol	Final Volume	Prep Factor
HS16020580-01	1	0.516	50 (mL)	96.9

Batch ID: 101451 **Method:** LOW-LEVEL SEMIVOLATILES **Prep:** 3541_B_LOW

SampID	Container	Sample Wt/Vol	Final Volume	Prep Factor
HS16020580-01	1	30.18	1 (mL)	0.03313

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
WorkOrder: HS16020580

DATES REPORT

Sample ID	Client Samp ID	Collection Date	TCLP Date	Prep Date	Analysis Date	DF
Batch ID 101437	**Test Name :** METALS BY SW6020A			**Matrix:** Soil		
HS16020580-01	SO-1620-CSG5(0-3)-20160215	15 Feb 2016 16:20		15 Feb 2016 20:15	16 Feb 2016 13:28	1
Batch ID 101451	**Test Name :** LOW-LEVEL SEMIVOLATILES			**Matrix:** Soil		
HS16020580-01	SO-1620-CSG5(0-3)-20160215	15 Feb 2016 16:20		16 Feb 2016 08:34	16 Feb 2016 17:41	1
Batch ID R269349	**Test Name :** MOISTURE - ASTM D2216			**Matrix:** Soil		
HS16020580-01	SO-1620-CSG5(0-3)-20160215	15 Feb 2016 16:20			16 Feb 2016 16:16	1

WorkOrder: HS16020580
InstrumentID: ICPMS03
Test Code: ICP_S_Low
Test Number: SW6020
Test Name: Metals by SW6020A

METHOD DETECTION / REPORTING LIMITS

Matrix: Solid **Units:** mg/Kg

Type	Analyte	CAS	DCS Spike	DCS	MDL	PQL
A	Arsenic	7440-38-2	0.100	0.0864	0.100	0.500
A	Lead	7439-92-1	0.100	0.0898	0.0500	0.500

WorkOrder: HS16020580
InstrumentID: SV-7
Test Code: 8270_LOW_S
Test Number: SW8270
Test Name: Low-Level Semivolatiles

METHOD DETECTION / REPORTING LIMITS

Matrix: Solid **Units:** mg/Kg

Type	Analyte	CAS	DCS Spike	DCS	MDL	PQL
A	1,2-Diphenylhydrazine	122-66-7	0.0033	0.0026	0.0011	0.0066
A	2,4-Dimethylphenol	105-67-9	0.0033	0.0027	0.0033	0.0066
A	2,4-Dinitrotoluene	121-14-2	0.0033	0.0053	0.00090	0.0066
A	2,6-Dinitrotoluene	606-20-2	0.0033	0.0046	0.0033	0.0066
A	2-Chloronaphthalene	91-58-7	0.0033	0.0031	0.0013	0.0066
A	2-Methylnaphthalene	91-57-6	0.0033	0.0032	0.00050	0.0033
A	4,6-Dinitro-2-methylphenol	534-52-1	0.0033	0.0064	0.0021	0.0066
A	4-Nitrophenol	100-02-7	0.0033	0.0022	0.0019	0.013
A	Acenaphthene	83-32-9	0.0033	0.0038	0.00050	0.0033
A	Acenaphthylene	208-96-8	0.0017	0.0016	0.0010	0.0033
A	Anthracene	120-12-7	0.0033	0.0031	0.00050	0.0033
A	Benz(a)anthracene	56-55-3	0.0033	0.0038	0.0016	0.0033
A	Benzo(a)pyrene	50-32-8	0.0033	0.0043	0.0010	0.0033
A	Bis(2-chloroethoxy)methane	111-91-1	0.0033	0.0030	0.00090	0.0066
A	Bis(2-ethylhexyl)phthalate	117-81-7	0.0033	0.0045	0.0017	0.0066
A	Chrysene	218-01-9	0.0033	0.0043	0.00080	0.0033
A	Dibenzofuran	132-64-9	0.0033	0.0033	0.00070	0.0033
A	Di-n-butyl phthalate	84-74-2	0.0033	0.0039	0.0012	0.0066
A	Fluoranthene	206-44-0	0.0017	0.0016	0.0011	0.0033
A	Fluorene	86-73-7	0.0033	0.0034	0.0011	0.0033
A	Naphthalene	91-20-3	0.0033	0.0032	0.00060	0.0033
A	Nitrobenzene	98-95-3	0.0033	0.0039	0.00090	0.0066
A	N-Nitrosodiphenylamine	86-30-6	0.0033	0.0024	0.00070	0.0066
A	Pentachlorophenol	87-86-5	0.0033	0.0023	0.0033	0.0066
A	Phenanthrene	85-01-8	0.0033	0.0032	0.0015	0.0033
A	Phenol	108-95-2	0.0033	0.0028	0.0011	0.0066
A	Pyrene	129-00-0	0.0033	0.0033	0.00060	0.0033
S	2,4,6-Tribromophenol	118-79-6	0	0	0	0
S	2-Fluorobiphenyl	321-60-8	0	0	0	0
S	2-Fluorophenol	367-12-4	0	0	0	0
S	4-Terphenyl-d14	1718-51-0	0	0	0	0
S	Nitrobenzene-d5	4165-60-0	0	0	0	0
S	Phenol-d6	13127-88-3	0	0	0	0

WorkOrder: HS16020580
InstrumentID: Balance1
Test Code: MOIST_ASTM
Test Number: ASTM D2216
Test Name: Moisture - ASTM D2216

METHOD DETECTION / REPORTING LIMITS

Matrix: Solid **Units:** wt%

Type	Analyte	CAS	DCS Spike	DCS	MDL	PQL
A	Percent Moisture	MOIST	0.0100	0.0100	0.0100	0.0100

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
WorkOrder: HS16020580

QC BATCH REPORT

Batch ID: 101437 **Instrument: ICPMS03** **Method: SW6020**

MBLK Sample ID: **MBLK-101437** Units: **mg/Kg** Analysis Date: **16-Feb-2016 12:33**
Client ID: Run ID: **ICPMS03_269326** SeqNo: **3584984** PrepDate: **15-Feb-2016** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	U	0.500								
Lead	U	0.500								

LCS Sample ID: **MLCS-101437** Units: **mg/Kg** Analysis Date: **16-Feb-2016 12:37**
Client ID: Run ID: **ICPMS03_269326** SeqNo: **3584985** PrepDate: **15-Feb-2016** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	9.242	0.500	10	0	92.4	80 - 120				
Lead	9.505	0.500	10	0	95.0	80 - 120				

MS Sample ID: **HS16020567-01MS** Units: **mg/Kg** Analysis Date: **16-Feb-2016 13:07**
Client ID: Run ID: **ICPMS03_269326** SeqNo: **3584995** PrepDate: **15-Feb-2016** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	11.16	0.495	9.907	1.225	100	75 - 125				
Lead	16.76	0.495	9.907	6.077	108	75 - 125				

MSD Sample ID: **HS16020567-01MSD** Units: **mg/Kg** Analysis Date: **16-Feb-2016 13:11**
Client ID: Run ID: **ICPMS03_269326** SeqNo: **3584996** PrepDate: **15-Feb-2016** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	10.15	0.486	9.722	1.225	91.8	75 - 125	11.16	9.44	20	
Lead	16.39	0.486	9.722	6.077	106	75 - 125	16.76	2.24	20	

PDS Sample ID: **HS16020567-01BS** Units: **mg/Kg** Analysis Date: **16-Feb-2016 13:15**
Client ID: Run ID: **ICPMS03_269326** SeqNo: **3584997** PrepDate: **15-Feb-2016** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	10.3	0.486	9.724	1.225	93.3	75 - 125				
Lead	15.23	0.486	9.724	6.077	94.1	75 - 125				

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
WorkOrder: HS16020580

QC BATCH REPORT

Batch ID: 101437 **Instrument: ICPMS03** **Method: SW6020**

SD Sample ID: **HS16020567-01 DIL SX** Units: **mg/Kg** Analysis Date: **16-Feb-2016 12:54**
Client ID: Run ID: **ICPMS03_269326** SeqNo: **3584989** PrepDate: **15-Feb-2016** DF: **5**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%D	%D Limit	Qual
Arsenic	1.203	2.43					1.225	0	10	J
Lead	6.102	2.43					6.077	0.4	10	

The following samples were anayzed in this batch: HS16020580-01

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
WorkOrder: HS16020580

QC BATCH REPORT

Batch ID: 101451 **Instrument: SV-7** **Method: SW8270**

MBLK Sample ID: **MBLK-101451** Units: **ug/Kg** Analysis Date: **16-Feb-2016 11:41**
Client ID: Run ID: **SV-7_269376** SeqNo: **3585738** PrepDate: **16-Feb-2016** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Diphenylhydrazine	U	6.6								
2,4-Dimethylphenol	U	6.6								
2,4-Dinitrotoluene	U	6.6								
2,6-Dinitrotoluene	U	6.6								
2-Chloronaphthalene	U	6.6								
2-Methylnaphthalene	U	3.3								
4,6-Dinitro-2-methylphenol	U	6.6								
4-Nitrophenol	U	13								
Acenaphthene	U	3.3								
Acenaphthylene	U	3.3								
Anthracene	U	3.3								
Benz(a)anthracene	U	3.3								
Benzo(a)pyrene	U	3.3								
Bis(2-chloroethoxy)methane	U	6.6								
Bis(2-ethylhexyl)phthalate	U	6.6								
Chrysene	U	3.3								
Dibenzofuran	U	3.3								
Di-n-butyl phthalate	U	6.6								
Fluoranthene	U	3.3								
Fluorene	U	3.3								
Naphthalene	U	3.3								
Nitrobenzene	U	6.6								
N-Nitrosodiphenylamine	U	6.6								
Pentachlorophenol	U	6.6								
Phenanthrene	U	3.3								
Phenol	U	6.6								
Pyrene	U	3.3								
Surr: 2,4,6-Tribromophenol	*153.7*	*0*	*167*	*0*	*92.0*	*36 - 126*				
Surr: 2-Fluorobiphenyl	*139.2*	*0*	*167*	*0*	*83.4*	*43 - 125*				
Surr: 2-Fluorophenol	*125.3*	*0*	*167*	*0*	*75.0*	*37 - 125*				
Surr: 4-Terphenyl-d14	*139.7*	*0*	*167*	*0*	*83.6*	*32 - 125*				
Surr: Nitrobenzene-d5	*175.5*	*0*	*167*	*0*	*105*	*37 - 125*				
Surr: Phenol-d6	*148.7*	*0*	*167*	*0*	*89.1*	*40 - 125*				

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
WorkOrder: HS16020580

QC BATCH REPORT

Batch ID: 101451 **Instrument: SV-7** **Method: SW8270**

LCS Sample ID: **LCS-101451** Units: **ug/Kg** Analysis Date: **16-Feb-2016 12:20**
Client ID: Run ID: **SV-7_269376** SeqNo: **3585739** PrepDate: **16-Feb-2016** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Diphenylhydrazine	120.3	6.6	167	0	72.0	50 - 135				
2,4-Dimethylphenol	116.4	6.6	167	0	69.7	45 - 120				
2,4-Dinitrotoluene	142.6	6.6	167	0	85.4	50 - 130				
2,6-Dinitrotoluene	140.1	6.6	167	0	83.9	50 - 125				
2-Chloronaphthalene	131.6	6.6	167	0	78.8	50 - 145				
2-Methylnaphthalene	124.9	3.3	167	0	74.8	50 - 120				
4,6-Dinitro-2-methylphenol	165.1	6.6	167	0	98.9	15 - 135				
4-Nitrophenol	140.1	13	167	0	83.9	40 - 147				
Acenaphthene	124.6	3.3	167	0	74.6	50 - 120				
Acenaphthylene	128.9	3.3	167	0	77.2	50 - 120				
Anthracene	123.8	3.3	167	0	74.2	50 - 123				
Benz(a)anthracene	137.4	3.3	167	0	82.3	50 - 131				
Benzo(a)pyrene	137	3.3	167	0	82.0	50 - 130				
Bis(2-chloroethoxy)methane	127	6.6	167	0	76.0	50 - 120				
Bis(2-ethylhexyl)phthalate	122.9	6.6	167	0	73.6	21 - 148				
Chrysene	129.3	3.3	167	0	77.4	50 - 130				
Dibenzofuran	133.8	3.3	167	0	80.1	50 - 125				
Di-n-butyl phthalate	124.9	6.6	167	0	74.8	50 - 140				
Fluoranthene	145.5	3.3	167	0	87.1	50 - 131				
Fluorene	136.4	3.3	167	0	81.7	50 - 125				
Naphthalene	122	3.3	167	0	73.1	50 - 125				
Nitrobenzene	156.5	6.6	167	0	93.7	50 - 125				
N-Nitrosodiphenylamine	121.5	6.6	167	0	72.8	50 - 130				
Pentachlorophenol	142.7	6.6	167	0	85.4	23 - 136				
Phenanthrene	117.8	3.3	167	0	70.6	50 - 125				
Phenol	122.5	6.6	167	0	73.4	45 - 130				
Pyrene	127.6	3.3	167	0	76.4	45 - 130				
Surr: 2,4,6-Tribromophenol	*175.1*	*0*	*167*	*0*	*105*	*36 - 126*				
Surr: 2-Fluorobiphenyl	*141.5*	*0*	*167*	*0*	*84.7*	*43 - 125*				
Surr: 2-Fluorophenol	*118.8*	*0*	*167*	*0*	*71.1*	*37 - 125*				
Surr: 4-Terphenyl-d14	*143.3*	*0*	*167*	*0*	*85.8*	*32 - 125*				
Surr: Nitrobenzene-d5	*173.9*	*0*	*167*	*0*	*104*	*37 - 125*				
Surr: Phenol-d6	*149.4*	*0*	*167*	*0*	*89.5*	*40 - 125*				

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
WorkOrder: HS16020580

QC BATCH REPORT

Batch ID: 101451 **Instrument: SV-7** **Method: SW8270**

MS Sample ID: **HS16020423-04MS** Units: **ug/Kg** Analysis Date: **16-Feb-2016 18:23**
Client ID: Run ID: **SV-7_269376** SeqNo: **3585741** PrepDate: **16-Feb-2016** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Diphenylhydrazine	123.7	6.6	166.2	0	74.5	50 - 135				
2,4-Dimethylphenol	119	6.6	166.2	0	71.6	45 - 120				
2,4-Dinitrotoluene	132.7	6.6	166.2	0	79.9	50 - 130				
2,6-Dinitrotoluene	133.3	6.6	166.2	0	80.2	50 - 125				
2-Chloronaphthalene	122.6	6.6	166.2	0	73.8	50 - 145				
2-Methylnaphthalene	117.4	3.3	166.2	0	70.7	50 - 120				
4,6-Dinitro-2-methylphenol	137.7	6.6	166.2	0	82.9	15 - 135				
4-Nitrophenol	135.4	13	166.2	0	81.5	40 - 147				
Acenaphthene	116.9	3.3	166.2	0	70.3	50 - 120				
Acenaphthylene	121.2	3.3	166.2	0	72.9	50 - 120				
Anthracene	127.4	3.3	166.2	0	76.7	50 - 123				
Benz(a)anthracene	148.3	3.3	166.2	0	89.3	50 - 131				
Benzo(a)pyrene	143	3.3	166.2	0	86.0	50 - 130				
Bis(2-chloroethoxy)methane	124.4	6.6	166.2	0	74.9	50 - 120				
Bis(2-ethylhexyl)phthalate	141.4	6.6	166.2	0	85.1	21 - 148				
Chrysene	143.4	3.3	166.2	0	86.3	50 - 130				
Dibenzofuran	126.2	3.3	166.2	0	75.9	50 - 125				
Di-n-butyl phthalate	126	6.6	166.2	0	75.8	50 - 140				
Fluoranthene	143.5	3.3	166.2	0	86.4	50 - 131				
Fluorene	127	3.3	166.2	0	76.4	50 - 125				
Naphthalene	120.4	3.3	166.2	0	72.4	50 - 125				
Nitrobenzene	155.6	6.6	166.2	0	93.6	50 - 125				
N-Nitrosodiphenylamine	125.6	6.6	166.2	0	75.6	50 - 130				
Pentachlorophenol	141	6.6	166.2	0	84.9	23 - 136				
Phenanthrene	122.7	3.3	166.2	0	73.8	50 - 125				
Phenol	106.2	6.6	166.2	0	63.9	45 - 130				
Pyrene	132.8	3.3	166.2	0	79.9	45 - 130				
Surr: 2,4,6-Tribromophenol	*176.9*	*0*	*166.2*	*0*	*106*	*36 - 126*				
Surr: 2-Fluorobiphenyl	*127*	*0*	*166.2*	*0*	*76.4*	*43 - 125*				
Surr: 2-Fluorophenol	*93.01*	*0*	*166.2*	*0*	*56.0*	*37 - 125*				
Surr: 4-Terphenyl-d14	*143.3*	*0*	*166.2*	*0*	*86.2*	*32 - 125*				
Surr: Nitrobenzene-d5	*155.2*	*0*	*166.2*	*0*	*93.4*	*37 - 125*				
Surr: Phenol-d6	*119.1*	*0*	*166.2*	*0*	*71.7*	*40 - 125*				

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
WorkOrder: HS16020580

QC BATCH REPORT

Batch ID: 101451 **Instrument: SV-7** **Method: SW8270**

MSD Sample ID: **HS16020423-04MSD** Units: **ug/Kg** Analysis Date: **16-Feb-2016 18:42**
Client ID: Run ID: **SV-7_269376** SeqNo: **3585742** PrepDate: **16-Feb-2016** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual
1,2-Diphenylhydrazine	116.9	6.6	166.2	0	70.3	50 - 135	123.7	5.66	30	
2,4-Dimethylphenol	98.15	6.6	166.2	0	59.0	45 - 120	119	19.2	30	
2,4-Dinitrotoluene	133.7	6.6	166.2	0	80.4	50 - 130	132.7	0.725	30	
2,6-Dinitrotoluene	118.7	6.6	166.2	0	71.4	50 - 125	133.3	11.6	30	
2-Chloronaphthalene	106.2	6.6	166.2	0	63.9	50 - 145	122.6	14.3	30	
2-Methylnaphthalene	93.74	3.3	166.2	0	56.4	50 - 120	117.4	22.4	30	
4,6-Dinitro-2-methylphenol	103.9	6.6	166.2	0	62.5	15 - 135	137.7	27.9	30	
4-Nitrophenol	139.2	13	166.2	0	83.8	40 - 147	135.4	2.81	30	
Acenaphthene	105.4	3.3	166.2	0	63.4	50 - 120	116.9	10.3	30	
Acenaphthylene	105.5	3.3	166.2	0	63.5	50 - 120	121.2	13.8	30	
Anthracene	125.2	3.3	166.2	0	75.3	50 - 123	127.4	1.79	30	
Benz(a)anthracene	138.8	3.3	166.2	0	83.5	50 - 131	148.3	6.61	30	
Benzo(a)pyrene	136.1	3.3	166.2	0	81.9	50 - 130	143	4.88	30	
Bis(2-chloroethoxy)methane	94.12	6.6	166.2	0	56.6	50 - 120	124.4	27.7	30	
Bis(2-ethylhexyl)phthalate	137.3	6.6	166.2	0	82.6	21 - 148	141.4	2.97	30	
Chrysene	133.1	3.3	166.2	0	80.1	50 - 130	143.4	7.46	30	
Dibenzofuran	118.2	3.3	166.2	0	71.1	50 - 125	126.2	6.49	30	
Di-n-butyl phthalate	121.7	6.6	166.2	0	73.2	50 - 140	126	3.47	30	
Fluoranthene	138.7	3.3	166.2	0	83.5	50 - 131	143.5	3.41	30	
Fluorene	124.8	3.3	166.2	0	75.1	50 - 125	127	1.73	30	
Naphthalene	87.6	3.3	166.2	0	52.7	50 - 125	120.4	31.5	30	R
Nitrobenzene	113.1	6.6	166.2	0	68.0	50 - 125	155.6	31.7	30	R
N-Nitrosodiphenylamine	120.8	6.6	166.2	0	72.7	50 - 130	125.6	3.9	30	
Pentachlorophenol	142.3	6.6	166.2	0	85.6	23 - 136	141	0.878	30	
Phenanthrene	118.4	3.3	166.2	0	71.2	50 - 125	122.7	3.57	30	
Phenol	62.71	6.6	166.2	0	37.7	45 - 130	106.2	51.5	30	SR
Pyrene	121.1	3.3	166.2	0	72.9	45 - 130	132.8	9.2	30	
Surr: 2,4,6-Tribromophenol	*167.9*	*0*	*166.2*	*0*	*101*	*36 - 126*	*176.9*	*5.23*	*30*	
Surr: 2-Fluorobiphenyl	*100.5*	*0*	*166.2*	*0*	*60.5*	*43 - 125*	*127*	*23.3*	*30*	
Surr: 2-Fluorophenol	*73.28*	*0*	*166.2*	*0*	*44.1*	*37 - 125*	*93.01*	*23.7*	*30*	
Surr: 4-Terphenyl-d14	*127.7*	*0*	*166.2*	*0*	*76.9*	*32 - 125*	*143.3*	*11.5*	*30*	
Surr: Nitrobenzene-d5	*107.6*	*0*	*166.2*	*0*	*64.8*	*37 - 125*	*155.2*	*36.2*	*30*	R
Surr: Phenol-d6	*87.49*	*0*	*166.2*	*0*	*52.6*	*40 - 125*	*119.1*	*30.6*	*30*	R

The following samples were anayzed in this batch: HS16020580-01

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
WorkOrder: HS16020580

QC BATCH REPORT

Batch ID: **R269349** **Instrument:** **Balance1** **Method:** **ASTM D2216**

DUP Sample ID: **HS16020580-01DUP** Units: **wt%** Analysis Date: **16-Feb-2016 16:16**
Client ID: **SO-1620-CSG5(0-3)-20160215** Run ID: **Balance1_269349** SeqNo: **3585265** PrepDate: DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Percent Moisture	18.6	0.0100					17.8	4.4	20	

The following samples were anayzed in this batch: HS16020580-01

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
WorkOrder: **HS16020580**

QUALIFIERS, ACRONYMS, UNITS

Qualifier	Description
*	Value exceeds Regulatory Limit
a	Not accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte detected below quantitation limit
M	Manually integrated, see raw data for justification
n	Not offered for accreditation
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL/SDL

Acronym	Description
DCS	Detectability Check Study
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
MBLK	Method Blank
MDL	Method Detection Limit
MQL	Method Quantitation Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PDS	Post Digestion Spike
PQL	Practical Quantitaion Limit
SD	Serial Dilution
SDL	Sample Detection Limit
TRRP	Texas Risk Reduction Program

Unit Reported	Description
mg/Kg-dry	Milligrams per Kilogram- Dry weight corrected

CERTIFICATIONS,ACCREDITATIONS & LICENSES

Agency	Number	Expire Date
Arkansas	15-024-0	27-Mar-2016
California	2919	31-Jul-2016
Illinois	003622	09-May-2016
Kentucky	KY 2015-2016	30-Apr-2016
Louisiana	03087 2015/2016	30-Jun-2016
North Carolina	624 - 2016	31-Dec-2016
North Dakota	R-193 2015-2016	30-Apr-2016
Oklahoma	2015-047	31-Aug-2016
Texas	T104704231-15-15	30-Apr-2016

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
Work Order: HS16020580

SAMPLE TRACKING

Lab Samp ID	Client Sample ID	Action	Date	Person	New Location
HS16020580-01	SO-1620-CSG5(0-3)-20160215	Login	2/15/2016 6:31:27 PM	BHH	17D

Sample Receipt Checklist

Client Name: PBW
Work Order: HS16020580

Date/Time Received: **15-Feb-2016 18:20**
Received by: **BHH**

Checklist completed by: *Baudelio Hernandez* eSignature — 15-Feb-2016 Date

Reviewed by: *Dane J. Wacasey* eSignature — 16-Feb-2016 Date

Matrices: **Soil**

Carrier name: **Client**

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on shipping container/cooler?	Yes ☐	No ☐	Not Present ☑
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☑	No ☐	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
TX1005 solids received in hermetically sealed vials?	Yes ☐	No ☐	N/A ☑
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time?	Yes ☑	No ☐	
Container/Temp Blank temperature in compliance?	Yes ☑	No ☐	
Temperature(s)/Thermometer(s):	0.4c / 0.6c u/c	IR#4	
Cooler(s)/Kit(s):	2900		
Date/Time sample(s) sent to storage:	02/15/2016 18:35		
Water - VOA vials have zero headspace?	Yes ☐	No ☐	No VOA vials submitted ☑
Water - pH acceptable upon receipt?	Yes ☐	No ☐	N/A ☑
pH adjusted?	Yes ☐	No ☐	N/A ☑
pH adjusted by:			

Login Notes:

Client Contacted: Date Contacted: Person Contacted:

Contacted By: 0 Regarding:

Comments:

Corrective Action:

ALS Environmental

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Fort Collins, CO +1 970 490 1511
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Chain of Custody Form

Page 1 of 1

COC ID: 141657

HS16020580

Pastor, Behling & Wheeler, LLC

1620-10-Rev1 HoustonTX-Wood

ALS Project Manager:

Customer Information		Project Information			
Purchase Order	UPRR	Project Name	1620-10-Rev1 HoustonTX Wood	A	SVOC
Work Order		Project Number	1620-10-Rev1	B	ICP - As, Pb
Company Name	Pastor, Behling & Wheeler, LLC	Bill To Company	Union Pacific RR - A/P	C	Moisture
Send Report To	Eric Matzner	Invoice Attn	Accounts Payable	D	
Address	2201 Double Creek Dr. Suite 4004	Address	1400 Douglas Street Stop 0750	E	
City/State/Zip	Round Rock, TX 78664	City/State/Zip	Omaha, NE 68179075	F	
Phone	(512) 671-3434	Phone		G	
Fax	(512) 671-3446	Fax		H	
e-Mail Address		e-Mail Address		I	
				J	

No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
1	SO-1620-CSG5(0-3)-20160215	2/15/2016	1620	Soil	8	1	X	X	X				Rush TAT				
2																	
3																	
4																	
5																	
6																	
7																	
8																	
9																	
10																	

Sampler(s) Please Print & Sign: Stephen Grahmann

Shipment Method:

Required Turnaround Time: (Check Box) ☐ STD 10 Wk Days ☐ 5 Wk Days ☐ 2 Wk Days ☑ 24 Hour ☐ Other

Results Due Date:

Relinquished by: Stephen Grahmann	Date: 2/15/16	Time: 1820	Received by:	2/15/16 1820	Notes:
Relinquished by:	Date:	Time:	Received by (Laboratory):		
Logged by (Laboratory):	Date:	Time:	Checked by (Laboratory):		

Cooler ID	Cooler Temp
2900	0.4°
	#4

QC Package: (Check One Box Below)
☐ Level II Std QC ☐ TRRP Checklist
☐ Level III Std QC/Raw Date ☐ TRRP Level IV
☐ Level IV SW846/CLP
☐ Other

Preservative Key: 1-HCl 2-HNO_3 3-H_2SO_4 4-NaOH 5-$Na_2S_2O_3$ 6-$NaHSO_4$ 7-Other 8-4°C 9-5035

Note: 1. Any changes must be made in writing once samples and COC Form have been submitted to ALS Environmental.
2. Unless otherwise agreed in a formal contract, services provided by ALS Environmental are expressly limited to the terms and conditions stated on the reverse.
3. The Chain of Custody is a legal document. All information must be completed accurately.

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February 18, 2016

Eric Matzner
Pastor, Behling & Wheeler, LLC
2201 Double Creek Drive
Suite 4004
Round Rock, TX 78664

Work Order: **HS16020604**

Laboratory Results for: **1620-10-Rev1 HoustonTX-Wood**

Dear Eric,

ALS Environmental received 1 sample(s) on Feb 16, 2016 for the analysis presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested. Results are expressed as "as received" unless otherwise noted.

QC sample results for this data met EPA or laboratory specifications except as noted in the Case Narrative or as noted with qualifiers in the QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained by ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

If you have any questions regarding this report, please feel free to call me.

Sincerely,

Generated By: Dane.Wacasey
Dane J. Wacasey

Client:	Pastor, Behling & Wheeler, LLC	**TRRP Laboratory Data Package Cover Page**
Project:	1620-10-Rev1 HoustonTX-Wood	
WorkOrder:	**HS16020604**	

This data package consists of all or some of the following as applicable:

This signature page, the laboratory review checklist, and the following reportable data:

R1 Field chain-of-custody documentation;

R2 Sample identification cross-reference;

R3 Test reports (analytical data sheets) for each environmental sample that includes:

a) Items consistent with NELAC Chapter 5,
b) dilution factors,
c) preparation methods,
d) cleanup methods, and
e) if required for the project, tentatively identified compounds (TICs).

R4 Surrogate recovery data including:

a) Calculated recovery (%R), and
b) The laboratory's surrogate QC limits.

R5 Test reports/summary forms for blank samples;

R6 Test reports/summary forms for laboratory control samples (LCSs) including:

a) LCS spiking amounts,
b) Calculated %R for each analyte, and
c)The laboratory's LCS QC limits.

R7 Test reports for project matrix spike/matrix spike duplicates (MS/MSDs) including:

a) Samples associated with the MS/MSD clearly identified,
b) MS/MSD spiking amounts,
c) Concentration of each MS/MSD analyte measured in the parent and spiked samples,
d) Calculated %Rs and relative percent differences (RPDs), and
e) The laboratory's MS/MSD QC limits.

R8 Laboratory analytical duplicate (if applicable) recovery and precision:

a) the amount of analyte measured in the duplicate,
b) the calculated RPD, and
c) the laboratory's QC limits for analytical duplicates.

R9 List of method quantitation limits (MQLs) and detectability check sample results for each analyte for each method and matrix.

R10 Other problems or anomalies.
The Exception Report for each "No" or "Not Reviewed (NR)" item in Laboratory Review Checklist and for each analyte, matrix, and method for which the laboratory does not hold NELAC accreditation under the Texas Laboratory Accreditation Program.

Client:	Pastor, Behling & Wheeler, LLC
Project:	1620-10-Rev1 HoustonTX-Wood
WorkOrder:	**HS16020604**

TRRP Laboratory Data Package Cover Page

Release Statement: I am responsible for the release of this laboratory data package. This laboratory is NELAC accredited under the Texas Laboratory Accreditation Program for all the methods, analytes and matrices reported in this data package except as noted in the Exception Reports. The data have been reviewed and are technically compliant with the requirements of the methods used, except where noted by the laboratory in the attached exception reports. By my signature below, I affirm to the best of my knowledge, all problems/anomalies, observed by the laboratory have been identified by the laboratory in the Laboratory Review Checklist, and no information affecting the quality of the data has been knowingly withheld.

Check, if applicable: [NA] This laboratory meets an exception under 30 TAC §25.6 and was last inspected by [ ] TCEQ or [ ] _____ on (enter date of last inspection). Any findings affecting the data in this laboratory data package are noted in the Exception Reports herein. The official signing the cover page of the report in which these data are used is responsible for releasing this data package and is by signature affirming the above release statement is true.

Dane J. Wacasey

Laboratory Review Checklist: Reportable Data								
Laboratory Name: ALS Laboratory Group			LRC Date: 02/18/2016					
Project Name: 1620-10-Rev1 HoustonTX-Wood			Laboratory Job Number: HS16020604					
Reviewer Name: Dane Wacasey			Prep Batch Number(s): 101471, 101486, R269405					
#[1]	**A[2]**	**Description**	**Yes**	**No**	**NA[3]**	**NR[4]**	**ER#[5]**
R1	OI	**Chain-of-custody (C-O-C)**					
		Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?	X				
		Were all departures from standard conditions described in an exception report?	X				
R2	OI	**Sample and quality control (QC) identification**					
		Are all field sample ID numbers cross-referenced to the laboratory ID numbers?	X				
		Are all laboratory ID numbers cross-referenced to the corresponding QC data?	X				
R3	OI	**Test reports**					
		Were all samples prepared and analyzed within holding times?	X				
		Other than those results < MQL, were all other raw values bracketed by calibration standards?	X				
		Were calculations checked by a peer or supervisor?	X				
		Were all analyte identifications checked by a peer or supervisor?	X				
		Were sample detection limits reported for all analytes not detected?	X				
		Were all results for soil and sediment samples reported on a dry weight basis?	X				
		Were % moisture (or solids) reported for all soil and sediment samples?	X				
		Were bulk soils/solids samples for volatile analysis extracted with methanol per SW-846 Method 5035?			X		
		If required for the project, TICs reported?			X		
R4	O	**Surrogate recovery data**					
		Were surrogates added prior to extraction?	X				
		Were surrogate percent recoveries in all samples within the laboratory QC limits?	X				
R5	OI	**Test reports/summary forms for blank samples**					
		Were appropriate type(s) of blanks analyzed?	X				
		Were blanks analyzed at the appropriate frequency?	X				
		Were method blanks taken through the entire analytical process, including preparation and, if applicable, cleanup procedures?	X				
		Were blank concentrations < MQL?	X				
R6	OI	**Laboratory control samples (LCS):**					
		Were all COCs included in the LCS?	X				
		Was each LCS taken through the entire analytical procedure, including prep and cleanup steps?	X				
		Were LCSs analyzed at the required frequency?	X				
		Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?	X				
		Does the detectability data document the laboratory's capability to detect the COCs at the MDL used to calculate the SDLs?	X				
		Was the LCSD RPD within QC limits?	X				
R7	OI	**Matrix spike (MS) and matrix spike duplicate (MSD) data**					
		Were the project/method specified analytes included in the MS and MSD?	X				
		Were MS/MSD analyzed at the appropriate frequency?	X				
		Were MS (and MSD, if applicable) %Rs within the laboratory QC limits?	X				
		Were MS/MSD RPDs within laboratory QC limits?	X				
R8	OI	**Analytical duplicate data**					
		Were appropriate analytical duplicates analyzed for each matrix?	X				
		Were analytical duplicates analyzed at the appropriate frequency?	X				
		Were RPDs or relative standard deviations within the laboratory QC limits?	X				
R9	OI	**Method quantitation limits (MQLs):**					
		Are the MQLs for each method analyte included in the laboratory data package?	X				
		Do the MQLs correspond to the concentration of the lowest non-zero calibration standard?	X				
		Are unadjusted MQLs and DCSs included in the laboratory data package?	X				
R10	OI	**Other problems/anomalies**					
		Are all known problems/anomalies/special conditions noted in this LRC and ER?	X				
		Were all necessary corrective actions performed for the reported data?	X				
		Was applicable and available technology used to lower the SDL and minimize the matrix interference affects on the sample results?	X				
		Is the laboratory NELAC-accredited under the Texas Laboratory Program for the analytes, matrices and methods associated with this laboratory data package?	X				

Laboratory Review Checklist: Reportable Data							
Laboratory Name: ALS Laboratory Group			LRC Date: 02/18/2016				
Project Name: 1620-10-Rev1 HoustonTX-Wood			Laboratory Job Number: HS16020604				
Reviewer Name: Dane Wacasey			Prep Batch Number(s): 101471, 101486, R269405				
#[1]	A[2]	Description	Yes	No	NA[3]	NR[4]	ER#[5]
S1	OI	**Initial calibration (ICAL)**					
		Were response factors and/or relative response factors for each analyte within QC limits?	X				
		Were percent RSDs or correlation coefficient criteria met?	X				
		Was the number of standards recommended in the method used for all analytes?	X				
		Were all points generated between the lowest and highest standard used to calculate the curve?	X				
		Are ICAL data available for all instruments used?	X				
		Has the initial calibration curve been verified using an appropriate second source standard?	X				
S2	OI	**Initial and continuing calibration verification (ICCV and CCV) and continuing calibration blank (CCB)**					
		Was the CCV analyzed at the method-required frequency?	X				
		Were percent differences for each analyte within the method-required QC limits?	X				
		Was the ICAL curve verified for each analyte?	X				
		Was the absolute value of the analyte concentration in the inorganic CCB < MDL?	X				
S3	O	**Mass spectral tuning:**					
		Was the appropriate compound for the method used for tuning?	X				
		Were ion abundance data within the method-required QC limits?	X				
S4	O	**Internal standards (IS):**					
		Were IS area counts and retention times within the method-required QC limits?	X				
S5	OI	**Raw data** (NELAC section 1 appendix A glossary, and section 5.12 or ISO/IEC 17025 section					
		Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst?	X				
		Were data associated with manual integrations flagged on the raw data?	X				
S6	O	**Dual column confirmation**					
		Did dual column confirmation results meet the method-required QC?			X		
S7	O	**Tentatively identified compounds (TICs):**					
		If TICs were requested, were the mass spectra and TIC data subject to appropriate checks?			X		
S8	I	**Interference Check Sample (ICS) results:**					
		Were percent recoveries within method QC limits?	X				
S9	I	**Serial dilutions, post digestion spikes, and method of standard additions**					
		Were percent differences, recoveries, and the linearity within the QC limits specified in the method?	X				
S10	OI	**Method detection limit (MDL) studies**					
		Was a MDL study performed for each reported analyte?	X				
		Is the MDL either adjusted or supported by the analysis of DCSs?	X				
S11	OI	**Proficiency test reports:**					
		Was the laboratory's performance acceptable on the applicable proficiency tests or evaluation studies?	X				
S12	OI	**Standards documentation**					
		Are all standards used in the analyses NIST-traceable or obtained from other appropriate sources?	X				
S13	OI	**Compound/analyte identification procedures**					
		Are the procedures for compound/analyte identification documented?	X				
S14	OI	**Demonstration of analyst competency (DOC)**					
		Was DOC conducted consistent with NELAC Chapter 5C or ISO/IEC 4?	X				
		Is documentation of the analyst's competency up-to-date and on file?	X				
S15	OI	**Verification/validation documentation for methods** (NELAC Chap 5 or ISO/IEC 17025 Section 5)					
		Are all the methods used to generate the data documented, verified, and validated, where applicable?	X				
S16	OI	**Laboratory standard operating procedures (SOPs):**					
		Are laboratory SOPs current and on file for each method performed?	X				

Items identified by the letter "R" must be included in the laboratory data package submitted in the TRRP-required report(s). Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period.
O = Organic Analyses; I = Inorganic Analyses (and general chemistry, when applicable);
NA = Not Applicable;
NR = Not Reviewed;
R# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

Laboratory Review Checklist: Reportable Data	
Laboratory Name: ALS Laboratory Group	LRC Date: 02/18/2016
Project Name: 1620-10-Rev1 HoustonTX-Wood	Laboratory Job Number: HS16020604
Reviewer Name: Dane Wacasey	Prep Batch Number(s): 101471, 101486, R269405

ER#[5]	Description
	No Exceptions

Items identified by the letter "R" must be included in the laboratory data package submitted in the TRRP-required report(s). Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period.
O = Organic Analyses; I = Inorganic Analyses (and general chemistry, when applicable);
NA = Not Applicable;
NR = Not Reviewed;
R# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
Work Order: HS16020604

SAMPLE SUMMARY

Lab Samp ID	Client Sample ID	Matrix	TagNo	Collection Date	Date Received	Hold
HS16020604-01	SO-1620-CSG6(3)-20160216	Soil		16-Feb-2016 11:30	16-Feb-2016 14:46	☐

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
Sample ID: SO-1620-CSG6(3)-20160216
Collection Date: 16-Feb-2016 11:30

ANALYTICAL REPORT
WorkOrder:HS16020604
Lab ID:HS16020604-01
Matrix:Soil

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES		**Method:SW8270**			Prep:SW3541 / 17-Feb-2016		Analyst: ACN
1,2-Diphenylhydrazine	U		0.0013	0.0079	mg/Kg-dry	1	17-Feb-2016 15:37
2,4-Dimethylphenol	U		0.0039	0.0079	mg/Kg-dry	1	17-Feb-2016 15:37
2,4-Dinitrotoluene	U		0.0011	0.0079	mg/Kg-dry	1	17-Feb-2016 15:37
2,6-Dinitrotoluene	U		0.0039	0.0079	mg/Kg-dry	1	17-Feb-2016 15:37
2-Chloronaphthalene	U		0.0016	0.0079	mg/Kg-dry	1	17-Feb-2016 15:37
2-Methylnaphthalene	**0.0057**		**0.00060**	**0.0039**	**mg/Kg-dry**	1	17-Feb-2016 15:37
4,6-Dinitro-2-methylphenol	U		0.0025	0.0079	mg/Kg-dry	1	17-Feb-2016 15:37
4-Nitrophenol	U		0.0023	0.016	mg/Kg-dry	1	17-Feb-2016 15:37
Acenaphthene	U		0.00060	0.0039	mg/Kg-dry	1	17-Feb-2016 15:37
Acenaphthylene	U		0.0012	0.0039	mg/Kg-dry	1	17-Feb-2016 15:37
Anthracene	**0.0063**		**0.00060**	**0.0039**	**mg/Kg-dry**	1	17-Feb-2016 15:37
Benz(a)anthracene	**0.0087**		**0.0019**	**0.0039**	**mg/Kg-dry**	1	17-Feb-2016 15:37
Benzo(a)pyrene	**0.0059**		**0.0012**	**0.0039**	**mg/Kg-dry**	1	17-Feb-2016 15:37
Bis(2-chloroethoxy)methane	U		0.0011	0.0079	mg/Kg-dry	1	17-Feb-2016 15:37
Bis(2-ethylhexyl)phthalate	**0.0077**	J	**0.0020**	**0.0079**	**mg/Kg-dry**	1	17-Feb-2016 15:37
Chrysene	**0.019**		**0.00096**	**0.0039**	**mg/Kg-dry**	1	17-Feb-2016 15:37
Dibenzofuran	U		0.00084	0.0039	mg/Kg-dry	1	17-Feb-2016 15:37
Di-n-butyl phthalate	**0.0039**	J	**0.0014**	**0.0079**	**mg/Kg-dry**	1	17-Feb-2016 15:37
Fluoranthene	U		0.0013	0.0039	mg/Kg-dry	1	17-Feb-2016 15:37
Fluorene	**0.0083**		**0.0013**	**0.0039**	**mg/Kg-dry**	1	17-Feb-2016 15:37
Naphthalene	U		0.00072	0.0039	mg/Kg-dry	1	17-Feb-2016 15:37
Nitrobenzene	U		0.0011	0.0079	mg/Kg-dry	1	17-Feb-2016 15:37
N-Nitrosodiphenylamine	U		0.00084	0.0079	mg/Kg-dry	1	17-Feb-2016 15:37
Pentachlorophenol	U		0.0039	0.0079	mg/Kg-dry	1	17-Feb-2016 15:37
Phenanthrene	**0.025**		**0.0018**	**0.0039**	**mg/Kg-dry**	1	17-Feb-2016 15:37
Phenol	U		0.0013	0.0079	mg/Kg-dry	1	17-Feb-2016 15:37
Pyrene	**0.021**		**0.00072**	**0.0039**	**mg/Kg-dry**	1	17-Feb-2016 15:37
Surr: 2,4,6-Tribromophenol	*83.6*			*36-126*	*%REC*	*1*	*17-Feb-2016 15:37*
Surr: 2-Fluorobiphenyl	*69.5*			*43-125*	*%REC*	*1*	*17-Feb-2016 15:37*
Surr: 2-Fluorophenol	*65.3*			*37-125*	*%REC*	*1*	*17-Feb-2016 15:37*
Surr: 4-Terphenyl-d14	*80.3*			*32-125*	*%REC*	*1*	*17-Feb-2016 15:37*
Surr: Nitrobenzene-d5	*84.5*			*37-125*	*%REC*	*1*	*17-Feb-2016 15:37*
Surr: Phenol-d6	*70.2*			*40-125*	*%REC*	*1*	*17-Feb-2016 15:37*
METALS BY SW6020A		**Method:SW6020**			Prep:SW3050A / 16-Feb-2016		Analyst: JDE
Arsenic	**1.71**		**0.113**	**0.564**	**mg/Kg-dry**	1	17-Feb-2016 11:46
Lead	**7.35**		**0.0564**	**0.564**	**mg/Kg-dry**	1	17-Feb-2016 11:46
MOISTURE - ASTM D2216		**Method:ASTM D2216**					Analyst: DFF
Percent Moisture	**16.4**		**0.0100**	**0.0100**	**wt%**	1	17-Feb-2016 09:10

Note: See Qualifiers Page for a list of qualifiers and their explanation.

WEIGHT LOG

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
WorkOrder: HS16020604

Batch ID: 101471 **Method:** METALS BY SW6020A **Prep:** 3050_I_LOW

SampID	Container	Sample Wt/Vol	Final Volume	Prep Factor
HS16020604-01	1	0.5299	50 (mL)	94.36

Batch ID: 101486 **Method:** LOW-LEVEL SEMIVOLATILES **Prep:** 3541_B_LOW

SampID	Container	Sample Wt/Vol	Final Volume	Prep Factor
HS16020604-01	1	30.05	1 (mL)	0.03328

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
WorkOrder: HS16020604

DATES REPORT

Sample ID	Client Samp ID	Collection Date	TCLP Date	Prep Date	Analysis Date	DF
Batch ID 101471	**Test Name :** METALS BY SW6020A			**Matrix:** Soil		
HS16020604-01	SO-1620-CSG6(3)-20160216	16 Feb 2016 11:30		16 Feb 2016 19:45	17 Feb 2016 11:46	1
Batch ID 101486	**Test Name :** LOW-LEVEL SEMIVOLATILES			**Matrix:** Soil		
HS16020604-01	SO-1620-CSG6(3)-20160216	16 Feb 2016 11:30		17 Feb 2016 12:13	17 Feb 2016 15:37	1
Batch ID R269405	**Test Name :** MOISTURE - ASTM D2216			**Matrix:** Soil		
HS16020604-01	SO-1620-CSG6(3)-20160216	16 Feb 2016 11:30			17 Feb 2016 09:10	1

WorkOrder: HS16020604
InstrumentID: ICPMS03
Test Code: ICP_S_Low
Test Number: SW6020
Test Name: Metals by SW6020A

METHOD DETECTION / REPORTING LIMITS

Matrix: Solid **Units:** mg/Kg

Type	Analyte	CAS	DCS Spike	DCS	MDL	PQL
A	Arsenic	7440-38-2	0.100	0.0864	0.100	0.500
A	Lead	7439-92-1	0.100	0.0898	0.0500	0.500

WorkOrder: HS16020604
InstrumentID: SV-7
Test Code: 8270_LOW_S
Test Number: SW8270
Test Name: Low-Level Semivolatiles

METHOD DETECTION / REPORTING LIMITS

Matrix: Solid **Units:** mg/Kg

Type	Analyte	CAS	DCS Spike	DCS	MDL	PQL
A	1,2-Diphenylhydrazine	122-66-7	0.0033	0.0026	0.0011	0.0066
A	2,4-Dimethylphenol	105-67-9	0.0033	0.0027	0.0033	0.0066
A	2,4-Dinitrotoluene	121-14-2	0.0033	0.0053	0.00090	0.0066
A	2,6-Dinitrotoluene	606-20-2	0.0033	0.0046	0.0033	0.0066
A	2-Chloronaphthalene	91-58-7	0.0033	0.0031	0.0013	0.0066
A	2-Methylnaphthalene	91-57-6	0.0033	0.0032	0.00050	0.0033
A	4,6-Dinitro-2-methylphenol	534-52-1	0.0033	0.0064	0.0021	0.0066
A	4-Nitrophenol	100-02-7	0.0033	0.0022	0.0019	0.013
A	Acenaphthene	83-32-9	0.0033	0.0038	0.00050	0.0033
A	Acenaphthylene	208-96-8	0.0017	0.0016	0.0010	0.0033
A	Anthracene	120-12-7	0.0033	0.0031	0.00050	0.0033
A	Benz(a)anthracene	56-55-3	0.0033	0.0038	0.0016	0.0033
A	Benzo(a)pyrene	50-32-8	0.0033	0.0043	0.0010	0.0033
A	Bis(2-chloroethoxy)methane	111-91-1	0.0033	0.0030	0.00090	0.0066
A	Bis(2-ethylhexyl)phthalate	117-81-7	0.0033	0.0045	0.0017	0.0066
A	Chrysene	218-01-9	0.0033	0.0043	0.00080	0.0033
A	Dibenzofuran	132-64-9	0.0033	0.0033	0.00070	0.0033
A	Di-n-butyl phthalate	84-74-2	0.0033	0.0039	0.0012	0.0066
A	Fluoranthene	206-44-0	0.0017	0.0016	0.0011	0.0033
A	Fluorene	86-73-7	0.0033	0.0034	0.0011	0.0033
A	Naphthalene	91-20-3	0.0017	0.0014	0.00060	0.0033
A	Nitrobenzene	98-95-3	0.0033	0.0039	0.00090	0.0066
A	N-Nitrosodiphenylamine	86-30-6	0.0033	0.0024	0.00070	0.0066
A	Pentachlorophenol	87-86-5	0.0033	0.0023	0.0033	0.0066
A	Phenanthrene	85-01-8	0.0033	0.0032	0.0015	0.0033
A	Phenol	108-95-2	0.0033	0.0028	0.0011	0.0066
A	Pyrene	129-00-0	0.0033	0.0033	0.00060	0.0033
S	2,4,6-Tribromophenol	118-79-6	0	0	0	0
S	2-Fluorobiphenyl	321-60-8	0	0	0	0
S	2-Fluorophenol	367-12-4	0	0	0	0
S	4-Terphenyl-d14	1718-51-0	0	0	0	0
S	Nitrobenzene-d5	4165-60-0	0	0	0	0
S	Phenol-d6	13127-88-3	0	0	0	0

WorkOrder: HS16020604
InstrumentID: Balance1
Test Code: MOIST_ASTM
Test Number: ASTM D2216
Test Name: Moisture - ASTM D2216

METHOD DETECTION / REPORTING LIMITS

Matrix: Solid **Units:** wt%

Type	Analyte	CAS	DCS Spike	DCS	MDL	PQL
A	Percent Moisture	MOIST	0.0100	0.0100	0.0100	0.0100

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
WorkOrder: HS16020604

QC BATCH REPORT

Batch ID: 101471 **Instrument: ICPMS03** **Method: SW6020**

MBLK Sample ID: **MBLK-101471** Units: **mg/Kg** Analysis Date: **17-Feb-2016 11:38**
Client ID: Run ID: **ICPMS03_269378** SeqNo: **3586072** PrepDate: **16-Feb-2016** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	U	0.500								
Lead	U	0.500								

LCS Sample ID: **MLCS-101471** Units: **mg/Kg** Analysis Date: **17-Feb-2016 11:42**
Client ID: Run ID: **ICPMS03_269378** SeqNo: **3586073** PrepDate: **16-Feb-2016** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	9.418	0.500	10	0	94.2	80 - 120				
Lead	9.755	0.500	10	0	97.6	80 - 120				

MS Sample ID: **HS16020604-01MS** Units: **mg/Kg** Analysis Date: **17-Feb-2016 11:55**
Client ID: **SO-1620-CSG6(3)-20160216** Run ID: **ICPMS03_269378** SeqNo: **3586076** PrepDate: **16-Feb-2016** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	10.23	0.471	9.425	1.43	93.3	75 - 125				
Lead	17.05	0.471	9.425	6.141	116	75 - 125				

MSD Sample ID: **HS16020604-01MSD** Units: **mg/Kg** Analysis Date: **17-Feb-2016 11:59**
Client ID: **SO-1620-CSG6(3)-20160216** Run ID: **ICPMS03_269378** SeqNo: **3586077** PrepDate: **16-Feb-2016** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	10.2	0.488	9.766	1.43	89.8	75 - 125	10.23	0.303	20	
Lead	16.38	0.488	9.766	6.141	105	75 - 125	17.05	4.03	20	

PDS Sample ID: **HS16020604-01BS** Units: **mg/Kg** Analysis Date: **17-Feb-2016 12:04**
Client ID: **SO-1620-CSG6(3)-20160216** Run ID: **ICPMS03_269378** SeqNo: **3586078** PrepDate: **16-Feb-2016** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	10.32	0.472	9.436	1.43	94.2	75 - 125				
Lead	15.55	0.472	9.436	6.141	99.7	75 - 125				

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
WorkOrder: HS16020604

QC BATCH REPORT

Batch ID: 101471 **Instrument: ICPMS03** **Method: SW6020**

SD Sample ID: **HS16020604-01 DIL SX** Units: **mg/Kg** Analysis Date: **17-Feb-2016 11:51**
Client ID: **SO-1620-CSG6(3)-20160216** Run ID: **ICPMS03_269378** SeqNo: **3586075** PrepDate: **16-Feb-2016** DF: **5**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%D	%D Limit	Qual
Arsenic	1.464	2.36					1.43	0	10	J
Lead	6.298	2.36					6.141	2.57	10	

The following samples were anayzed in this batch: HS16020604-01

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
WorkOrder: HS16020604

QC BATCH REPORT

Batch ID: 101486 **Instrument: SV-7** **Method: SW8270**

MBLK Sample ID: **MBLK-101486** Units: **ug/Kg** Analysis Date: **17-Feb-2016 13:18**
Client ID: Run ID: **SV-7_269425** SeqNo: **3586743** PrepDate: **17-Feb-2016** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Diphenylhydrazine	U	6.6								
2,4-Dimethylphenol	U	6.6								
2,4-Dinitrotoluene	U	6.6								
2,6-Dinitrotoluene	U	6.6								
2-Chloronaphthalene	U	6.6								
2-Methylnaphthalene	U	3.3								
4,6-Dinitro-2-methylphenol	U	6.6								
4-Nitrophenol	U	13								
Acenaphthene	U	3.3								
Acenaphthylene	U	3.3								
Anthracene	U	3.3								
Benz(a)anthracene	U	3.3								
Benzo(a)pyrene	U	3.3								
Bis(2-chloroethoxy)methane	U	6.6								
Bis(2-ethylhexyl)phthalate	U	6.6								
Chrysene	U	3.3								
Dibenzofuran	U	3.3								
Di-n-butyl phthalate	U	6.6								
Fluoranthene	U	3.3								
Fluorene	U	3.3								
Naphthalene	U	3.3								
Nitrobenzene	U	6.6								
N-Nitrosodiphenylamine	U	6.6								
Pentachlorophenol	U	6.6								
Phenanthrene	U	3.3								
Phenol	U	6.6								
Pyrene	U	3.3								
Surr: 2,4,6-Tribromophenol	*157*	*0*	*167*	*0*	*94.0*	*36 - 126*				
Surr: 2-Fluorobiphenyl	*128.1*	*0*	*167*	*0*	*76.7*	*43 - 125*				
Surr: 2-Fluorophenol	*121.8*	*0*	*167*	*0*	*73.0*	*37 - 125*				
Surr: 4-Terphenyl-d14	*134.5*	*0*	*167*	*0*	*80.6*	*32 - 125*				
Surr: Nitrobenzene-d5	*158.1*	*0*	*167*	*0*	*94.7*	*37 - 125*				
Surr: Phenol-d6	*132.8*	*0*	*167*	*0*	*79.5*	*40 - 125*				

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
WorkOrder: HS16020604

QC BATCH REPORT

Batch ID: 101486 **Instrument: SV-7** **Method: SW8270**

LCS Sample ID: **LCS-101486** Units: **ug/Kg** Analysis Date: **17-Feb-2016 13:38**
Client ID: Run ID: **SV-7_269425** SeqNo: **3586744** PrepDate: **17-Feb-2016** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Diphenylhydrazine	129.5	6.6	167	0	77.5	50 - 135				
2,4-Dimethylphenol	136.6	6.6	167	0	81.8	45 - 120				
2,4-Dinitrotoluene	154.6	6.6	167	0	92.6	50 - 130				
2,6-Dinitrotoluene	153.7	6.6	167	0	92.0	50 - 125				
2-Chloronaphthalene	147.8	6.6	167	0	88.5	50 - 145				
2-Methylnaphthalene	136.8	3.3	167	0	81.9	50 - 120				
4,6-Dinitro-2-methylphenol	165.7	6.6	167	0	99.2	15 - 135				
4-Nitrophenol	151.2	13	167	0	90.5	40 - 147				
Acenaphthene	140.1	3.3	167	0	83.9	50 - 120				
Acenaphthylene	143.7	3.3	167	0	86.1	50 - 120				
Anthracene	138.6	3.3	167	0	83.0	50 - 123				
Benz(a)anthracene	143.8	3.3	167	0	86.1	50 - 131				
Benzo(a)pyrene	138.2	3.3	167	0	82.7	50 - 130				
Bis(2-chloroethoxy)methane	142.9	6.6	167	0	85.6	50 - 120				
Bis(2-ethylhexyl)phthalate	130.1	6.6	167	0	77.9	21 - 148				
Chrysene	133.8	3.3	167	0	80.1	50 - 130				
Dibenzofuran	147.5	3.3	167	0	88.4	50 - 125				
Di-n-butyl phthalate	135.4	6.6	167	0	81.1	50 - 140				
Fluoranthene	153.6	3.3	167	0	92.0	50 - 131				
Fluorene	150.5	3.3	167	0	90.1	50 - 125				
Naphthalene	134.2	3.3	167	0	80.3	50 - 125				
Nitrobenzene	171.4	6.6	167	0	103	50 - 125				
N-Nitrosodiphenylamine	128.2	6.6	167	0	76.8	50 - 130				
Pentachlorophenol	156.2	6.6	167	0	93.5	23 - 136				
Phenanthrene	130.3	3.3	167	0	78.0	50 - 125				
Phenol	163.6	6.6	167	0	98.0	45 - 130				
Pyrene	138.1	3.3	167	0	82.7	45 - 130				
Surr: 2,4,6-Tribromophenol	*183.8*	*0*	*167*	*0*	*110*	*36 - 126*				
Surr: 2-Fluorobiphenyl	*142.7*	*0*	*167*	*0*	*85.4*	*43 - 125*				
Surr: 2-Fluorophenol	*156.8*	*0*	*167*	*0*	*93.9*	*37 - 125*				
Surr: 4-Terphenyl-d14	*137.6*	*0*	*167*	*0*	*82.4*	*32 - 125*				
Surr: Nitrobenzene-d5	*167*	*0*	*167*	*0*	*100.0*	*37 - 125*				
Surr: Phenol-d6	*165.4*	*0*	*167*	*0*	*99.0*	*40 - 125*				

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
WorkOrder: HS16020604

QC BATCH REPORT

Batch ID: 101486 **Instrument: SV-7** **Method: SW8270**

MS Sample ID: **HS16020422-02MS** Units: **ug/Kg** Analysis Date: **17-Feb-2016 17:02**
Client ID: Run ID: **SV-7_269425** SeqNo: **3586933** PrepDate: **17-Feb-2016** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Diphenylhydrazine	118.6	6.6	166.7	0	71.2	50 - 135				
2,4-Dimethylphenol	120.9	6.6	166.7	0	72.5	45 - 120				
2,4-Dinitrotoluene	132.5	6.6	166.7	0	79.5	50 - 130				
2,6-Dinitrotoluene	139.8	6.6	166.7	0	83.9	50 - 125				
2-Chloronaphthalene	121.2	6.6	166.7	0	72.7	50 - 145				
2-Methylnaphthalene	114.4	3.3	166.7	0	68.6	50 - 120				
4,6-Dinitro-2-methylphenol	89.4	6.6	166.7	0	53.6	15 - 135				
4-Nitrophenol	111.5	13	166.7	0	66.9	40 - 147				
Acenaphthene	114.9	3.3	166.7	0	68.9	50 - 120				
Acenaphthylene	115.4	3.3	166.7	0	69.2	50 - 120				
Anthracene	123.9	3.3	166.7	5.949	70.8	50 - 123				
Benz(a)anthracene	134.3	3.3	166.7	5.758	77.1	50 - 131				
Benzo(a)pyrene	130.2	3.3	166.7	0	78.1	50 - 130				
Bis(2-chloroethoxy)methane	121	6.6	166.7	0	72.6	50 - 120				
Bis(2-ethylhexyl)phthalate	118.7	6.6	166.7	6.48	67.3	21 - 148				
Chrysene	135.9	3.3	166.7	14.82	72.7	50 - 130				
Dibenzofuran	121.9	3.3	166.7	0	73.2	50 - 125				
Di-n-butyl phthalate	118.8	6.6	166.7	0	71.3	50 - 140				
Fluoranthene	141.3	3.3	166.7	5.622	81.4	50 - 131				
Fluorene	129.4	3.3	166.7	7.04	73.4	50 - 125				
Naphthalene	114.4	3.3	166.7	0	68.7	50 - 125				
Nitrobenzene	153.8	6.6	166.7	0	92.3	50 - 125				
N-Nitrosodiphenylamine	133	6.6	166.7	0	79.8	50 - 130				
Pentachlorophenol	128.9	6.6	166.7	0	77.3	23 - 136				
Phenanthrene	124.8	3.3	166.7	21.56	62.0	50 - 125				
Phenol	113.8	6.6	166.7	0	68.3	45 - 130				
Pyrene	130.1	3.3	166.7	17.42	67.6	45 - 130				
Surr: 2,4,6-Tribromophenol	*158.4*	*0*	*166.7*	*0*	*95.0*	*36 - 126*				
Surr: 2-Fluorobiphenyl	*119.2*	*0*	*166.7*	*0*	*71.5*	*43 - 125*				
Surr: 2-Fluorophenol	*100.2*	*0*	*166.7*	*0*	*60.1*	*37 - 125*				
Surr: 4-Terphenyl-d14	*121.6*	*0*	*166.7*	*0*	*73.0*	*32 - 125*				
Surr: Nitrobenzene-d5	*152.9*	*0*	*166.7*	*0*	*91.7*	*37 - 125*				
Surr: Phenol-d6	*137.7*	*0*	*166.7*	*0*	*82.6*	*40 - 125*				

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
WorkOrder: HS16020604

QC BATCH REPORT

Batch ID: 101486 **Instrument: SV-7** **Method: SW8270**

MSD Sample ID: **HS16020422-02MSD** Units: **ug/Kg** Analysis Date: **17-Feb-2016 16:40**
Client ID: Run ID: **SV-7_269425** SeqNo: **3586932** PrepDate: **17-Feb-2016** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual
1,2-Diphenylhydrazine	120.4	6.6	166.8	0	72.2	50 - 135	118.6	1.44	30	
2,4-Dimethylphenol	117.3	6.6	166.8	0	70.3	45 - 120	120.9	3.02	30	
2,4-Dinitrotoluene	122.3	6.6	166.8	0	73.3	50 - 130	132.5	8.02	30	
2,6-Dinitrotoluene	133.2	6.6	166.8	0	79.9	50 - 125	139.8	4.82	30	
2-Chloronaphthalene	112.4	6.6	166.8	0	67.4	50 - 145	121.2	7.59	30	
2-Methylnaphthalene	114.9	3.3	166.8	0	68.9	50 - 120	114.4	0.424	30	
4,6-Dinitro-2-methylphenol	81.19	6.6	166.8	0	48.7	15 - 135	89.4	9.63	30	
4-Nitrophenol	133.1	13	166.8	0	79.8	40 - 147	111.5	17.6	30	
Acenaphthene	109.2	3.3	166.8	0	65.5	50 - 120	114.9	5.09	30	
Acenaphthylene	112	3.3	166.8	0	67.2	50 - 120	115.4	3	30	
Anthracene	121.6	3.3	166.8	5.949	69.4	50 - 123	123.9	1.87	30	
Benz(a)anthracene	135.5	3.3	166.8	5.758	77.8	50 - 131	134.3	0.841	30	
Benzo(a)pyrene	132	3.3	166.8	0	79.2	50 - 130	130.2	1.43	30	
Bis(2-chloroethoxy)methane	127.1	6.6	166.8	0	76.2	50 - 120	121	4.92	30	
Bis(2-ethylhexyl)phthalate	120.3	6.6	166.8	6.48	68.3	21 - 148	118.7	1.37	30	
Chrysene	138.6	3.3	166.8	14.82	74.2	50 - 130	135.9	1.95	30	
Dibenzofuran	119.9	3.3	166.8	0	71.9	50 - 125	121.9	1.68	30	
Di-n-butyl phthalate	116.6	6.6	166.8	0	69.9	50 - 140	118.8	1.85	30	
Fluoranthene	139	3.3	166.8	5.622	80.0	50 - 131	141.3	1.68	30	
Fluorene	124	3.3	166.8	7.04	70.1	50 - 125	129.4	4.26	30	
Naphthalene	115.8	3.3	166.8	0	69.4	50 - 125	114.4	1.2	30	
Nitrobenzene	151.9	6.6	166.8	0	91.1	50 - 125	153.8	1.23	30	
N-Nitrosodiphenylamine	129.8	6.6	166.8	0	77.8	50 - 130	133	2.39	30	
Pentachlorophenol	131.3	6.6	166.8	0	78.7	23 - 136	128.9	1.89	30	
Phenanthrene	123.8	3.3	166.8	21.56	61.3	50 - 125	124.8	0.786	30	
Phenol	112	6.6	166.8	0	67.2	45 - 130	113.8	1.53	30	
Pyrene	129.2	3.3	166.8	17.42	67.0	45 - 130	130.1	0.751	30	
Surr: 2,4,6-Tribromophenol	*145.8*	*0*	*166.8*	*0*	*87.4*	*36 - 126*	*158.4*	*8.24*	*30*	
Surr: 2-Fluorobiphenyl	*116.5*	*0*	*166.8*	*0*	*69.9*	*43 - 125*	*119.2*	*2.28*	*30*	
Surr: 2-Fluorophenol	*121.4*	*0*	*166.8*	*0*	*72.8*	*37 - 125*	*100.2*	*19.1*	*30*	
Surr: 4-Terphenyl-d14	*123.3*	*0*	*166.8*	*0*	*74.0*	*32 - 125*	*121.6*	*1.38*	*30*	
Surr: Nitrobenzene-d5	*155.3*	*0*	*166.8*	*0*	*93.1*	*37 - 125*	*152.9*	*1.6*	*30*	
Surr: Phenol-d6	*138*	*0*	*166.8*	*0*	*82.7*	*40 - 125*	*137.7*	*0.197*	*30*	

The following samples were anayzed in this batch: HS16020604-01

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
WorkOrder: HS16020604

QC BATCH REPORT

Batch ID: **R269405** **Instrument:** **Balance1** **Method:** **ASTM D2216**

DUP Sample ID: **HS16020604-01DUP** Units: **wt%** Analysis Date: **17-Feb-2016 09:10**
Client ID: **SO-1620-CSG6(3)-20160216** Run ID: **Balance1_269405** SeqNo: **3586347** PrepDate: DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Percent Moisture	14.6	0.0100					16.4	11.6	20	

The following samples were anayzed in this batch: HS16020604-01

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
WorkOrder: **HS16020604**

QUALIFIERS, ACRONYMS, UNITS

Qualifier	Description
*	Value exceeds Regulatory Limit
a	Not accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte detected below quantitation limit
M	Manually integrated, see raw data for justification
n	Not offered for accreditation
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL/SDL

Acronym	Description
DCS	Detectability Check Study
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
MBLK	Method Blank
MDL	Method Detection Limit
MQL	Method Quantitation Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PDS	Post Digestion Spike
PQL	Practical Quantitaion Limit
SD	Serial Dilution
SDL	Sample Detection Limit
TRRP	Texas Risk Reduction Program

Unit Reported	Description
mg/Kg-dry	Milligrams per Kilogram- Dry weight corrected

CERTIFICATIONS,ACCREDITATIONS & LICENSES

Agency	Number	Expire Date
Arkansas	15-024-0	27-Mar-2016
California	2919	31-Jul-2016
Illinois	003622	09-May-2016
Kentucky	KY 2015-2016	30-Apr-2016
Louisiana	03087 2015/2016	30-Jun-2016
North Carolina	624 - 2016	31-Dec-2016
North Dakota	R-193 2015-2016	30-Apr-2016
Oklahoma	2015-047	31-Aug-2016
Texas	T104704231-15-15	30-Apr-2016

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
Work Order: HS16020604

SAMPLE TRACKING

Lab Samp ID	Client Sample ID	Action	Date	Person	New Location
HS16020604-01	SO-1620-CSG6(3)-20160216	Login	2/16/2016 3:06:27 PM	RPG	17D

Sample Receipt Checklist

Client Name: PBW
Work Order: HS16020604

Date/Time Received: **16-Feb-2016 14:46**
Received by: **PS**

Checklist completed by: *Raegen Giga* eSignature 16-Feb-2016 Date

Reviewed by: *Dane J. Wacasey* eSignature 17-Feb-2016 Date

Matrices: **soil**

Carrier name: **ALS Courier**

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on shipping container/cooler?	Yes ☐	No ☐	Not Present ☑
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☑	No ☐	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
TX1005 solids received in hermetically sealed vials?	Yes ☐	No ☐	N/A ☑
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time?	Yes ☑	No ☐	
Container/Temp Blank temperature in compliance?	Yes ☑	No ☐	
Temperature(s)/Thermometer(s):	1.9c/2.1c UC/C	IR 4	
Cooler(s)/Kit(s):	2900		
Date/Time sample(s) sent to storage:	02/16/2015 15:15		
Water - VOA vials have zero headspace?	Yes ☐	No ☐	No VOA vials submitted ☑
Water - pH acceptable upon receipt?	Yes ☐	No ☐	N/A ☑
pH adjusted?	Yes ☐	No ☐	N/A ☑
pH adjusted by:			

Login Notes:

Client Contacted: Date Contacted: Person Contacted:

Contacted By: 0 Regarding:

Comments:

Corrective Action:

ALS Environmental

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South Charleston, WV +1 304 356 3168
York, PA +1 717 505 5280

Chain of Custody Form

Page 1 of 1

COC ID: 141483

ALS Project Manager: | ALS Work Order #:

Customer Information		Project Information		Parameter/Method Request for Analysis	
Purchase Order	UPRR	Project Name	1620-10-Rev1 HoustonTX-Wood	A	8270_LOW_S (5632532 SemiVolatiles)
Work Order		Project Number	1620-10-Rev1	B	ICP_S_Low (5636002 5652646 Metals - As, Pb)
Company Name	Pastor, Behling & Wheeler, LLC	Bill To Company	Union Pacific Railroad- A/P	C	MOIST_ASTM (5631931 Gen.Chem. MOIST%)
Send Report To	Eric Matzner	Invoice Attn	Accounts Payable	D	
Address	2201 Double Creek Drive Suite 4004	Address	1400 Douglas Street Stop 0750	E	
				F	
City/State/Zip	Round Rock, TX 78664	City/State/Zip	Omaha, NE 681790750	G	
Phone	(512) 671-3434	Phone		H	
Fax	(512) 671-3446	Fax		I	
e-Mail Address		e-Mail Address		J	

HS16020604

Pastor, Behling & Wheeler, LLC

1620-10-Rev1 HoustonTX-Wood

No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
1	SO-1620-CSG6(3)-20160216	2-16-2016	1130	Soil	8	1	X	X	X				Rush				
2																	
3																	
4																	
5																	
6																	
7																	
8																	
9																	
10																	

Sampler(s) Please Print & Sign: Stephen Grahmann Steph Grahm

Shipment Method

Required Turnaround Time: (Check Box) TAT 1 days Other:

Results Due Date:

Relinquished by: Steph Grahm Date: 2/16/2016 Time: 1420 Received by:

Relinquished by: Date: 2/16/16 Time: 1496 Received by (Laboratory):

Logged by (Laboratory): Date: Time: Checked by (Laboratory):

Notes: [UPRR Houston MW/PW]

Cooler ID	Cooler Temp.

QC Package: (Check One Box Below)

QC Level TRRP LRC

Other:

Preservative Key: 1-HCl 2-HNO_3 3-H_2SO_4 4-NaOH 5-$Na_2S_2O_3$ 6-$NaHSO_4$ 7-Other 8-4°C 9-5035

Note: 1. Any changes must be made in writing once samples and COC Form have been submitted to ALS Environmental.
2. Unless otherwise agreed in a formal contract, services provided by ALS Environmental are expressly limited to the terms and conditions stated on the reverse.
3. The Chain of Custody is a legal document. All information must be completed accurately.

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Houston, TX 77099
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www.alsglobal.com

February 19, 2016

Eric Matzner
Pastor, Behling & Wheeler, LLC
2201 Double Creek Drive
Suite 4004
Round Rock, TX 78664

Work Order: **HS16020686**

Laboratory Results for: **1620-10-Rev1 HoustonTX-Wood**

Dear Eric,

ALS Environmental received 2 sample(s) on Feb 18, 2016 for the analysis presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested. Results are expressed as "as received" unless otherwise noted.

QC sample results for this data met EPA or laboratory specifications except as noted in the Case Narrative or as noted with qualifiers in the QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained by ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

If you have any questions regarding this report, please feel free to call me.

Sincerely,

Generated By: Jumoke.Lawal
Dane J. Wacasey

Client:	Pastor, Behling & Wheeler, LLC	**TRRP Laboratory Data Package Cover Page**
Project:	1620-10-Rev1 HoustonTX-Wood	
WorkOrder:	**HS16020686**	

This data package consists of all or some of the following as applicable:

This signature page, the laboratory review checklist, and the following reportable data:

R1 Field chain-of-custody documentation;

R2 Sample identification cross-reference;

R3 Test reports (analytical data sheets) for each environmental sample that includes:

a) Items consistent with NELAC Chapter 5,
b) dilution factors,
c) preparation methods,
d) cleanup methods, and
e) if required for the project, tentatively identified compounds (TICs).

R4 Surrogate recovery data including:

a) Calculated recovery (%R), and
b) The laboratory's surrogate QC limits.

R5 Test reports/summary forms for blank samples;

R6 Test reports/summary forms for laboratory control samples (LCSs) including:

a) LCS spiking amounts,
b) Calculated %R for each analyte, and
c)The laboratory's LCS QC limits.

R7 Test reports for project matrix spike/matrix spike duplicates (MS/MSDs) including:

a) Samples associated with the MS/MSD clearly identified,
b) MS/MSD spiking amounts,
c) Concentration of each MS/MSD analyte measured in the parent and spiked samples,
d) Calculated %Rs and relative percent differences (RPDs), and
e) The laboratory's MS/MSD QC limits.

R8 Laboratory analytical duplicate (if applicable) recovery and precision:

a) the amount of analyte measured in the duplicate,
b) the calculated RPD, and
c) the laboratory's QC limits for analytical duplicates.

R9 List of method quantitation limits (MQLs) and detectability check sample results for each analyte for each method and matrix.

R10 Other problems or anomalies.
The Exception Report for each "No" or "Not Reviewed (NR)" item in Laboratory Review Checklist and for each analyte, matrix, and method for which the laboratory does not hold NELAC accreditation under the Texas Laboratory Accreditation Program.

Client:	Pastor, Behling & Wheeler, LLC
Project:	1620-10-Rev1 HoustonTX-Wood
WorkOrder:	**HS16020686**

TRRP Laboratory Data Package Cover Page

Release Statement: I am responsible for the release of this laboratory data package. This laboratory is NELAC accredited under the Texas Laboratory Accreditation Program for all the methods, analytes and matrices reported in this data package except as noted in the Exception Reports. The data have been reviewed and are technically compliant with the requirements of the methods used, except where noted by the laboratory in the attached exception reports. By my signature below, I affirm to the best of my knowledge, all problems/anomalies, observed by the laboratory have been identified by the laboratory in the Laboratory Review Checklist, and no information affecting the quality of the data has been knowingly withheld.

Check, if applicable: [NA] This laboratory meets an exception under 30 TAC §25.6 and was last inspected by [ ] TCEQ or [ ] _____ on (enter date of last inspection). Any findings affecting the data in this laboratory data package are noted in the Exception Reports herein. The official signing the cover page of the report in which these data are used is responsible for releasing this data package and is by signature affirming the above release statement is true.

Dane J. Wacasey

Laboratory Review Checklist: Reportable Data								
Laboratory Name: ALS Laboratory Group			LRC Date: 02/19/2016					
Project Name: 1620-10-Rev1 HoustonTX-Wood			Laboratory Job Number: HS16020686					
Reviewer Name: Dane Wacasey			Prep Batch Number(s): 101508,101520,101561,R269512					
#[1]	**A[2]**	**Description**	**Yes**	**No**	**NA[3]**	**NR[4]**	**ER#[5]**
R1	OI	**Chain-of-custody (C-O-C)**					
		Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?	X				
		Were all departures from standard conditions described in an exception report?	X				
R2	OI	**Sample and quality control (QC) identification**					
		Are all field sample ID numbers cross-referenced to the laboratory ID numbers?	X				
		Are all laboratory ID numbers cross-referenced to the corresponding QC data?	X				
R3	OI	**Test reports**					
		Were all samples prepared and analyzed within holding times?	X				
		Other than those results < MQL, were all other raw values bracketed by calibration standards?	X				
		Were calculations checked by a peer or supervisor?	X				
		Were all analyte identifications checked by a peer or supervisor?	X				
		Were sample detection limits reported for all analytes not detected?	X				
		Were all results for soil and sediment samples reported on a dry weight basis?	X				
		Were % moisture (or solids) reported for all soil and sediment samples?	X				
		Were bulk soils/solids samples for volatile analysis extracted with methanol per SW-846 Method 5035?			X		
		If required for the project, TICs reported?			X		
R4	O	**Surrogate recovery data**					
		Were surrogates added prior to extraction?	X				
		Were surrogate percent recoveries in all samples within the laboratory QC limits?		X			1
R5	OI	**Test reports/summary forms for blank samples**					
		Were appropriate type(s) of blanks analyzed?	X				
		Were blanks analyzed at the appropriate frequency?	X				
		Were method blanks taken through the entire analytical process, including preparation and, if applicable, cleanup procedures?	X				
		Were blank concentrations < MQL?	X				
R6	OI	**Laboratory control samples (LCS):**					
		Were all COCs included in the LCS?	X				
		Was each LCS taken through the entire analytical procedure, including prep and cleanup steps?	X				
		Were LCSs analyzed at the required frequency?	X				
		Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?	X				
		Does the detectability data document the laboratory's capability to detect the COCs at the MDL used to calculate the SDLs?	X				
		Was the LCSD RPD within QC limits?	X				
R7	OI	**Matrix spike (MS) and matrix spike duplicate (MSD) data**					
		Were the project/method specified analytes included in the MS and MSD?	X				
		Were MS/MSD analyzed at the appropriate frequency?	X				
		Were MS (and MSD, if applicable) %Rs within the laboratory QC limits?		X			2
		Were MS/MSD RPDs within laboratory QC limits?		X			3
R8	OI	**Analytical duplicate data**					
		Were appropriate analytical duplicates analyzed for each matrix?	X				
		Were analytical duplicates analyzed at the appropriate frequency?	X				
		Were RPDs or relative standard deviations within the laboratory QC limits?	X				
R9	OI	**Method quantitation limits (MQLs):**					
		Are the MQLs for each method analyte included in the laboratory data package?	X				
		Do the MQLs correspond to the concentration of the lowest non-zero calibration standard?	X				
		Are unadjusted MQLs and DCSs included in the laboratory data package?	X				
R10	OI	**Other problems/anomalies**					
		Are all known problems/anomalies/special conditions noted in this LRC and ER?	X				
		Were all necessary corrective actions performed for the reported data?	X				
		Was applicable and available technology used to lower the SDL and minimize the matrix interference affects on the sample results?	X				
		Is the laboratory NELAC-accredited under the Texas Laboratory Program for the analytes, matrices and methods associated with this laboratory data package?	X				

Laboratory Review Checklist: Reportable Data							
Laboratory Name: ALS Laboratory Group			LRC Date: 02/19/2016				
Project Name: 1620-10-Rev1 HoustonTX-Wood			Laboratory Job Number: HS16020686				
Reviewer Name: Dane Wacasey			Prep Batch Number(s): 101508,101520,101561,R269512				
#[1]	A[2]	Description	Yes	No	NA[3]	NR[4]	ER#[5]
S1	OI	**Initial calibration (ICAL)**					
		Were response factors and/or relative response factors for each analyte within QC limits?	X				
		Were percent RSDs or correlation coefficient criteria met?	X				
		Was the number of standards recommended in the method used for all analytes?	X				
		Were all points generated between the lowest and highest standard used to calculate the curve?	X				
		Are ICAL data available for all instruments used?	X				
		Has the initial calibration curve been verified using an appropriate second source standard?	X				
S2	OI	**Initial and continuing calibration verification (ICCV and CCV) and continuing calibration blank (CCB)**					
		Was the CCV analyzed at the method-required frequency?	X				
		Were percent differences for each analyte within the method-required QC limits?	X				
		Was the ICAL curve verified for each analyte?	X				
		Was the absolute value of the analyte concentration in the inorganic CCB < MDL?	X				
S3	O	**Mass spectral tuning:**					
		Was the appropriate compound for the method used for tuning?	X				
		Were ion abundance data within the method-required QC limits?	X				
S4	O	**Internal standards (IS):**					
		Were IS area counts and retention times within the method-required QC limits?	X				
S5	OI	**Raw data** (NELAC section 1 appendix A glossary, and section 5.12 or ISO/IEC 17025 section					
		Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst?	X				
		Were data associated with manual integrations flagged on the raw data?	X				
S6	O	**Dual column confirmation**					
		Did dual column confirmation results meet the method-required QC?			X		
S7	O	**Tentatively identified compounds (TICs):**					
		If TICs were requested, were the mass spectra and TIC data subject to appropriate checks?			X		
S8	I	**Interference Check Sample (ICS) results:**					
		Were percent recoveries within method QC limits?	X				
S9	I	**Serial dilutions, post digestion spikes, and method of standard additions**					
		Were percent differences, recoveries, and the linearity within the QC limits specified in the method?	X				
S10	OI	**Method detection limit (MDL) studies**					
		Was a MDL study performed for each reported analyte?	X				
		Is the MDL either adjusted or supported by the analysis of DCSs?	X				
S11	OI	**Proficiency test reports:**					
		Was the laboratory's performance acceptable on the applicable proficiency tests or evaluation studies?	X				
S12	OI	**Standards documentation**					
		Are all standards used in the analyses NIST-traceable or obtained from other appropriate sources?	X				
S13	OI	**Compound/analyte identification procedures**					
		Are the procedures for compound/analyte identification documented?	X				
S14	OI	**Demonstration of analyst competency (DOC)**					
		Was DOC conducted consistent with NELAC Chapter 5C or ISO/IEC 4?	X				
		Is documentation of the analyst's competency up-to-date and on file?	X				
S15	OI	**Verification/validation documentation for methods** (NELAC Chap 5 or ISO/IEC 17025 Section 5)					
		Are all the methods used to generate the data documented, verified, and validated, where applicable?	X				
S16	OI	**Laboratory standard operating procedures (SOPs):**					
		Are laboratory SOPs current and on file for each method performed?	X				

Items identified by the letter "R" must be included in the laboratory data package submitted in the TRRP-required report(s). Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period.
O = Organic Analyses; I = Inorganic Analyses (and general chemistry, when applicable);
NA = Not Applicable;
NR = Not Reviewed;
R# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

Laboratory Review Checklist: Reportable Data	
Laboratory Name: ALS Laboratory Group	LRC Date: 02/19/2016
Project Name: 1620-10-Rev1 HoustonTX-Wood	Laboratory Job Number: HS16020686
Reviewer Name: Dane Wacasey	Prep Batch Number(s): 101508,101520,101561,R269512

ER#[5]	Description
1	Semivolatile Organics Method SW8270, sample SO-1620-CSAW1R(0-5)-20160218, surrogate 4-Terphenyl-d14 recovered above the upper control limit due to dilution required for sample analysis.
2	Batch 101561, Metals Method SW6020, sample HS16020729-01, MS and MSD were performed on unrelated sample Batch 101520, Semivolatile Organics Method SW8270, sample HS16020499-01, MS and MSD were performed on unrelated sample
3	Batch 101520, Semivolatile Organics Method SW8270, sample HS16020499-01, MS/MSD RPD is for unrelated sample.

Items identified by the letter "R" must be included in the laboratory data package submitted in the TRRP-required report(s). Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period.
O = Organic Analyses; I = Inorganic Analyses (and general chemistry, when applicable);
NA = Not Applicable;
NR = Not Reviewed;
R# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
Work Order: HS16020686

SAMPLE SUMMARY

Lab Samp ID	Client Sample ID	Matrix	TagNo	Collection Date	Date Received	Hold
HS16020686-01	SO-1620-CSBS1RR(0-5)-20160218	Soil		18-Feb-2016 09:45	18-Feb-2016 11:40	☐
HS16020686-02	SO-1620-CSAW1R(0-5)-20160218	Soil		18-Feb-2016 10:45	18-Feb-2016 11:40	☐

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
Sample ID: SO-1620-CSBS1RR(0-5)-20160218
Collection Date: 18-Feb-2016 09:45

ANALYTICAL REPORT
WorkOrder:HS16020686
Lab ID:HS16020686-01
Matrix:Soil

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES	**Method:SW8270**				Prep:SW3541 / 18-Feb-2016		Analyst: STH
1,2-Diphenylhydrazine	U		0.0013	0.0076	mg/Kg-dry	1	18-Feb-2016 23:00
2,4-Dimethylphenol	U		0.0038	0.0076	mg/Kg-dry	1	18-Feb-2016 23:00
2,4-Dinitrotoluene	U		0.0010	0.0076	mg/Kg-dry	1	18-Feb-2016 23:00
2,6-Dinitrotoluene	U		0.0038	0.0076	mg/Kg-dry	1	18-Feb-2016 23:00
2-Chloronaphthalene	U		0.0015	0.0076	mg/Kg-dry	1	18-Feb-2016 23:00
2-Methylnaphthalene	**0.054**		**0.00058**	**0.0038**	**mg/Kg-dry**	1	18-Feb-2016 23:00
4,6-Dinitro-2-methylphenol	U		0.0024	0.0076	mg/Kg-dry	1	18-Feb-2016 23:00
4-Nitrophenol	U		0.0022	0.015	mg/Kg-dry	1	18-Feb-2016 23:00
Acenaphthene	**0.19**		**0.00058**	**0.0038**	**mg/Kg-dry**	1	18-Feb-2016 23:00
Acenaphthylene	**0.035**		**0.0012**	**0.0038**	**mg/Kg-dry**	1	18-Feb-2016 23:00
Anthracene	**0.079**		**0.00058**	**0.0038**	**mg/Kg-dry**	1	18-Feb-2016 23:00
Benz(a)anthracene	**0.20**		**0.0019**	**0.0038**	**mg/Kg-dry**	1	18-Feb-2016 23:00
Benzo(a)pyrene	**0.16**		**0.0012**	**0.0038**	**mg/Kg-dry**	1	18-Feb-2016 23:00
Bis(2-chloroethoxy)methane	U		0.0010	0.0076	mg/Kg-dry	1	18-Feb-2016 23:00
Bis(2-ethylhexyl)phthalate	U		0.0020	0.0076	mg/Kg-dry	1	18-Feb-2016 23:00
Chrysene	**0.25**		**0.00093**	**0.0038**	**mg/Kg-dry**	1	18-Feb-2016 23:00
Dibenzofuran	**0.059**		**0.00081**	**0.0038**	**mg/Kg-dry**	1	18-Feb-2016 23:00
Di-n-butyl phthalate	U		0.0014	0.0076	mg/Kg-dry	1	18-Feb-2016 23:00
Fluoranthene	**1.4**		**0.013**	**0.038**	**mg/Kg-dry**	10	19-Feb-2016 12:28
Fluorene	**0.12**		**0.0013**	**0.0038**	**mg/Kg-dry**	1	18-Feb-2016 23:00
Naphthalene	**0.092**		**0.00069**	**0.0038**	**mg/Kg-dry**	1	18-Feb-2016 23:00
Nitrobenzene	U		0.0010	0.0076	mg/Kg-dry	1	18-Feb-2016 23:00
N-Nitrosodiphenylamine	U		0.00081	0.0076	mg/Kg-dry	1	18-Feb-2016 23:00
Pentachlorophenol	U		0.0038	0.0076	mg/Kg-dry	1	18-Feb-2016 23:00
Phenanthrene	**0.10**		**0.0017**	**0.0038**	**mg/Kg-dry**	1	18-Feb-2016 23:00
Phenol	U		0.0013	0.0076	mg/Kg-dry	1	18-Feb-2016 23:00
Pyrene	**1.7**		**0.0069**	**0.038**	**mg/Kg-dry**	10	19-Feb-2016 12:28
Surr: 2,4,6-Tribromophenol	*101*			*36-126*	*%REC*	*1*	*18-Feb-2016 23:00*
Surr: 2,4,6-Tribromophenol	*114*			*36-126*	*%REC*	*10*	*19-Feb-2016 12:28*
Surr: 2-Fluorobiphenyl	*65.3*			*43-125*	*%REC*	*1*	*18-Feb-2016 23:00*
Surr: 2-Fluorobiphenyl	*82.5*			*43-125*	*%REC*	*10*	*19-Feb-2016 12:28*
Surr: 2-Fluorophenol	*63.3*			*37-125*	*%REC*	*1*	*18-Feb-2016 23:00*
Surr: 2-Fluorophenol	*61.3*			*37-125*	*%REC*	*10*	*19-Feb-2016 12:28*
Surr: 4-Terphenyl-d14	*75.7*			*32-125*	*%REC*	*1*	*18-Feb-2016 23:00*
Surr: 4-Terphenyl-d14	*105*			*32-125*	*%REC*	*10*	*19-Feb-2016 12:28*
Surr: Nitrobenzene-d5	*60.2*			*37-125*	*%REC*	*1*	*18-Feb-2016 23:00*
Surr: Nitrobenzene-d5	*101*			*37-125*	*%REC*	*10*	*19-Feb-2016 12:28*
Surr: Phenol-d6	*61.4*			*40-125*	*%REC*	*1*	*18-Feb-2016 23:00*
Surr: Phenol-d6	*77.1*			*40-125*	*%REC*	*10*	*19-Feb-2016 12:28*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Pastor, Behling & Wheeler, LLC
ANALYTICAL REPORT
Project: 1620-10-Rev1 HoustonTX-Wood
WorkOrder:HS16020686
Sample ID: SO-1620-CSBS1RR(0-5)-20160218
Lab ID:HS16020686-01
Collection Date: 18-Feb-2016 09:45
Matrix:Soil

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
METALS BY SW6020A	**Method:SW6020**				Prep:SW3050A / 18-Feb-2016		Analyst: JDE
Arsenic	**0.889**		**0.113**	**0.567**	**mg/Kg-dry**	1	18-Feb-2016 16:39
Lead	**266**		**0.502**	**5.02**	**mg/Kg-dry**	10	19-Feb-2016 14:51
MOISTURE - ASTM D2216	**Method:ASTM D2216**						Analyst: DFF
Percent Moisture	**14.0**		**0.0100**	**0.0100**	**wt%**	1	18-Feb-2016 11:59

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
Sample ID: SO-1620-CSAW1R(0-5)-20160218
Collection Date: 18-Feb-2016 10:45

ANALYTICAL REPORT
WorkOrder:HS16020686
Lab ID:HS16020686-02
Matrix:Soil

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES	**Method:SW8270**				Prep:SW3541 / 18-Feb-2016		Analyst: STH
1,2-Diphenylhydrazine	U		0.0013	0.0077	mg/Kg-dry	1	18-Feb-2016 23:19
2,4-Dimethylphenol	U		0.0038	0.0077	mg/Kg-dry	1	18-Feb-2016 23:19
2,4-Dinitrotoluene	U		0.0010	0.0077	mg/Kg-dry	1	18-Feb-2016 23:19
2,6-Dinitrotoluene	U		0.0038	0.0077	mg/Kg-dry	1	18-Feb-2016 23:19
2-Chloronaphthalene	U		0.0015	0.0077	mg/Kg-dry	1	18-Feb-2016 23:19
2-Methylnaphthalene	**1.2**		**0.0058**	**0.038**	**mg/Kg-dry**	10	19-Feb-2016 12:47
4,6-Dinitro-2-methylphenol	U		0.0024	0.0077	mg/Kg-dry	1	18-Feb-2016 23:19
4-Nitrophenol	U		0.0022	0.015	mg/Kg-dry	1	18-Feb-2016 23:19
Acenaphthene	**1.5**		**0.0058**	**0.038**	**mg/Kg-dry**	10	19-Feb-2016 12:47
Acenaphthylene	**0.29**		**0.0012**	**0.0038**	**mg/Kg-dry**	1	18-Feb-2016 23:19
Anthracene	**1.8**		**0.0058**	**0.038**	**mg/Kg-dry**	10	19-Feb-2016 12:47
Benz(a)anthracene	**2.8**		**0.019**	**0.038**	**mg/Kg-dry**	10	19-Feb-2016 12:47
Benzo(a)pyrene	**1.6**		**0.012**	**0.038**	**mg/Kg-dry**	10	19-Feb-2016 12:47
Bis(2-chloroethoxy)methane	U		0.0010	0.0077	mg/Kg-dry	1	18-Feb-2016 23:19
Bis(2-ethylhexyl)phthalate	U		0.0020	0.0077	mg/Kg-dry	1	18-Feb-2016 23:19
Chrysene	**2.5**		**0.0093**	**0.038**	**mg/Kg-dry**	10	19-Feb-2016 12:47
Dibenzofuran	**0.29**		**0.00081**	**0.0038**	**mg/Kg-dry**	1	18-Feb-2016 23:19
Di-n-butyl phthalate	U		0.0014	0.0077	mg/Kg-dry	1	18-Feb-2016 23:19
Fluoranthene	**9.9**		**0.064**	**0.19**	**mg/Kg-dry**	50	19-Feb-2016 14:24
Fluorene	**1.3**		**0.013**	**0.038**	**mg/Kg-dry**	10	19-Feb-2016 12:47
Naphthalene	**0.19**		**0.00070**	**0.0038**	**mg/Kg-dry**	1	18-Feb-2016 23:19
Nitrobenzene	U		0.0010	0.0077	mg/Kg-dry	1	18-Feb-2016 23:19
N-Nitrosodiphenylamine	U		0.00081	0.0077	mg/Kg-dry	1	18-Feb-2016 23:19
Pentachlorophenol	U		0.0038	0.0077	mg/Kg-dry	1	18-Feb-2016 23:19
Phenanthrene	**3.2**		**0.017**	**0.038**	**mg/Kg-dry**	10	19-Feb-2016 12:47
Phenol	U		0.0013	0.0077	mg/Kg-dry	1	18-Feb-2016 23:19
Pyrene	**8.5**		**0.035**	**0.19**	**mg/Kg-dry**	50	19-Feb-2016 14:24
Surr: 2,4,6-Tribromophenol	*125*			*36-126*	*%REC*	*10*	*19-Feb-2016 12:47*
Surr: 2,4,6-Tribromophenol	*98.8*			*36-126*	*%REC*	*50*	*19-Feb-2016 14:24*
Surr: 2,4,6-Tribromophenol	*101*			*36-126*	*%REC*	*1*	*18-Feb-2016 23:19*
Surr: 2-Fluorobiphenyl	*69.6*			*43-125*	*%REC*	*1*	*18-Feb-2016 23:19*
Surr: 2-Fluorobiphenyl	*97.7*			*43-125*	*%REC*	*50*	*19-Feb-2016 14:24*
Surr: 2-Fluorobiphenyl	*93.8*			*43-125*	*%REC*	*10*	*19-Feb-2016 12:47*
Surr: 2-Fluorophenol	*77.7*			*37-125*	*%REC*	*10*	*19-Feb-2016 12:47*
Surr: 2-Fluorophenol	*58.5*			*37-125*	*%REC*	*50*	*19-Feb-2016 14:24*
Surr: 2-Fluorophenol	*44.2*			*37-125*	*%REC*	*1*	*18-Feb-2016 23:19*
Surr: 4-Terphenyl-d14	*65.3*			*32-125*	*%REC*	*1*	*18-Feb-2016 23:19*
Surr: 4-Terphenyl-d14	*116*			*32-125*	*%REC*	*10*	*19-Feb-2016 12:47*
Surr: 4-Terphenyl-d14	*127*	*S*		*32-125*	*%REC*	*50*	*19-Feb-2016 14:24*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Pastor, Behling & Wheeler, LLC
ANALYTICAL REPORT
Project: 1620-10-Rev1 HoustonTX-Wood
WorkOrder:HS16020686
Sample ID: SO-1620-CSAW1R(0-5)-20160218
Lab ID:HS16020686-02
Collection Date: 18-Feb-2016 10:45
Matrix:Soil

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES	**Method:SW8270**				Prep:SW3541 / 18-Feb-2016		Analyst: STH
Surr: Nitrobenzene-d5	*96.1*			*37-125*	*%REC*	*50*	*19-Feb-2016 14:24*
Surr: Nitrobenzene-d5	*63.8*			*37-125*	*%REC*	*1*	*18-Feb-2016 23:19*
Surr: Nitrobenzene-d5	*109*			*37-125*	*%REC*	*10*	*19-Feb-2016 12:47*
Surr: Phenol-d6	*95.1*			*40-125*	*%REC*	*10*	*19-Feb-2016 12:47*
Surr: Phenol-d6	*97.4*			*40-125*	*%REC*	*50*	*19-Feb-2016 14:24*
Surr: Phenol-d6	*66.3*			*40-125*	*%REC*	*1*	*18-Feb-2016 23:19*
METALS BY SW6020A	**Method:SW6020**				Prep:SW3050A / 18-Feb-2016		Analyst: JDE
Arsenic	**2.11**		**0.111**	**0.554**	**mg/Kg-dry**	1	18-Feb-2016 16:43
Lead	**19.6**		**0.0498**	**0.498**	**mg/Kg-dry**	1	19-Feb-2016 13:40
MOISTURE - ASTM D2216	**Method:ASTM D2216**						Analyst: DFF
Percent Moisture	**14.4**		**0.0100**	**0.0100**	**wt%**	1	18-Feb-2016 11:59

Note: See Qualifiers Page for a list of qualifiers and their explanation.

WEIGHT LOG

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
WorkOrder: HS16020686

Batch ID: 101508 **Method:** METALS BY SW6020A **Prep:** 3050_I_LOW

SampID	Container	Sample Wt/Vol	Final Volume	Prep Factor
HS16020686-01	1	0.5131	50 (mL)	97.45
HS16020686-02	1	0.5271	50 (mL)	94.86

Batch ID: 101520 **Method:** LOW-LEVEL SEMIVOLATILES **Prep:** 3541_B_LOW

SampID	Container	Sample Wt/Vol	Final Volume	Prep Factor
HS16020686-01	1	30.15	1 (mL)	0.03317
HS16020686-02	1	30.18	1 (mL)	0.03313

Batch ID: 101561 **Method:** METALS BY SW6020A **Prep:** 3050_I_LOW

SampID	Container	Sample Wt/Vol	Final Volume	Prep Factor
HS16020686-01	1	0.5792	50 (mL)	86.33
HS16020686-02	1	0.5864	50 (mL)	85.27

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
WorkOrder: HS16020686

DATES REPORT

Sample ID	Client Samp ID	Collection Date	TCLP Date	Prep Date	Analysis Date	DF
Batch ID 101508	**Test Name :** METALS BY SW6020A			**Matrix:** Soil		
HS16020686-01	SO-1620-CSBS1RR(0-5)-20160218	18 Feb 2016 09:45		18 Feb 2016 09:21	18 Feb 2016 16:39	1
HS16020686-02	SO-1620-CSAW1R(0-5)-20160218	18 Feb 2016 10:45		18 Feb 2016 09:21	18 Feb 2016 16:43	1
Batch ID 101520	**Test Name :** LOW-LEVEL SEMIVOLATILES			**Matrix:** Soil		
HS16020686-01	SO-1620-CSBS1RR(0-5)-20160218	18 Feb 2016 09:45		18 Feb 2016 09:15	19 Feb 2016 12:28	10
HS16020686-01	SO-1620-CSBS1RR(0-5)-20160218	18 Feb 2016 09:45		18 Feb 2016 09:15	18 Feb 2016 23:00	1
HS16020686-02	SO-1620-CSAW1R(0-5)-20160218	18 Feb 2016 10:45		18 Feb 2016 09:15	19 Feb 2016 14:24	50
HS16020686-02	SO-1620-CSAW1R(0-5)-20160218	18 Feb 2016 10:45		18 Feb 2016 09:15	19 Feb 2016 12:47	10
HS16020686-02	SO-1620-CSAW1R(0-5)-20160218	18 Feb 2016 10:45		18 Feb 2016 09:15	18 Feb 2016 23:19	1
Batch ID 101561	**Test Name :** METALS BY SW6020A			**Matrix:** Soil		
HS16020686-01	SO-1620-CSBS1RR(0-5)-20160218	18 Feb 2016 09:45		19 Feb 2016 08:19	19 Feb 2016 14:51	10
HS16020686-02	SO-1620-CSAW1R(0-5)-20160218	18 Feb 2016 10:45		19 Feb 2016 08:19	19 Feb 2016 13:40	1
Batch ID R269512	**Test Name :** MOISTURE - ASTM D2216			**Matrix:** Soil		
HS16020686-01	SO-1620-CSBS1RR(0-5)-20160218	18 Feb 2016 09:45			18 Feb 2016 11:59	1
HS16020686-02	SO-1620-CSAW1R(0-5)-20160218	18 Feb 2016 10:45			18 Feb 2016 11:59	1

WorkOrder: HS16020686
InstrumentID: ICPMS03
Test Code: ICP_S_Low
Test Number: SW6020
Test Name: Metals by SW6020A

METHOD DETECTION / REPORTING LIMITS

Matrix: Solid **Units:** mg/Kg

Type	Analyte	CAS	DCS Spike	DCS	MDL	PQL
A	Arsenic	7440-38-2	0.100	0.0864	0.100	0.500
A	Lead	7439-92-1	0.100	0.0898	0.0500	0.500

WorkOrder: HS16020686
InstrumentID: ICPMS05
Test Code: ICP_S_Low
Test Number: SW6020
Test Name: Metals by SW6020A

METHOD DETECTION / REPORTING LIMITS

Matrix: Solid **Units:** mg/Kg

Type	Analyte	CAS	DCS Spike	DCS	MDL	PQL
A	Lead	7439-92-1	0.100	0.0971	0.0500	0.500

WorkOrder: HS16020686
InstrumentID: SV-6
Test Code: 8270_LOW_S
Test Number: SW8270
Test Name: Low-Level Semivolatiles

METHOD DETECTION / REPORTING LIMITS

Matrix: Solid **Units:** mg/Kg

Type	Analyte	CAS	DCS Spike	DCS	MDL	PQL
A	1,2-Diphenylhydrazine	122-66-7	0.0033	0.0037	0.0011	0.0066
A	2,4-Dimethylphenol	105-67-9	0.0033	0.0022	0.0033	0.0066
A	2,4-Dinitrotoluene	121-14-2	0.0033	0.0023	0.00090	0.0066
A	2,6-Dinitrotoluene	606-20-2	0.0033	0.0022	0.0033	0.0066
A	2-Chloronaphthalene	91-58-7	0.0033	0.0028	0.0013	0.0066
A	2-Methylnaphthalene	91-57-6	0.0017	0.0016	0.00050	0.0033
A	4,6-Dinitro-2-methylphenol	534-52-1	0.0033	0.0010	0.0021	0.0066
A	4-Nitrophenol	100-02-7	0.0033	0.0026	0.0019	0.013
A	Acenaphthene	83-32-9	0.0017	0.0016	0.00050	0.0033
A	Acenaphthylene	208-96-8	0.0017	0.0017	0.0010	0.0033
A	Anthracene	120-12-7	0.0017	0.0017	0.00050	0.0033
A	Benz(a)anthracene	56-55-3	0.0017	0.0018	0.0016	0.0033
A	Benzo(a)pyrene	50-32-8	0.0017	0.0017	0.0010	0.0033
A	Bis(2-chloroethoxy)methane	111-91-1	0.0033	0.0028	0.00090	0.0066
A	Bis(2-ethylhexyl)phthalate	117-81-7	0.0033	0.0029	0.0017	0.0066
A	Chrysene	218-01-9	0.0017	0.0019	0.00080	0.0033
A	Dibenzofuran	132-64-9	0.0033	0.0031	0.00070	0.0033
A	Di-n-butyl phthalate	84-74-2	0.0033	0.0031	0.0012	0.0066
A	Fluoranthene	206-44-0	0.0017	0.0018	0.0011	0.0033
A	Fluorene	86-73-7	0.0017	0.0015	0.0011	0.0033
A	Naphthalene	91-20-3	0.0017	0.0016	0.00060	0.0033
A	Nitrobenzene	98-95-3	0.0033	0.0034	0.00090	0.0066
A	N-Nitrosodiphenylamine	86-30-6	0.0033	0.0035	0.00070	0.0066
A	Pentachlorophenol	87-86-5	0.0033	0.0020	0.0033	0.0066
A	Phenanthrene	85-01-8	0.0017	0.0017	0.0015	0.0033
A	Phenol	108-95-2	0.0033	0.0032	0.0011	0.0066
A	Pyrene	129-00-0	0.0017	0.0019	0.00060	0.0033
S	2,4,6-Tribromophenol	118-79-6	0	0	0	0
S	2-Fluorobiphenyl	321-60-8	0	0	0	0
S	2-Fluorophenol	367-12-4	0	0	0	0
S	4-Terphenyl-d14	1718-51-0	0	0	0	0
S	Nitrobenzene-d5	4165-60-0	0	0	0	0
S	Phenol-d6	13127-88-3	0	0	0	0

WorkOrder: HS16020686
InstrumentID: Balance1
Test Code: MOIST_ASTM
Test Number: ASTM D2216
Test Name: Moisture - ASTM D2216

METHOD DETECTION / REPORTING LIMITS

Matrix: Solid **Units:** wt%

Type	Analyte	CAS	DCS Spike	DCS	MDL	PQL
A	Percent Moisture	MOIST	0.0100	0.0100	0.0100	0.0100

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
WorkOrder: HS16020686

QC BATCH REPORT

Batch ID: 101508 **Instrument: ICPMS03** **Method: SW6020**

MBLK Sample ID: **MBLK-101508** Units: **mg/Kg** Analysis Date: **18-Feb-2016 16:30**
Client ID: Run ID: **ICPMS03_269492** SeqNo: **3588533** PrepDate: **18-Feb-2016** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	U	0.571								

LCS Sample ID: **MLCS-101508** Units: **mg/Kg** Analysis Date: **18-Feb-2016 16:34**
Client ID: Run ID: **ICPMS03_269492** SeqNo: **3588534** PrepDate: **18-Feb-2016** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	11.17	0.576	11.53	0	96.9	80 - 120				

MS Sample ID: **HS16020393-01MS** Units: **mg/Kg** Analysis Date: **18-Feb-2016 17:08**
Client ID: Run ID: **ICPMS03_269492** SeqNo: **3588542** PrepDate: **18-Feb-2016** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	16.45	0.468	9.356	7.033	101	75 - 125				

MSD Sample ID: **HS16020393-01MSD** Units: **mg/Kg** Analysis Date: **18-Feb-2016 17:13**
Client ID: Run ID: **ICPMS03_269492** SeqNo: **3588543** PrepDate: **18-Feb-2016** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	16.81	0.464	9.276	7.033	105	75 - 125	16.45	2.17	20	

PDS Sample ID: **HS16020393-01BS** Units: **mg/Kg** Analysis Date: **18-Feb-2016 17:17**
Client ID: Run ID: **ICPMS03_269492** SeqNo: **3588544** PrepDate: **18-Feb-2016** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	16.3	0.477	9.538	7.033	97.2	75 - 125				

SD Sample ID: **HS16020393-01 DIL SX** Units: **mg/Kg** Analysis Date: **18-Feb-2016 17:04**
Client ID: Run ID: **ICPMS03_269492** SeqNo: **3588541** PrepDate: **18-Feb-2016** DF: **5**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%D	%D Limit	Qual
Arsenic	6.739	2.38					7.033	4.18	10	

The following samples were anayzed in this batch: HS16020686-01 HS16020686-02

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
WorkOrder: HS16020686

QC BATCH REPORT

Batch ID: 101561 **Instrument: ICPMS05** **Method: SW6020**

MBLK Sample ID: **MBLK-101561** Units: **mg/Kg** Analysis Date: **19-Feb-2016 13:31**
Client ID: Run ID: **ICPMS05_269533** SeqNo: **3589264** PrepDate: **19-Feb-2016** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Lead	U	0.563								

LCS Sample ID: **MLCS-101561** Units: **mg/Kg** Analysis Date: **19-Feb-2016 13:34**
Client ID: Run ID: **ICPMS05_269533** SeqNo: **3589265** PrepDate: **19-Feb-2016** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Lead	10.36	0.572	11.45	0	90.5	80 - 120				

MS Sample ID: **HS16020729-01MS** Units: **mg/Kg** Analysis Date: **19-Feb-2016 13:58**
Client ID: Run ID: **ICPMS05_269533** SeqNo: **3589273** PrepDate: **19-Feb-2016** DF: **10**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Lead	67.69	4.42	8.831	66.29	15.9	75 - 125				SO

MSD Sample ID: **HS16020729-01MSD** Units: **mg/Kg** Analysis Date: **19-Feb-2016 14:01**
Client ID: Run ID: **ICPMS05_269533** SeqNo: **3589274** PrepDate: **19-Feb-2016** DF: **10**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Lead	76.13	4.46	8.911	66.29	110	75 - 125	67.69	11.7	20	O

PDS Sample ID: **HS16020729-01BS** Units: **mg/Kg** Analysis Date: **19-Feb-2016 14:55**
Client ID: Run ID: **ICPMS03_269525** SeqNo: **3589360** PrepDate: **19-Feb-2016** DF: **10**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Lead	150.9	4.45	88.9	66.29	95.1	75 - 125				

SD Sample ID: **HS16020729-01 DIL SX** Units: **mg/Kg** Analysis Date: **19-Feb-2016 13:49**
Client ID: Run ID: **ICPMS05_269533** SeqNo: **3589270** PrepDate: **19-Feb-2016** DF: **50**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%D	%D Limit	Qual
Lead	64.37	22.2					66.29	2.9	10	

The following samples were anayzed in this batch: HS16020686-01 HS16020686-02

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
WorkOrder: HS16020686

QC BATCH REPORT

Batch ID: 101520 **Instrument: SV-6** **Method: SW8270**

MBLK Sample ID: **MBLK-101520** Units: **ug/Kg** Analysis Date: **18-Feb-2016 20:28**
Client ID: Run ID: **SV-6_269537** SeqNo: **3588965** PrepDate: **18-Feb-2016** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Diphenylhydrazine	U	6.6								
2,4-Dimethylphenol	U	6.6								
2,4-Dinitrotoluene	U	6.6								
2,6-Dinitrotoluene	U	6.6								
2-Chloronaphthalene	U	6.6								
2-Methylnaphthalene	U	3.3								
4,6-Dinitro-2-methylphenol	U	6.6								
4-Nitrophenol	U	13								
Acenaphthene	U	3.3								
Acenaphthylene	U	3.3								
Anthracene	U	3.3								
Benz(a)anthracene	U	3.3								
Benzo(a)pyrene	U	3.3								
Bis(2-chloroethoxy)methane	U	6.6								
Bis(2-ethylhexyl)phthalate	U	6.6								
Chrysene	U	3.3								
Dibenzofuran	U	3.3								
Di-n-butyl phthalate	U	6.6								
Fluoranthene	U	3.3								
Fluorene	U	3.3								
Naphthalene	U	3.3								
Nitrobenzene	U	6.6								
N-Nitrosodiphenylamine	U	6.6								
Pentachlorophenol	U	6.6								
Phenanthrene	U	3.3								
Phenol	U	6.6								
Pyrene	U	3.3								
Surr: 2,4,6-Tribromophenol	*106.6*	*0*	*167*	*0*	*63.8*	*36 - 126*				
Surr: 2-Fluorobiphenyl	*119.1*	*0*	*167*	*0*	*71.3*	*43 - 125*				
Surr: 2-Fluorophenol	*114.1*	*0*	*167*	*0*	*68.3*	*37 - 125*				
Surr: 4-Terphenyl-d14	*124.1*	*0*	*167*	*0*	*74.3*	*32 - 125*				
Surr: Nitrobenzene-d5	*114.9*	*0*	*167*	*0*	*68.8*	*37 - 125*				
Surr: Phenol-d6	*114.4*	*0*	*167*	*0*	*68.5*	*40 - 125*				

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
WorkOrder: HS16020686

QC BATCH REPORT

Batch ID: 101520 **Instrument: SV-6** **Method: SW8270**

LCS Sample ID: **LCS-101520** Units: **ug/Kg** Analysis Date: **19-Feb-2016 14:05**
Client ID: Run ID: **SV-6_269537** SeqNo: **3589251** PrepDate: **18-Feb-2016** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Diphenylhydrazine	129.1	6.6	167	0	77.3	50 - 135				
2,4-Dimethylphenol	113	6.6	167	0	67.7	45 - 120				
2,4-Dinitrotoluene	133.3	6.6	167	0	79.8	50 - 130				
2,6-Dinitrotoluene	139.7	6.6	167	0	83.6	50 - 125				
2-Chloronaphthalene	126.7	6.6	167	0	75.9	50 - 145				
2-Methylnaphthalene	130.4	3.3	167	0	78.1	50 - 120				
4,6-Dinitro-2-methylphenol	78.14	6.6	167	0	46.8	15 - 135				
4-Nitrophenol	86.79	13	167	0	52.0	40 - 147				
Acenaphthene	123	3.3	167	0	73.7	50 - 120				
Acenaphthylene	127.2	3.3	167	0	76.2	50 - 120				
Anthracene	132.3	3.3	167	0	79.2	50 - 123				
Benz(a)anthracene	143.1	3.3	167	0	85.7	50 - 131				
Benzo(a)pyrene	143	3.3	167	0	85.6	50 - 130				
Bis(2-chloroethoxy)methane	136.3	6.6	167	0	81.6	50 - 120				
Bis(2-ethylhexyl)phthalate	140	6.6	167	0	83.9	21 - 148				
Chrysene	133.3	3.3	167	0	79.8	50 - 130				
Dibenzofuran	128.3	3.3	167	0	76.8	50 - 125				
Di-n-butyl phthalate	128.9	6.6	167	0	77.2	50 - 140				
Fluoranthene	136.7	3.3	167	0	81.9	50 - 131				
Fluorene	132.6	3.3	167	0	79.4	50 - 125				
Naphthalene	127.2	3.3	167	0	76.1	50 - 125				
Nitrobenzene	156.2	6.6	167	0	93.5	50 - 125				
N-Nitrosodiphenylamine	132.1	6.6	167	0	79.1	50 - 130				
Pentachlorophenol	112.2	6.6	167	0	67.2	23 - 136				
Phenanthrene	129.1	3.3	167	0	77.3	50 - 125				
Phenol	134.2	6.6	167	0	80.4	45 - 130				
Pyrene	140.7	3.3	167	0	84.3	45 - 130				
Surr: 2,4,6-Tribromophenol	*164.7*	*0*	*167*	*0*	*98.6*	*36 - 126*				
Surr: 2-Fluorobiphenyl	*121.4*	*0*	*167*	*0*	*72.7*	*43 - 125*				
Surr: 2-Fluorophenol	*127*	*0*	*167*	*0*	*76.0*	*37 - 125*				
Surr: 4-Terphenyl-d14	*142.7*	*0*	*167*	*0*	*85.4*	*32 - 125*				
Surr: Nitrobenzene-d5	*157.3*	*0*	*167*	*0*	*94.2*	*37 - 125*				
Surr: Phenol-d6	*132.6*	*0*	*167*	*0*	*79.4*	*40 - 125*				

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
WorkOrder: HS16020686

QC BATCH REPORT

Batch ID: 101520 **Instrument: SV-6** **Method: SW8270**

MS Sample ID: **HS16020499-01MS** Units: **ug/Kg** Analysis Date: **18-Feb-2016 23:57**
Client ID: Run ID: **SV-6_269537** SeqNo: **3588969** PrepDate: **18-Feb-2016** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Diphenylhydrazine	91.03	6.6	166	0	54.8	50 - 135				
2,4-Dimethylphenol	97.67	6.6	166	0	58.8	45 - 120				
2,4-Dinitrotoluene	105.9	6.6	166	0	63.8	50 - 130				
2,6-Dinitrotoluene	105.4	6.6	166	0	63.5	50 - 125				
2-Chloronaphthalene	112.7	6.6	166	0	67.9	50 - 145				
2-Methylnaphthalene	105.2	3.3	166	0	63.4	50 - 120				
4,6-Dinitro-2-methylphenol	30.94	6.6	166	0	18.6	15 - 135				
4-Nitrophenol	112.1	13	166	0	67.5	40 - 147				
Acenaphthene	91.5	3.3	166	0	55.1	50 - 120				
Acenaphthylene	107.3	3.3	166	0	64.6	50 - 120				
Anthracene	116.4	3.3	166	4.935	67.1	50 - 123				
Benz(a)anthracene	114.5	3.3	166	0	68.9	50 - 131				
Benzo(a)pyrene	118.8	3.3	166	0	71.6	50 - 130				
Bis(2-chloroethoxy)methane	104.4	6.6	166	0	62.9	50 - 120				
Bis(2-ethylhexyl)phthalate	108.9	6.6	166	0	65.6	21 - 148				
Chrysene	123.6	3.3	166	0	74.5	50 - 130				
Dibenzofuran	108	3.3	166	0	65.0	50 - 125				
Di-n-butyl phthalate	110.7	6.6	166	0	66.7	50 - 140				
Fluoranthene	129.4	3.3	166	11.31	71.2	50 - 131				
Fluorene	108.5	3.3	166	0	65.4	50 - 125				
Naphthalene	106.7	3.3	166	0	64.3	50 - 125				
Nitrobenzene	104.3	6.6	166	0	62.8	50 - 125				
N-Nitrosodiphenylamine	114.3	6.6	166	0	68.9	50 - 130				
Pentachlorophenol	85.63	6.6	166	0	51.6	23 - 136				
Phenanthrene	122	3.3	166	6.289	69.7	50 - 125				
Phenol	90.36	6.6	166	0	54.4	45 - 130				
Pyrene	117.8	3.3	166	10.55	64.6	45 - 130				
Surr: 2,4,6-Tribromophenol	*137.1*	*0*	*166*	*0*	*82.6*	*36 - 126*				
Surr: 2-Fluorobiphenyl	*103*	*0*	*166*	*0*	*62.0*	*43 - 125*				
Surr: 2-Fluorophenol	*92.02*	*0*	*166*	*0*	*55.4*	*37 - 125*				
Surr: 4-Terphenyl-d14	*111.1*	*0*	*166*	*0*	*66.9*	*32 - 125*				
Surr: Nitrobenzene-d5	*100.4*	*0*	*166*	*0*	*60.5*	*37 - 125*				
Surr: Phenol-d6	*89.46*	*0*	*166*	*0*	*53.9*	*40 - 125*				

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
WorkOrder: HS16020686

QC BATCH REPORT

Batch ID: 101520 **Instrument: SV-6** **Method: SW8270**

MSD Sample ID: **HS16020499-01MSD** Units: **ug/Kg** Analysis Date: **19-Feb-2016 00:16**
Client ID: Run ID: **SV-6_269537** SeqNo: **3588970** PrepDate: **18-Feb-2016** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual
1,2-Diphenylhydrazine	94.75	6.6	166	0	57.1	50 - 135	91.03	4	30	
2,4-Dimethylphenol	87.05	6.6	166	0	52.4	45 - 120	97.67	11.5	30	
2,4-Dinitrotoluene	109.9	6.6	166	0	66.2	50 - 130	105.9	3.78	30	
2,6-Dinitrotoluene	105.9	6.6	166	0	63.8	50 - 125	105.4	0.494	30	
2-Chloronaphthalene	111.5	6.6	166	0	67.2	50 - 145	112.7	1.08	30	
2-Methylnaphthalene	100.1	3.3	166	0	60.3	50 - 120	105.2	4.95	30	
4,6-Dinitro-2-methylphenol	15.08	6.6	166	0	9.08	15 - 135	30.94	68.9	30	SR
4-Nitrophenol	101.3	13	166	0	61.0	40 - 147	112.1	10.1	30	
Acenaphthene	101.6	3.3	166	0	61.2	50 - 120	91.5	10.4	30	
Acenaphthylene	112.8	3.3	166	0	68.0	50 - 120	107.3	5.01	30	
Anthracene	115.2	3.3	166	4.935	66.4	50 - 123	116.4	1.05	30	
Benz(a)anthracene	114.3	3.3	166	0	68.9	50 - 131	114.5	0.0956	30	
Benzo(a)pyrene	121	3.3	166	0	72.9	50 - 130	118.8	1.85	30	
Bis(2-chloroethoxy)methane	101.4	6.6	166	0	61.1	50 - 120	104.4	2.91	30	
Bis(2-ethylhexyl)phthalate	114.6	6.6	166	0	69.1	21 - 148	108.9	5.13	30	
Chrysene	126.4	3.3	166	0	76.1	50 - 130	123.6	2.23	30	
Dibenzofuran	113.2	3.3	166	0	68.2	50 - 125	108	4.78	30	
Di-n-butyl phthalate	112.1	6.6	166	0	67.5	50 - 140	110.7	1.25	30	
Fluoranthene	123.6	3.3	166	11.31	67.6	50 - 131	129.4	4.61	30	
Fluorene	114.6	3.3	166	0	69.1	50 - 125	108.5	5.46	30	
Naphthalene	98.1	3.3	166	0	59.1	50 - 125	106.7	8.4	30	
Nitrobenzene	99.9	6.6	166	0	60.2	50 - 125	104.3	4.29	30	
N-Nitrosodiphenylamine	111.9	6.6	166	0	67.4	50 - 130	114.3	2.13	30	
Pentachlorophenol	69.66	6.6	166	0	42.0	23 - 136	85.63	20.6	30	
Phenanthrene	104.9	3.3	166	6.289	59.4	50 - 125	122	15.1	30	
Phenol	86.12	6.6	166	0	51.9	45 - 130	90.36	4.81	30	
Pyrene	117.2	3.3	166	10.55	64.3	45 - 130	117.8	0.501	30	
Surr: 2,4,6-Tribromophenol	*144.2*	*0*	*166*	*0*	*86.8*	*36 - 126*	*137.1*	*5.01*	*30*	
Surr: 2-Fluorobiphenyl	*105.5*	*0*	*166*	*0*	*63.6*	*43 - 125*	*103*	*2.43*	*30*	
Surr: 2-Fluorophenol	*64.78*	*0*	*166*	*0*	*39.0*	*37 - 125*	*92.02*	*34.7*	*30*	R
Surr: 4-Terphenyl-d14	*116.8*	*0*	*166*	*0*	*70.4*	*32 - 125*	*111.1*	*5.06*	*30*	
Surr: Nitrobenzene-d5	*92.33*	*0*	*166*	*0*	*55.6*	*37 - 125*	*100.4*	*8.33*	*30*	
Surr: Phenol-d6	*88.9*	*0*	*166*	*0*	*53.6*	*40 - 125*	*89.46*	*0.62*	*30*	

The following samples were anayzed in this batch: HS16020686-01 HS16020686-02

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
WorkOrder: HS16020686

QC BATCH REPORT

Batch ID: **R269512** **Instrument:** **Balance1** **Method:** **ASTM D2216**

DUP Sample ID: **HS16020686-02DUP** Units: **wt%** Analysis Date: **18-Feb-2016 11:59**
Client ID: **SO-1620-CSAW1R(0-5)-20160218** Run ID: **Balance1_269512** SeqNo: **3588646** PrepDate: DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Percent Moisture	14.8	0.0100					14.4	2.74	20	

The following samples were anayzed in this batch: HS16020686-01 HS16020686-02

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
WorkOrder: **HS16020686**

QUALIFIERS, ACRONYMS, UNITS

Qualifier	Description
*	Value exceeds Regulatory Limit
a	Not accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte detected below quantitation limit
M	Manually integrated, see raw data for justification
n	Not offered for accreditation
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL/SDL

Acronym	Description
DCS	Detectability Check Study
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
MBLK	Method Blank
MDL	Method Detection Limit
MQL	Method Quantitation Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PDS	Post Digestion Spike
PQL	Practical Quantitaion Limit
SD	Serial Dilution
SDL	Sample Detection Limit
TRRP	Texas Risk Reduction Program

Unit Reported	Description
mg/Kg-dry	Milligrams per Kilogram- Dry weight corrected

CERTIFICATIONS,ACCREDITATIONS & LICENSES

Agency	Number	Expire Date
Arkansas	15-024-0	27-Mar-2016
California	2919	31-Jul-2016
Illinois	003622	09-May-2016
Kentucky	KY 2015-2016	30-Apr-2016
Louisiana	03087 2015/2016	30-Jun-2016
North Carolina	624 - 2016	31-Dec-2016
North Dakota	R-193 2015-2016	30-Apr-2016
Oklahoma	2015-047	31-Aug-2016
Texas	T104704231-15-15	30-Apr-2016

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
Work Order: HS16020686

SAMPLE TRACKING

Lab Samp ID	Client Sample ID	Action	Date	Person	New Location
HS16020686-01	SO-1620-CSBS1RR(0-5)-20160218	Login	2/18/2016 11:50:29 AM	BHH	17D
HS16020686-02	SO-1620-CSAW1R(0-5)-20160218	Login	2/18/2016 11:50:29 AM	BHH	17D

Sample Receipt Checklist

Client Name: PBW
Work Order: HS16020686

Date/Time Received: **18-Feb-2016 11:40**
Received by: **BHH**

Checklist completed by: *Baudelio Hernandez* eSignature — 18-Feb-2016 Date

Reviewed by: *Dane J. Wacasey* eSignature — 18-Feb-2016 Date

Matrices: **Soil**

Carrier name: **Client**

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on shipping container/cooler?	Yes ☐	No ☐	Not Present ☑
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☑	No ☐	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
TX1005 solids received in hermetically sealed vials?	Yes ☐	No ☐	N/A ☑
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time?	Yes ☑	No ☐	
Container/Temp Blank temperature in compliance?	Yes ☑	No ☐	
Temperature(s)/Thermometer(s):	2.4c / 3.0c u/c	IR#4	
Cooler(s)/Kit(s):	5493		
Date/Time sample(s) sent to storage:	02/18/2016 11:55		
Water - VOA vials have zero headspace?	Yes ☐	No ☐	No VOA vials submitted ☑
Water - pH acceptable upon receipt?	Yes ☐	No ☐	N/A ☑
pH adjusted?	Yes ☐	No ☐	N/A ☑
pH adjusted by:			

Login Notes:

Client Contacted: Date Contacted: Person Contacted:

Contacted By: 0 Regarding:

Comments:

Corrective Action:

ALS Environmental

Cincinnati, OH +1 513 733 5336 | Fort Collins, CO +1 970 490 1511
Everett, WA +1 425 356 2600 | Holland, MI +1 616 399 6070

Chain of Custody Form

Page 1 of 1

COC ID: 141484

HS16020686

Pastor, Behling & Wheeler, LLC
1620-10-Rev1 HoustonTX-Wood

ALS Project Manager:

Customer Information		Project Information	
Purchase Order	UPRR	Project Name	1620-10-Rev1 HoustonTX-Wood
Work Order		Project Number	1620-10-Rev1
Company Name	Pastor, Behling & Wheeler, LLC	Bill To Company	Union Pacific Railroad- A/P
Send Report To	Eric Matzner	Invoice Attn	Accounts Payable
Address	2201 Double Creek Drive Suite 4004	Address	1400 Douglas Street Stop 0750
City/State/Zip	Round Rock, TX 78664	City/State/Zip	Omaha, NE 681790750
Phone	(512) 671-3434	Phone	
Fax	(512) 671-3446	Fax	
e-Mail Address		e-Mail Address	

A	8270_LOW_S (5632532 SemiVolatiles)
B	ICP_S_Low (5636002 5652646 Metals - As, Pb)
C	MOIST_ASTM (5631931 Gen.Chem. MOIST%)
D	
E	
F	
G	
H	
I	
J	

No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
1	SO-1620-CSBS1RR (0-5)-20160218	2/18/16	945	Soil	8	1	X	X	X								
2	SO-1620-CSAW1R (0-5)-20160218	2/18/16	1045	Soil	8	1	X	X	X								
3																	
4																	
5																	
6																	
7																	
8																	
9																	
10																	

Sampler(s) Please Print & Sign: Kevin Dworsky

Shipment Method: Drop

Required Turnaround Time: (Check Box) TAT: 1 days Other:

Results Due Date:

	Date	Time		
Relinquished by:	2/18/16	1100	Received by:	
Relinquished by:	2/18/16	1140	Received by (Laboratory):	2/18/16 1140
Logged by (Laboratory):	Date:	Time:	Checked by (Laboratory):	

Notes: [UPRR Houston MWPW]

Cooler ID	Cooler Temp.
5493	2.4°
	#4

QC Package: (Check One Box Below)
QC Level: TRRP LRC
Other:

Preservative Key: 1-HCl 2-HNO_3 3-H_2SO_4 4-NaOH 5-$Na_2S_2O_3$ 6-$NaHSO_4$ 7-Other 8-4°C 9-5035

Note: 1. Any changes must be made in writing once samples and COC Form have been submitted to ALS Environmental.
2. Unless otherwise agreed in a formal contract, services provided by ALS Environmental are expressly limited to the terms and conditions stated on the reverse.
3. The Chain of Custody is a legal document. All information must be completed accurately.

10450 Stancliff Rd. Suite 210
Houston, TX 77099
T: +1 281 530 5656
F: +1 281 530 5887
www.alsglobal.com

February 26, 2016

Eric Matzner
Pastor, Behling & Wheeler, LLC
2201 Double Creek Drive
Suite 4004
Round Rock, TX 78664

Work Order: **HS16021076**

Laboratory Results for: **1620-10-Rev1 HoustonTX-Wood**

Dear Eric,

ALS Environmental received 1 sample(s) on Feb 25, 2016 for the analysis presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested. Results are expressed as "as received" unless otherwise noted.

QC sample results for this data met EPA or laboratory specifications except as noted in the Case Narrative or as noted with qualifiers in the QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained by ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

If you have any questions regarding this report, please feel free to call me.

Sincerely,

Generated By: Jumoke.Lawal
Dane J. Wacasey

Client:	Pastor, Behling & Wheeler, LLC	**TRRP Laboratory Data Package Cover Page**
Project:	1620-10-Rev1 HoustonTX-Wood	
WorkOrder:	**HS16021076**	

This data package consists of all or some of the following as applicable:

This signature page, the laboratory review checklist, and the following reportable data:

R1 Field chain-of-custody documentation;

R2 Sample identification cross-reference;

R3 Test reports (analytical data sheets) for each environmental sample that includes:

a) Items consistent with NELAC Chapter 5,
b) dilution factors,
c) preparation methods,
d) cleanup methods, and
e) if required for the project, tentatively identified compounds (TICs).

R4 Surrogate recovery data including:

a) Calculated recovery (%R), and
b) The laboratory's surrogate QC limits.

R5 Test reports/summary forms for blank samples;

R6 Test reports/summary forms for laboratory control samples (LCSs) including:

a) LCS spiking amounts,
b) Calculated %R for each analyte, and
c)The laboratory's LCS QC limits.

R7 Test reports for project matrix spike/matrix spike duplicates (MS/MSDs) including:

a) Samples associated with the MS/MSD clearly identified,
b) MS/MSD spiking amounts,
c) Concentration of each MS/MSD analyte measured in the parent and spiked samples,
d) Calculated %Rs and relative percent differences (RPDs), and
e) The laboratory's MS/MSD QC limits.

R8 Laboratory analytical duplicate (if applicable) recovery and precision:

a) the amount of analyte measured in the duplicate,
b) the calculated RPD, and
c) the laboratory's QC limits for analytical duplicates.

R9 List of method quantitation limits (MQLs) and detectability check sample results for each analyte for each method and matrix.

R10 Other problems or anomalies.
The Exception Report for each "No" or "Not Reviewed (NR)" item in Laboratory Review Checklist and for each analyte, matrix, and method for which the laboratory does not hold NELAC accreditation under the Texas Laboratory Accreditation Program.

Client:	Pastor, Behling & Wheeler, LLC
Project:	1620-10-Rev1 HoustonTX-Wood
WorkOrder:	**HS16021076**

TRRP Laboratory Data Package Cover Page

Release Statement: I am responsible for the release of this laboratory data package. This laboratory is NELAC accredited under the Texas Laboratory Accreditation Program for all the methods, analytes and matrices reported in this data package except as noted in the Exception Reports. The data have been reviewed and are technically compliant with the requirements of the methods used, except where noted by the laboratory in the attached exception reports. By my signature below, I affirm to the best of my knowledge, all problems/anomalies, observed by the laboratory have been identified by the laboratory in the Laboratory Review Checklist, and no information affecting the quality of the data has been knowingly withheld.

Check, if applicable: [NA] This laboratory meets an exception under 30 TAC §25.6 and was last inspected by [ ] TCEQ or [ ] _____ on (enter date of last inspection). Any findings affecting the data in this laboratory data package are noted in the Exception Reports herein. The official signing the cover page of the report in which these data are used is responsible for releasing this data package and is by signature affirming the above release statement is true.

Dane J. Wacasey

Laboratory Review Checklist: Reportable Data								
Laboratory Name: ALS Laboratory Group			LRC Date: 02/26/2016					
Project Name: 1620-10-Rev1 HoustonTX-Wood			Laboratory Job Number: HS16021076					
Reviewer Name: Dane Wacasey			Prep Batch Number(s): 101783, 101816,R269969					
#[1]	A[2]	Description	Yes	No	NA[3]	NR[4]	ER#[5]	
R1	OI	**Chain-of-custody (C-O-C)**						
		Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?	X					
		Were all departures from standard conditions described in an exception report?	X					
R2	OI	**Sample and quality control (QC) identification**						
		Are all field sample ID numbers cross-referenced to the laboratory ID numbers?	X					
		Are all laboratory ID numbers cross-referenced to the corresponding QC data?	X					
R3	OI	**Test reports**						
		Were all samples prepared and analyzed within holding times?	X					
		Other than those results < MQL, were all other raw values bracketed by calibration standards?	X					
		Were calculations checked by a peer or supervisor?	X					
		Were all analyte identifications checked by a peer or supervisor?	X					
		Were sample detection limits reported for all analytes not detected?	X					
		Were all results for soil and sediment samples reported on a dry weight basis?	X					
		Were % moisture (or solids) reported for all soil and sediment samples?	X					
		Were bulk soils/solids samples for volatile analysis extracted with methanol per SW-846 Method 5035?			X			
		If required for the project, TICs reported?			X			
R4	O	**Surrogate recovery data**						
		Were surrogates added prior to extraction?	X					
		Were surrogate percent recoveries in all samples within the laboratory QC limits?	X					
R5	OI	**Test reports/summary forms for blank samples**						
		Were appropriate type(s) of blanks analyzed?	X					
		Were blanks analyzed at the appropriate frequency?	X					
		Were method blanks taken through the entire analytical process, including preparation and, if applicable, cleanup procedures?	X					
		Were blank concentrations < MQL?	X					
R6	OI	**Laboratory control samples (LCS):**						
		Were all COCs included in the LCS?	X					
		Was each LCS taken through the entire analytical procedure, including prep and cleanup steps?	X					
		Were LCSs analyzed at the required frequency?	X					
		Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?	X					
		Does the detectability data document the laboratory's capability to detect the COCs at the MDL used to calculate the SDLs?	X					
		Was the LCSD RPD within QC limits?	X					
R7	OI	**Matrix spike (MS) and matrix spike duplicate (MSD) data**						
		Were the project/method specified analytes included in the MS and MSD?	X					
		Were MS/MSD analyzed at the appropriate frequency?	X					
		Were MS (and MSD, if applicable) %Rs within the laboratory QC limits?		X			1	
		Were MS/MSD RPDs within laboratory QC limits?		X			2	
R8	OI	**Analytical duplicate data**						
		Were appropriate analytical duplicates analyzed for each matrix?	X					
		Were analytical duplicates analyzed at the appropriate frequency?	X					
		Were RPDs or relative standard deviations within the laboratory QC limits?	X					
R9	OI	**Method quantitation limits (MQLs):**						
		Are the MQLs for each method analyte included in the laboratory data package?	X					
		Do the MQLs correspond to the concentration of the lowest non-zero calibration standard?	X					
		Are unadjusted MQLs and DCSs included in the laboratory data package?	X					
R10	OI	**Other problems/anomalies**						
		Are all known problems/anomalies/special conditions noted in this LRC and ER?	X					
		Were all necessary corrective actions performed for the reported data?	X					
		Was applicable and available technology used to lower the SDL and minimize the matrix interference affects on the sample results?	X					
		Is the laboratory NELAC-accredited under the Texas Laboratory Program for the analytes, matrices and methods associated with this laboratory data package?	X					

Laboratory Review Checklist: Reportable Data							
Laboratory Name: ALS Laboratory Group			LRC Date: 02/26/2016				
Project Name: 1620-10-Rev1 HoustonTX-Wood			Laboratory Job Number: HS16021076				
Reviewer Name: Dane Wacasey			Prep Batch Number(s): 101783, 101816,R269969				
#[1]	A[2]	Description	Yes	No	NA[3]	NR[4]	ER#[5]
S1	OI	**Initial calibration (ICAL)**					
		Were response factors and/or relative response factors for each analyte within QC limits?	X				
		Were percent RSDs or correlation coefficient criteria met?	X				
		Was the number of standards recommended in the method used for all analytes?	X				
		Were all points generated between the lowest and highest standard used to calculate the curve?	X				
		Are ICAL data available for all instruments used?	X				
		Has the initial calibration curve been verified using an appropriate second source standard?	X				
S2	OI	**Initial and continuing calibration verification (ICCV and CCV) and continuing calibration blank (CCB)**					
		Was the CCV analyzed at the method-required frequency?	X				
		Were percent differences for each analyte within the method-required QC limits?	X				
		Was the ICAL curve verified for each analyte?	X				
		Was the absolute value of the analyte concentration in the inorganic CCB < MDL?	X				
S3	O	**Mass spectral tuning:**					
		Was the appropriate compound for the method used for tuning?	X				
		Were ion abundance data within the method-required QC limits?	X				
S4	O	**Internal standards (IS):**					
		Were IS area counts and retention times within the method-required QC limits?	X				
S5	OI	**Raw data** (NELAC section 1 appendix A glossary, and section 5.12 or ISO/IEC 17025 section					
		Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst?	X				
		Were data associated with manual integrations flagged on the raw data?	X				
S6	O	**Dual column confirmation**					
		Did dual column confirmation results meet the method-required QC?			X		
S7	O	**Tentatively identified compounds (TICs):**					
		If TICs were requested, were the mass spectra and TIC data subject to appropriate checks?			X		
S8	I	**Interference Check Sample (ICS) results:**					
		Were percent recoveries within method QC limits?	X				
S9	I	**Serial dilutions, post digestion spikes, and method of standard additions**					
		Were percent differences, recoveries, and the linearity within the QC limits specified in the method?	X				
S10	OI	**Method detection limit (MDL) studies**					
		Was a MDL study performed for each reported analyte?	X				
		Is the MDL either adjusted or supported by the analysis of DCSs?	X				
S11	OI	**Proficiency test reports:**					
		Was the laboratory's performance acceptable on the applicable proficiency tests or evaluation studies?	X				
S12	OI	**Standards documentation**					
		Are all standards used in the analyses NIST-traceable or obtained from other appropriate sources?	X				
S13	OI	**Compound/analyte identification procedures**					
		Are the procedures for compound/analyte identification documented?	X				
S14	OI	**Demonstration of analyst competency (DOC)**					
		Was DOC conducted consistent with NELAC Chapter 5C or ISO/IEC 4?	X				
		Is documentation of the analyst's competency up-to-date and on file?	X				
S15	OI	**Verification/validation documentation for methods** (NELAC Chap 5 or ISO/IEC 17025 Section 5)					
		Are all the methods used to generate the data documented, verified, and validated, where applicable?	X				
S16	OI	**Laboratory standard operating procedures (SOPs):**					
		Are laboratory SOPs current and on file for each method performed?	X				

Items identified by the letter "R" must be included in the laboratory data package submitted in the TRRP-required report(s). Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period.
O = Organic Analyses; I = Inorganic Analyses (and general chemistry, when applicable);
NA = Not Applicable;
NR = Not Reviewed;
R# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

Laboratory Review Checklist: Reportable Data	
Laboratory Name: ALS Laboratory Group	LRC Date: 02/26/2016
Project Name: 1620-10-Rev1 HoustonTX-Wood	Laboratory Job Number: HS16021076
Reviewer Name: Dane Wacasey	Prep Batch Number(s): 101783, 101816,R269969

ER#[5]	Description
1	Batch 101783, Semivolatile Organics Method SW8270, sample HS16020646-18, MS and MSD were performed on unrelated sample.
2	Batch 101783, Semivolatile Organics Method SW8270, sample HS16020646-18, MS//MSD RPD is for an unrelated sample.

Items identified by the letter "R" must be included in the laboratory data package submitted in the TRRP-required report(s). Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period.
O = Organic Analyses; I = Inorganic Analyses (and general chemistry, when applicable);
NA = Not Applicable;
NR = Not Reviewed;
R# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
Work Order: HS16021076

SAMPLE SUMMARY

Lab Samp ID	Client Sample ID	Matrix	TagNo	Collection Date	Date Received	Hold
HS16021076-01	SO-1620-BSA7(3.5)-20160225	Soil		25-Feb-2016 15:00	25-Feb-2016 15:46	☐

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
Sample ID: SO-1620-BSA7(3.5)-20160225
Collection Date: 25-Feb-2016 15:00

ANALYTICAL REPORT
WorkOrder:HS16021076
Lab ID:HS16021076-01
Matrix:Soil

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES		**Method:SW8270**			Prep:SW3541 / 25-Feb-2016		Analyst: STH
1,2-Diphenylhydrazine	U		0.0013	0.0078	mg/Kg-dry	1	25-Feb-2016 20:32
2,4-Dimethylphenol	U		0.0039	0.0078	mg/Kg-dry	1	25-Feb-2016 20:32
2,4-Dinitrotoluene	U		0.0011	0.0078	mg/Kg-dry	1	25-Feb-2016 20:32
2,6-Dinitrotoluene	U		0.0039	0.0078	mg/Kg-dry	1	25-Feb-2016 20:32
2-Chloronaphthalene	U		0.0015	0.0078	mg/Kg-dry	1	25-Feb-2016 20:32
2-Methylnaphthalene	**0.0016**	J	**0.00059**	**0.0039**	**mg/Kg-dry**	1	25-Feb-2016 20:32
4,6-Dinitro-2-methylphenol	U		0.0025	0.0078	mg/Kg-dry	1	25-Feb-2016 20:32
4-Nitrophenol	U		0.0023	0.016	mg/Kg-dry	1	25-Feb-2016 20:32
Acenaphthene	U		0.00059	0.0039	mg/Kg-dry	1	25-Feb-2016 20:32
Acenaphthylene	**0.0089**		**0.0012**	**0.0039**	**mg/Kg-dry**	1	25-Feb-2016 20:32
Anthracene	**0.031**		**0.00059**	**0.0039**	**mg/Kg-dry**	1	25-Feb-2016 20:32
Benz(a)anthracene	U		0.0019	0.0039	mg/Kg-dry	1	25-Feb-2016 20:32
Benzo(a)pyrene	**0.041**		**0.0012**	**0.0039**	**mg/Kg-dry**	1	25-Feb-2016 20:32
Bis(2-chloroethoxy)methane	U		0.0011	0.0078	mg/Kg-dry	1	25-Feb-2016 20:32
Bis(2-ethylhexyl)phthalate	U		0.0020	0.0078	mg/Kg-dry	1	25-Feb-2016 20:32
Chrysene	**0.030**		**0.00095**	**0.0039**	**mg/Kg-dry**	1	25-Feb-2016 20:32
Dibenzofuran	**0.0016**	J	**0.00083**	**0.0039**	**mg/Kg-dry**	1	25-Feb-2016 20:32
Di-n-butyl phthalate	U		0.0014	0.0078	mg/Kg-dry	1	25-Feb-2016 20:32
Fluoranthene	**0.026**		**0.0013**	**0.0039**	**mg/Kg-dry**	1	25-Feb-2016 20:32
Fluorene	U		0.0013	0.0039	mg/Kg-dry	1	25-Feb-2016 20:32
Naphthalene	**0.0039**		**0.00071**	**0.0039**	**mg/Kg-dry**	1	25-Feb-2016 20:32
Nitrobenzene	U		0.0011	0.0078	mg/Kg-dry	1	25-Feb-2016 20:32
N-Nitrosodiphenylamine	U		0.00083	0.0078	mg/Kg-dry	1	25-Feb-2016 20:32
Pentachlorophenol	U		0.0039	0.0078	mg/Kg-dry	1	25-Feb-2016 20:32
Phenanthrene	**0.0074**		**0.0018**	**0.0039**	**mg/Kg-dry**	1	25-Feb-2016 20:32
Phenol	U		0.0013	0.0078	mg/Kg-dry	1	25-Feb-2016 20:32
Pyrene	**0.029**		**0.00071**	**0.0039**	**mg/Kg-dry**	1	25-Feb-2016 20:32
Surr: 2,4,6-Tribromophenol	*80.5*			*36-126*	*%REC*	*1*	*25-Feb-2016 20:32*
Surr: 2-Fluorobiphenyl	*63.7*			*43-125*	*%REC*	*1*	*25-Feb-2016 20:32*
Surr: 2-Fluorophenol	*72.3*			*37-125*	*%REC*	*1*	*25-Feb-2016 20:32*
Surr: 4-Terphenyl-d14	*69.8*			*32-125*	*%REC*	*1*	*25-Feb-2016 20:32*
Surr: Nitrobenzene-d5	*59.2*			*37-125*	*%REC*	*1*	*25-Feb-2016 20:32*
Surr: Phenol-d6	*60.6*			*40-125*	*%REC*	*1*	*25-Feb-2016 20:32*
METALS BY SW6020A		**Method:SW6020**			Prep:SW3050A / 26-Feb-2016		Analyst: JDE
Arsenic	**1.58**		**0.112**	**0.562**	**mg/Kg-dry**	1	26-Feb-2016 12:59
Lead	**5.97**		**0.0562**	**0.562**	**mg/Kg-dry**	1	26-Feb-2016 12:59
MOISTURE - ASTM D2216		**Method:ASTM D2216**					Analyst: JBA
Percent Moisture	**15.6**		**0.0100**	**0.0100**	**wt%**	1	26-Feb-2016 07:34

Note: See Qualifiers Page for a list of qualifiers and their explanation.

WEIGHT LOG

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
WorkOrder: HS16021076

Batch ID: 101783 **Method:** LOW-LEVEL SEMIVOLATILES **Prep:** 3541_B_LOW

SampID	Container	Sample Wt/Vol	Final Volume	Prep Factor
HS16021076-01	1	30.11	1 (mL)	0.03333

Batch ID: 101816 **Method:** METALS BY SW6020A **Prep:** 3050_I_LOW

SampID	Container	Sample Wt/Vol	Final Volume	Prep Factor
HS16021076-01	1	0.527	50 (mL)	94.88

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
WorkOrder: HS16021076

DATES REPORT

Sample ID	Client Samp ID	Collection Date	TCLP Date	Prep Date	Analysis Date	DF
Batch ID 101783	**Test Name :** LOW-LEVEL SEMIVOLATILES			**Matrix:** Soil		
HS16021076-01	SO-1620-BSA7(3.5)-20160225	25 Feb 2016 15:00		25 Feb 2016 09:08	25 Feb 2016 20:32	1
Batch ID 101816	**Test Name :** METALS BY SW6020A			**Matrix:** Soil		
HS16021076-01	SO-1620-BSA7(3.5)-20160225	25 Feb 2016 15:00		26 Feb 2016 09:14	26 Feb 2016 12:59	1
Batch ID R269969	**Test Name :** MOISTURE - ASTM D2216			**Matrix:** Soil		
HS16021076-01	SO-1620-BSA7(3.5)-20160225	25 Feb 2016 15:00			26 Feb 2016 07:34	1

WorkOrder: HS16021076
InstrumentID: ICPMS04
Test Code: ICP_S_Low
Test Number: SW6020
Test Name: Metals by SW6020A

METHOD DETECTION / REPORTING LIMITS

Matrix: Solid **Units:** mg/Kg

Type	Analyte	CAS	DCS Spike	DCS	MDL	PQL
A	Arsenic	7440-38-2	0.100	0.0974	0.100	0.500
A	Lead	7439-92-1	0.100	0.0927	0.0500	0.500

WorkOrder: HS16021076
InstrumentID: SV-6
Test Code: 8270_LOW_S
Test Number: SW8270
Test Name: Low-Level Semivolatiles

METHOD DETECTION / REPORTING LIMITS

Matrix: Solid **Units:** mg/Kg

Type	Analyte	CAS	DCS Spike	DCS	MDL	PQL
A	1,2-Diphenylhydrazine	122-66-7	0.0033	0.0037	0.0011	0.0066
A	2,4-Dimethylphenol	105-67-9	0.0033	0.0022	0.0033	0.0066
A	2,4-Dinitrotoluene	121-14-2	0.0033	0.0023	0.00090	0.0066
A	2,6-Dinitrotoluene	606-20-2	0.0033	0.0022	0.0033	0.0066
A	2-Chloronaphthalene	91-58-7	0.0033	0.0028	0.0013	0.0066
A	2-Methylnaphthalene	91-57-6	0.0017	0.0016	0.00050	0.0033
A	4,6-Dinitro-2-methylphenol	534-52-1	0.0033	0.0010	0.0021	0.0066
A	4-Nitrophenol	100-02-7	0.0033	0.0026	0.0019	0.013
A	Acenaphthene	83-32-9	0.0017	0.0016	0.00050	0.0033
A	Acenaphthylene	208-96-8	0.0017	0.0017	0.0010	0.0033
A	Anthracene	120-12-7	0.0017	0.0017	0.00050	0.0033
A	Benz(a)anthracene	56-55-3	0.0017	0.0018	0.0016	0.0033
A	Benzo(a)pyrene	50-32-8	0.0017	0.0017	0.0010	0.0033
A	Bis(2-chloroethoxy)methane	111-91-1	0.0033	0.0028	0.00090	0.0066
A	Bis(2-ethylhexyl)phthalate	117-81-7	0.0033	0.0029	0.0017	0.0066
A	Chrysene	218-01-9	0.0017	0.0019	0.00080	0.0033
A	Dibenzofuran	132-64-9	0.0033	0.0031	0.00070	0.0033
A	Di-n-butyl phthalate	84-74-2	0.0033	0.0031	0.0012	0.0066
A	Fluoranthene	206-44-0	0.0017	0.0018	0.0011	0.0033
A	Fluorene	86-73-7	0.0017	0.0015	0.0011	0.0033
A	Naphthalene	91-20-3	0.0017	0.0016	0.00060	0.0033
A	Nitrobenzene	98-95-3	0.0033	0.0034	0.00090	0.0066
A	N-Nitrosodiphenylamine	86-30-6	0.0033	0.0035	0.00070	0.0066
A	Pentachlorophenol	87-86-5	0.0033	0.0020	0.0033	0.0066
A	Phenanthrene	85-01-8	0.0017	0.0017	0.0015	0.0033
A	Phenol	108-95-2	0.0033	0.0032	0.0011	0.0066
A	Pyrene	129-00-0	0.0017	0.0019	0.00060	0.0033
S	2,4,6-Tribromophenol	118-79-6	0	0	0	0
S	2-Fluorobiphenyl	321-60-8	0	0	0	0
S	2-Fluorophenol	367-12-4	0	0	0	0
S	4-Terphenyl-d14	1718-51-0	0	0	0	0
S	Nitrobenzene-d5	4165-60-0	0	0	0	0
S	Phenol-d6	13127-88-3	0	0	0	0

WorkOrder: HS16021076
InstrumentID: Balance1
Test Code: MOIST_ASTM
Test Number: ASTM D2216
Test Name: Moisture - ASTM D2216

METHOD DETECTION / REPORTING LIMITS

Matrix: Solid **Units:** wt%

Type	Analyte	CAS	DCS Spike	DCS	MDL	PQL
A	Percent Moisture	MOIST	0.0100	0.0100	0.0100	0.0100

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
WorkOrder: HS16021076

QC BATCH REPORT

Batch ID: 101816 **Instrument: ICPMS04** **Method: SW6020**

MBLK Sample ID: **MBLK-101816** Units: **mg/Kg** Analysis Date: **26-Feb-2016 12:51**
Client ID: Run ID: **ICPMS04_269953** SeqNo: **3597344** PrepDate: **26-Feb-2016** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	U	0.563								
Lead	U	0.563								

LCS Sample ID: **MLCS-101816** Units: **mg/Kg** Analysis Date: **26-Feb-2016 12:55**
Client ID: Run ID: **ICPMS04_269953** SeqNo: **3597345** PrepDate: **26-Feb-2016** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	10.88	0.572	11.44	0	95.1	80 - 120				
Lead	11.3	0.572	11.44	0	98.8	80 - 120				

MS Sample ID: **HS16020874-01MS** Units: **mg/Kg** Analysis Date: **26-Feb-2016 13:12**
Client ID: Run ID: **ICPMS04_269953** SeqNo: **3597349** PrepDate: **26-Feb-2016** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	13.16	0.472	9.43	3.736	99.9	75 - 125				
Lead	15.7	0.472	9.43	6.233	100	75 - 125				

MSD Sample ID: **HS16020874-01MSD** Units: **mg/Kg** Analysis Date: **26-Feb-2016 13:16**
Client ID: Run ID: **ICPMS04_269953** SeqNo: **3597350** PrepDate: **26-Feb-2016** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	13.06	0.473	9.455	3.736	98.6	75 - 125	13.16	0.756	20	
Lead	15.62	0.473	9.455	6.233	99.2	75 - 125	15.7	0.541	20	

PDS Sample ID: **HS16020874-01BS** Units: **mg/Kg** Analysis Date: **26-Feb-2016 13:20**
Client ID: Run ID: **ICPMS04_269953** SeqNo: **3597351** PrepDate: **26-Feb-2016** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	11.68	0.458	9.164	3.736	86.7	75 - 125				
Lead	14.82	0.458	9.164	6.233	93.7	75 - 125				

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
WorkOrder: HS16021076

QC BATCH REPORT

Batch ID: 101816 **Instrument: ICPMS04** **Method: SW6020**

SD Sample ID: **HS16020874-01 DIL SX** Units: **mg/Kg** Analysis Date: **26-Feb-2016 13:08**
Client ID: Run ID: **ICPMS04_269953** SeqNo: **3597348** PrepDate: **26-Feb-2016** DF: **5**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%D	%D Limit	Qual
Arsenic	3.666	2.29					3.736	1.88	10	
Lead	5.818	2.29					6.233	6.65	10	

The following samples were anayzed in this batch: HS16021076-01

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
WorkOrder: HS16021076

QC BATCH REPORT

Batch ID: 101783 **Instrument: SV-6** **Method: SW8270**

MBLK Sample ID: **MBLK-101783** Units: **ug/Kg** Analysis Date: **25-Feb-2016 19:54**
Client ID: Run ID: **SV-6_269921** SeqNo: **3596534** PrepDate: **25-Feb-2016** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Diphenylhydrazine	U	6.6								
2,4-Dimethylphenol	U	6.6								
2,4-Dinitrotoluene	U	6.6								
2,6-Dinitrotoluene	U	6.6								
2-Chloronaphthalene	U	6.6								
2-Methylnaphthalene	U	3.3								
4,6-Dinitro-2-methylphenol	U	6.6								
4-Nitrophenol	U	13								
Acenaphthene	U	3.3								
Acenaphthylene	U	3.3								
Anthracene	U	3.3								
Benz(a)anthracene	U	3.3								
Benzo(a)pyrene	U	3.3								
Bis(2-chloroethoxy)methane	U	6.6								
Bis(2-ethylhexyl)phthalate	U	6.6								
Chrysene	U	3.3								
Dibenzofuran	U	3.3								
Di-n-butyl phthalate	U	6.6								
Fluoranthene	U	3.3								
Fluorene	U	3.3								
Naphthalene	U	3.3								
Nitrobenzene	U	6.6								
N-Nitrosodiphenylamine	U	6.6								
Pentachlorophenol	U	6.6								
Phenanthrene	U	3.3								
Phenol	U	6.6								
Pyrene	U	3.3								
Surr: 2,4,6-Tribromophenol	*115.1*	*0*	*167*	*0*	*68.9*	*36 - 126*				
Surr: 2-Fluorobiphenyl	*108.2*	*0*	*167*	*0*	*64.8*	*43 - 125*				
Surr: 2-Fluorophenol	*123.1*	*0*	*167*	*0*	*73.7*	*37 - 125*				
Surr: 4-Terphenyl-d14	*129.6*	*0*	*167*	*0*	*77.6*	*32 - 125*				
Surr: Nitrobenzene-d5	*102.1*	*0*	*167*	*0*	*61.1*	*37 - 125*				
Surr: Phenol-d6	*107.6*	*0*	*167*	*0*	*64.4*	*40 - 125*				

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
WorkOrder: HS16021076

QC BATCH REPORT

Batch ID: 101783 **Instrument: SV-6** **Method: SW8270**

LCS Sample ID: **LCS-101783** Units: **ug/Kg** Analysis Date: **25-Feb-2016 20:13**
Client ID: Run ID: **SV-6_269921** SeqNo: **3596535** PrepDate: **25-Feb-2016** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Diphenylhydrazine	110.7	6.6	167	0	66.3	50 - 135				
2,4-Dimethylphenol	102.9	6.6	167	0	61.6	45 - 120				
2,4-Dinitrotoluene	123	6.6	167	0	73.7	50 - 130				
2,6-Dinitrotoluene	122.3	6.6	167	0	73.2	50 - 125				
2-Chloronaphthalene	129.3	6.6	167	0	77.4	50 - 145				
2-Methylnaphthalene	107.3	3.3	167	0	64.3	50 - 120				
4,6-Dinitro-2-methylphenol	97.04	6.6	167	0	58.1	15 - 135				
4-Nitrophenol	114.9	13	167	0	68.8	40 - 147				
Acenaphthene	102.4	3.3	167	0	61.3	50 - 120				
Acenaphthylene	115.4	3.3	167	0	69.1	50 - 120				
Anthracene	105	3.3	167	0	62.9	50 - 123				
Benz(a)anthracene	129	3.3	167	0	77.2	50 - 131				
Benzo(a)pyrene	145.5	3.3	167	0	87.1	50 - 130				
Bis(2-chloroethoxy)methane	115.2	6.6	167	0	69.0	50 - 120				
Bis(2-ethylhexyl)phthalate	130.6	6.6	167	0	78.2	21 - 148				
Chrysene	154.5	3.3	167	0	92.5	50 - 130				
Dibenzofuran	117.4	3.3	167	0	70.3	50 - 125				
Di-n-butyl phthalate	134.7	6.6	167	0	80.6	50 - 140				
Fluoranthene	133.6	3.3	167	0	80.0	50 - 131				
Fluorene	118.9	3.3	167	0	71.2	50 - 125				
Naphthalene	112.3	3.3	167	0	67.2	50 - 125				
Nitrobenzene	114.2	6.6	167	0	68.4	50 - 125				
N-Nitrosodiphenylamine	122.3	6.6	167	0	73.2	50 - 130				
Pentachlorophenol	80.6	6.6	167	0	48.3	23 - 136				
Phenanthrene	112.3	3.3	167	0	67.3	50 - 125				
Phenol	129.6	6.6	167	0	77.6	45 - 130				
Pyrene	121.1	3.3	167	0	72.5	45 - 130				
Surr: 2,4,6-Tribromophenol	*148*	*0*	*167*	*0*	*88.6*	*36 - 126*				
Surr: 2-Fluorobiphenyl	*118.4*	*0*	*167*	*0*	*70.9*	*43 - 125*				
Surr: 2-Fluorophenol	*114.8*	*0*	*167*	*0*	*68.7*	*37 - 125*				
Surr: 4-Terphenyl-d14	*140.1*	*0*	*167*	*0*	*83.9*	*32 - 125*				
Surr: Nitrobenzene-d5	*116.1*	*0*	*167*	*0*	*69.5*	*37 - 125*				
Surr: Phenol-d6	*103.8*	*0*	*167*	*0*	*62.2*	*40 - 125*				

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
WorkOrder: HS16021076

QC BATCH REPORT

Batch ID: 101783 **Instrument: SV-6** **Method: SW8270**

MS Sample ID: **HS16020646-18MS** Units: **ug/Kg** Analysis Date: **25-Feb-2016 21:10**
Client ID: Run ID: **SV-6_269921** SeqNo: **3596538** PrepDate: **25-Feb-2016** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Diphenylhydrazine	107.3	6.6	166.2	0	64.6	50 - 135				
2,4-Dimethylphenol	97.2	6.6	166.2	0	58.5	45 - 120				
2,4-Dinitrotoluene	124.1	6.6	166.2	0	74.7	50 - 130				
2,6-Dinitrotoluene	126.6	6.6	166.2	0	76.2	50 - 125				
2-Chloronaphthalene	119.6	6.6	166.2	0	71.9	50 - 145				
2-Methylnaphthalene	99.69	3.3	166.2	1.179	59.3	50 - 120				
4,6-Dinitro-2-methylphenol	88.61	6.6	166.2	0	53.3	15 - 135				
4-Nitrophenol	118.6	13	166.2	0	71.4	40 - 147				
Acenaphthene	102.1	3.3	166.2	0	61.4	50 - 120				
Acenaphthylene	119.1	3.3	166.2	0	71.7	50 - 120				
Anthracene	124	3.3	166.2	3.996	72.2	50 - 123				
Benz(a)anthracene	144.1	3.3	166.2	22.6	73.1	50 - 131				
Benzo(a)pyrene	198	3.3	166.2	63.32	81.1	50 - 130				
Bis(2-chloroethoxy)methane	103.1	6.6	166.2	0	62.1	50 - 120				
Bis(2-ethylhexyl)phthalate	118	6.6	166.2	5.482	67.7	21 - 148				
Chrysene	228.8	3.3	166.2	80.01	89.6	50 - 130				
Dibenzofuran	117.4	3.3	166.2	0.8806	70.1	50 - 125				
Di-n-butyl phthalate	118.8	6.6	166.2	0	71.5	50 - 140				
Fluoranthene	252.7	3.3	166.2	127.3	75.5	50 - 131				
Fluorene	120.7	3.3	166.2	1.763	71.6	50 - 125				
Naphthalene	102.7	3.3	166.2	4.66	59.0	50 - 125				
Nitrobenzene	101.7	6.6	166.2	0	61.2	50 - 125				
N-Nitrosodiphenylamine	117.1	6.6	166.2	0	70.5	50 - 130				
Pentachlorophenol	80.74	6.6	166.2	0	48.6	23 - 136				
Phenanthrene	140.8	3.3	166.2	35.16	63.6	50 - 125				
Phenol	117.8	6.6	166.2	0	70.9	45 - 130				
Pyrene	224.2	3.3	166.2	100.4	74.5	45 - 130				
Surr: 2,4,6-Tribromophenol	*162*	*0*	*166.2*	*0*	*97.5*	*36 - 126*				
Surr: 2-Fluorobiphenyl	*117.9*	*0*	*166.2*	*0*	*70.9*	*43 - 125*				
Surr: 2-Fluorophenol	*110.9*	*0*	*166.2*	*0*	*66.7*	*37 - 125*				
Surr: 4-Terphenyl-d14	*131.8*	*0*	*166.2*	*0*	*79.3*	*32 - 125*				
Surr: Nitrobenzene-d5	*99.64*	*0*	*166.2*	*0*	*60.0*	*37 - 125*				
Surr: Phenol-d6	*106.5*	*0*	*166.2*	*0*	*64.1*	*40 - 125*				

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
WorkOrder: HS16021076

QC BATCH REPORT

Batch ID: 101783 **Instrument: SV-6** **Method: SW8270**

MSD Sample ID: **HS16020646-18MSD** Units: **ug/Kg** Analysis Date: **25-Feb-2016 21:29**
Client ID: Run ID: **SV-6_269921** SeqNo: **3596539** PrepDate: **25-Feb-2016** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual
1,2-Diphenylhydrazine	69.57	6.6	166.1	0	41.9	50 - 135	107.3	42.7	30	SR
2,4-Dimethylphenol	66.3	6.6	166.1	0	39.9	45 - 120	97.2	37.8	30	SR
2,4-Dinitrotoluene	126.5	6.6	166.1	0	76.1	50 - 130	124.1	1.89	30	
2,6-Dinitrotoluene	130.9	6.6	166.1	0	78.8	50 - 125	126.6	3.35	30	
2-Chloronaphthalene	130.1	6.6	166.1	0	78.3	50 - 145	119.6	8.48	30	
2-Methylnaphthalene	70.19	3.3	166.1	1.179	41.5	50 - 120	99.69	34.7	30	SR
4,6-Dinitro-2-methylphenol	67.66	6.6	166.1	0	40.7	15 - 135	88.61	26.8	30	
4-Nitrophenol	90.28	13	166.1	0	54.3	40 - 147	118.6	27.2	30	
Acenaphthene	100.5	3.3	166.1	0	60.5	50 - 120	102.1	1.5	30	
Acenaphthylene	110.5	3.3	166.1	0	66.5	50 - 120	119.1	7.46	30	
Anthracene	96.25	3.3	166.1	3.996	55.5	50 - 123	124	25.2	30	
Benz(a)anthracene	155.6	3.3	166.1	22.6	80.0	50 - 131	144.1	7.63	30	
Benzo(a)pyrene	149.4	3.3	166.1	63.32	51.8	50 - 130	198	28	30	
Bis(2-chloroethoxy)methane	69.04	6.6	166.1	0	41.6	50 - 120	103.1	39.6	30	SR
Bis(2-ethylhexyl)phthalate	93.09	6.6	166.1	5.482	52.7	21 - 148	118	23.6	30	
Chrysene	156.4	3.3	166.1	80.01	46.0	50 - 130	228.8	37.6	30	SR
Dibenzofuran	117	3.3	166.1	0.8806	69.9	50 - 125	117.4	0.348	30	
Di-n-butyl phthalate	93.32	6.6	166.1	0	56.2	50 - 140	118.8	24	30	
Fluoranthene	193.4	3.3	166.1	127.3	39.8	50 - 131	252.7	26.6	30	S
Fluorene	117.7	3.3	166.1	1.763	69.8	50 - 125	120.7	2.48	30	
Naphthalene	68.15	3.3	166.1	4.66	38.2	50 - 125	102.7	40.4	30	SR
Nitrobenzene	68.87	6.6	166.1	0	41.5	50 - 125	101.7	38.5	30	SR
N-Nitrosodiphenylamine	90.93	6.6	166.1	0	54.7	50 - 130	117.1	25.2	30	
Pentachlorophenol	59.97	6.6	166.1	0	36.1	23 - 136	80.74	29.5	30	
Phenanthrene	108	3.3	166.1	35.16	43.9	50 - 125	140.8	26.4	30	S
Phenol	81.28	6.6	166.1	0	48.9	45 - 130	117.8	36.7	30	R
Pyrene	163.1	3.3	166.1	100.4	37.7	45 - 130	224.2	31.6	30	SR
Surr: 2,4,6-Tribromophenol	*163.6*	*0*	*166.1*	*0*	*98.5*	*36 - 126*	*162*	*1.03*	*30*	
Surr: 2-Fluorobiphenyl	*110.3*	*0*	*166.1*	*0*	*66.4*	*43 - 125*	*117.9*	*6.62*	*30*	
Surr: 2-Fluorophenol	*71.03*	*0*	*166.1*	*0*	*42.8*	*37 - 125*	*110.9*	*43.8*	*30*	R
Surr: 4-Terphenyl-d14	*98.61*	*0*	*166.1*	*0*	*59.4*	*32 - 125*	*131.8*	*28.8*	*30*	
Surr: Nitrobenzene-d5	*72.08*	*0*	*166.1*	*0*	*43.4*	*37 - 125*	*99.64*	*32.1*	*30*	R
Surr: Phenol-d6	*70.02*	*0*	*166.1*	*0*	*42.2*	*40 - 125*	*106.5*	*41.4*	*30*	R

The following samples were anayzed in this batch: HS16021076-01

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
WorkOrder: HS16021076

QC BATCH REPORT

Batch ID: **R269969** **Instrument:** **Balance1** **Method:** **ASTM D2216**

DUP Sample ID: **HS16021076-01DUP** Units: **wt%** Analysis Date: **26-Feb-2016 07:34**
Client ID: **SO-1620-BSA7(3.5)-20160225** Run ID: **Balance1_269969** SeqNo: **3597388** PrepDate: DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Percent Moisture	16	0.0100					15.6	2.53	20	

The following samples were anayzed in this batch: HS16021076-01

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
WorkOrder: **HS16021076**

QUALIFIERS, ACRONYMS, UNITS

Qualifier	Description
*	Value exceeds Regulatory Limit
a	Not accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte detected below quantitation limit
M	Manually integrated, see raw data for justification
n	Not offered for accreditation
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL/SDL

Acronym	Description
DCS	Detectability Check Study
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
MBLK	Method Blank
MDL	Method Detection Limit
MQL	Method Quantitation Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PDS	Post Digestion Spike
PQL	Practical Quantitaion Limit
SD	Serial Dilution
SDL	Sample Detection Limit
TRRP	Texas Risk Reduction Program

Unit Reported	Description
mg/Kg-dry	Milligrams per Kilogram- Dry weight corrected

CERTIFICATIONS,ACCREDITATIONS & LICENSES

Agency	Number	Expire Date
Arkansas	15-024-0	27-Mar-2016
California	2919	31-Jul-2016
Illinois	003622	09-May-2016
Kentucky	KY 2015-2016	30-Apr-2016
Louisiana	03087 2015/2016	30-Jun-2016
North Carolina	624 - 2016	31-Dec-2016
North Dakota	R-193 2015-2016	30-Apr-2016
Oklahoma	2015-047	31-Aug-2016
Texas	T104704231-15-15	30-Apr-2016

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
Work Order: HS16021076

SAMPLE TRACKING

Lab Samp ID	Client Sample ID	Action	Date	Person	New Location
HS16021076-01	SO-1620-BSA7(3.5)-20160225	Login	2/25/2016 3:55:02 PM	RPG	19D

ALS Group USA, Corp Date: 26-Feb-16

Sample Receipt Checklist

Client Name: PBW Date/Time Received: **25-Feb-2016 15:46**

Work Order: HS16021076 Received by: **KRM**

Checklist completed by: *Raegen Giga* 25-Feb-2016
eSignature | Date

Reviewed by: *Dane J. Wacasey* 25-Feb-2016
eSignature | Date

Matrices: **soil** Carrier name: **Client**

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on shipping container/cooler?	Yes ☐	No ☐	Not Present ☑
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☑	No ☐	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
TX1005 solids received in hermetically sealed vials?	Yes ☐	No ☐	N/A ☑
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time?	Yes ☑	No ☐	
Container/Temp Blank temperature in compliance?	Yes ☑	No ☐	
Temperature(s)/Thermometer(s):	2.0c/2.6c uc/c	IR 5	
Cooler(s)/Kit(s):	3804		
Date/Time sample(s) sent to storage:	02/25/2016 15:59		
Water - VOA vials have zero headspace?	Yes ☐	No ☐	No VOA vials submitted ☑
Water - pH acceptable upon receipt?	Yes ☐	No ☐	N/A ☑
pH adjusted?	Yes ☐	No ☐	N/A ☑
pH adjusted by:			

Login Notes:

Client Contacted: Date Contacted: Person Contacted:

Contacted By: 0 Regarding:

Comments:

Corrective Action:

ALS Environmental

Cincinnati, OH +1 513 733 5336
Everett, WA +1 425 356 2600
Fort Collins, CO +1 970 490 1511
Holland, MI +1 616 399 6070

Chain of Custody Form

Page 1 of 1

COC ID: 141485

HS16021076

Pastor, Behling & Wheeler, LLC

1620-10-Rev1 HoustonTX-Wood

ALS Project Manager:

Customer Information		Project Information			
Purchase Order	UPRR	Project Name	1620-10-Rev1 HoustonTX-Wood	A	8270_LOW_S (5632532 SemiVolatiles)
Work Order		Project Number	1620-10-Rev1	B	ICP_S_Low (5636002 5652646 Metals - As, Pb)
Company Name	Pastor, Behling & Wheeler, LLC	Bill To Company	Union Pacific Railroad- A/P	C	MOIST_ASTM (5631931 Gen.Chem. MOIST%)
Send Report To	Eric Matzner	Invoice Attn	Accounts Payable	D	
Address	2201 Double Creek Drive Suite 4004	Address	1400 Douglas Street Stop 0750	E	
				F	
City/State/Zip	Round Rock, TX 78664	City/State/Zip	Omaha, NE 681790750	G	
Phone	(512) 671-3434	Phone		H	
Fax	(512) 671-3446	Fax		I	
e-Mail Address		e-Mail Address		J	

No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
1	SO-1620-BSA7(3.5)-20160225	2-25-2016	1500	So.1	8	1	X	X	X			Rush		TAT			
2																	
3																	
4																	
5																	
6																	
7																	
8																	
9																	
10																	

Sampler(s) Please Print & Sign: Stephen Grahmann Stephen Grah

Shipment Method:

Required Turnaround Time: (Check Box) TAT 1 days Other:

Results Due Date:

Relinquished by: Stephen Grah Date: 2-25-2016 Time: 15:46 Received by: Krupta Mathur

Relinquished by: Date: Time: Received by (Laboratory):

Logged by (Laboratory): Date: Time: Checked by (Laboratory):

Notes: [UPRR Houston MWPW]

Cooler ID	Cooler Temp.
3804 IR5 CFO.6	2.0

QC Package: (Check One Box Below)

QC Level: TRRP LRC

Other:

Preservative Key: 1-HCl 2-HNO_3 3-H_2SO_4 4-NaOH 5-$Na_2S_2O_3$ 6-$NaHSO_4$ 7-Other 8-4°C 9-5035

Note:
1. Any changes must be made in writing once samples and COC Form have been submitted to ALS Environmental.
2. Unless otherwise agreed in a formal contract, services provided by ALS Environmental are expressly limited to the terms and conditions stated on the reverse.
3. The Chain of Custody is a legal document. All information must be completed accurately.

10450 Stancliff Rd. Suite 210
Houston, TX 77099
T: +1 281 530 5656
F: +1 281 530 5887
www.alsglobal.com

March 01, 2016

Eric Matzner
Pastor, Behling & Wheeler, LLC
2201 Double Creek Drive
Suite 4004
Round Rock, TX 78664

Work Order: **HS16021192**

Laboratory Results for: **1620-10-Rev1 HoustonTX-Wood**

Dear Eric,

ALS Environmental received 1 sample(s) on Feb 29, 2016 for the analysis presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested. Results are expressed as "as received" unless otherwise noted.

QC sample results for this data met EPA or laboratory specifications except as noted in the Case Narrative or as noted with qualifiers in the QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained by ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

If you have any questions regarding this report, please feel free to call me.

Sincerely,

Generated By: Jumoke.Lawal
Dane J. Wacasey

Client:	Pastor, Behling & Wheeler, LLC	**TRRP Laboratory Data Package Cover Page**
Project:	1620-10-Rev1 HoustonTX-Wood	
WorkOrder:	**HS16021192**	

This data package consists of all or some of the following as applicable:

This signature page, the laboratory review checklist, and the following reportable data:

R1 Field chain-of-custody documentation;

R2 Sample identification cross-reference;

R3 Test reports (analytical data sheets) for each environmental sample that includes:

a) Items consistent with NELAC Chapter 5,
b) dilution factors,
c) preparation methods,
d) cleanup methods, and
e) if required for the project, tentatively identified compounds (TICs).

R4 Surrogate recovery data including:

a) Calculated recovery (%R), and
b) The laboratory's surrogate QC limits.

R5 Test reports/summary forms for blank samples;

R6 Test reports/summary forms for laboratory control samples (LCSs) including:

a) LCS spiking amounts,
b) Calculated %R for each analyte, and
c)The laboratory's LCS QC limits.

R7 Test reports for project matrix spike/matrix spike duplicates (MS/MSDs) including:

a) Samples associated with the MS/MSD clearly identified,
b) MS/MSD spiking amounts,
c) Concentration of each MS/MSD analyte measured in the parent and spiked samples,
d) Calculated %Rs and relative percent differences (RPDs), and
e) The laboratory's MS/MSD QC limits.

R8 Laboratory analytical duplicate (if applicable) recovery and precision:

a) the amount of analyte measured in the duplicate,
b) the calculated RPD, and
c) the laboratory's QC limits for analytical duplicates.

R9 List of method quantitation limits (MQLs) and detectability check sample results for each analyte for each method and matrix.

R10 Other problems or anomalies.
The Exception Report for each "No" or "Not Reviewed (NR)" item in Laboratory Review Checklist and for each analyte, matrix, and method for which the laboratory does not hold NELAC accreditation under the Texas Laboratory Accreditation Program.

Client:	Pastor, Behling & Wheeler, LLC
Project:	1620-10-Rev1 HoustonTX-Wood
WorkOrder:	**HS16021192**

TRRP Laboratory Data Package Cover Page

Release Statement: I am responsible for the release of this laboratory data package. This laboratory is NELAC accredited under the Texas Laboratory Accreditation Program for all the methods, analytes and matrices reported in this data package except as noted in the Exception Reports. The data have been reviewed and are technically compliant with the requirements of the methods used, except where noted by the laboratory in the attached exception reports. By my signature below, I affirm to the best of my knowledge, all problems/anomalies, observed by the laboratory have been identified by the laboratory in the Laboratory Review Checklist, and no information affecting the quality of the data has been knowingly withheld.

Check, if applicable: [NA] This laboratory meets an exception under 30 TAC §25.6 and was last inspected by [ ] TCEQ or [ ] _____ on (enter date of last inspection). Any findings affecting the data in this laboratory data package are noted in the Exception Reports herein. The official signing the cover page of the report in which these data are used is responsible for releasing this data package and is by signature affirming the above release statement is true.

Dane J. Wacasey

Laboratory Review Checklist: Reportable Data								
Laboratory Name: ALS Laboratory Group			LRC Date: 03/01/2016					
Project Name: 1620-10-Rev1 HoustonTX-Wood			Laboratory Job Number: HS16021192					
Reviewer Name: Dane Wacasey			Prep Batch Number(s): 101886,101895,R270105					
#[1]	A[2]	Description	Yes	No	NA[3]	NR[4]	ER#[5]	
R1	OI	**Chain-of-custody (C-O-C)**						
		Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?	X					
		Were all departures from standard conditions described in an exception report?	X					
R2	OI	**Sample and quality control (QC) identification**						
		Are all field sample ID numbers cross-referenced to the laboratory ID numbers?	X					
		Are all laboratory ID numbers cross-referenced to the corresponding QC data?	X					
R3	OI	**Test reports**						
		Were all samples prepared and analyzed within holding times?	X					
		Other than those results < MQL, were all other raw values bracketed by calibration standards?	X					
		Were calculations checked by a peer or supervisor?	X					
		Were all analyte identifications checked by a peer or supervisor?	X					
		Were sample detection limits reported for all analytes not detected?	X					
		Were all results for soil and sediment samples reported on a dry weight basis?	X					
		Were % moisture (or solids) reported for all soil and sediment samples?	X					
		Were bulk soils/solids samples for volatile analysis extracted with methanol per SW-846 Method 5035?			X			
		If required for the project, TICs reported?			X			
R4	O	**Surrogate recovery data**						
		Were surrogates added prior to extraction?	X					
		Were surrogate percent recoveries in all samples within the laboratory QC limits?	X					
R5	OI	**Test reports/summary forms for blank samples**						
		Were appropriate type(s) of blanks analyzed?	X					
		Were blanks analyzed at the appropriate frequency?	X					
		Were method blanks taken through the entire analytical process, including preparation and, if applicable, cleanup procedures?	X					
		Were blank concentrations < MQL?	X					
R6	OI	**Laboratory control samples (LCS):**						
		Were all COCs included in the LCS?	X					
		Was each LCS taken through the entire analytical procedure, including prep and cleanup steps?	X					
		Were LCSs analyzed at the required frequency?	X					
		Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?	X					
		Does the detectability data document the laboratory's capability to detect the COCs at the MDL used to calculate the SDLs?	X					
		Was the LCSD RPD within QC limits?	X					
R7	OI	**Matrix spike (MS) and matrix spike duplicate (MSD) data**						
		Were the project/method specified analytes included in the MS and MSD?	X					
		Were MS/MSD analyzed at the appropriate frequency?	X					
		Were MS (and MSD, if applicable) %Rs within the laboratory QC limits?		X			1	
		Were MS/MSD RPDs within laboratory QC limits?		X			2	
R8	OI	**Analytical duplicate data**						
		Were appropriate analytical duplicates analyzed for each matrix?	X					
		Were analytical duplicates analyzed at the appropriate frequency?	X					
		Were RPDs or relative standard deviations within the laboratory QC limits?	X					
R9	OI	**Method quantitation limits (MQLs):**						
		Are the MQLs for each method analyte included in the laboratory data package?	X					
		Do the MQLs correspond to the concentration of the lowest non-zero calibration standard?	X					
		Are unadjusted MQLs and DCSs included in the laboratory data package?	X					
R10	OI	**Other problems/anomalies**						
		Are all known problems/anomalies/special conditions noted in this LRC and ER?	X					
		Were all necessary corrective actions performed for the reported data?	X					
		Was applicable and available technology used to lower the SDL and minimize the matrix interference affects on the sample results?	X					
		Is the laboratory NELAC-accredited under the Texas Laboratory Program for the analytes, matrices and methods associated with this laboratory data package?	X					

Laboratory Review Checklist: Reportable Data							
Laboratory Name: ALS Laboratory Group			LRC Date: 03/01/2016				
Project Name: 1620-10-Rev1 HoustonTX-Wood			Laboratory Job Number: HS16021192				
Reviewer Name: Dane Wacasey			Prep Batch Number(s): 101886,101895,R270105				
#[1]	A[2]	Description	Yes	No	NA[3]	NR[4]	ER#[5]
S1	OI	**Initial calibration (ICAL)**					
		Were response factors and/or relative response factors for each analyte within QC limits?	X				
		Were percent RSDs or correlation coefficient criteria met?	X				
		Was the number of standards recommended in the method used for all analytes?	X				
		Were all points generated between the lowest and highest standard used to calculate the curve?	X				
		Are ICAL data available for all instruments used?	X				
		Has the initial calibration curve been verified using an appropriate second source standard?	X				
S2	OI	**Initial and continuing calibration verification (ICCV and CCV) and continuing calibration blank (CCB)**					
		Was the CCV analyzed at the method-required frequency?	X				
		Were percent differences for each analyte within the method-required QC limits?	X				
		Was the ICAL curve verified for each analyte?	X				
		Was the absolute value of the analyte concentration in the inorganic CCB < MDL?	X				
S3	O	**Mass spectral tuning:**					
		Was the appropriate compound for the method used for tuning?	X				
		Were ion abundance data within the method-required QC limits?	X				
S4	O	**Internal standards (IS):**					
		Were IS area counts and retention times within the method-required QC limits?	X				
S5	OI	**Raw data** (NELAC section 1 appendix A glossary, and section 5.12 or ISO/IEC 17025 section					
		Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst?	X				
		Were data associated with manual integrations flagged on the raw data?	X				
S6	O	**Dual column confirmation**					
		Did dual column confirmation results meet the method-required QC?			X		
S7	O	**Tentatively identified compounds (TICs):**					
		If TICs were requested, were the mass spectra and TIC data subject to appropriate checks?			X		
S8	I	**Interference Check Sample (ICS) results:**					
		Were percent recoveries within method QC limits?	X				
S9	I	**Serial dilutions, post digestion spikes, and method of standard additions**					
		Were percent differences, recoveries, and the linearity within the QC limits specified in the method?	X				
S10	OI	**Method detection limit (MDL) studies**					
		Was a MDL study performed for each reported analyte?	X				
		Is the MDL either adjusted or supported by the analysis of DCSs?	X				
S11	OI	**Proficiency test reports:**					
		Was the laboratory's performance acceptable on the applicable proficiency tests or evaluation studies?	X				
S12	OI	**Standards documentation**					
		Are all standards used in the analyses NIST-traceable or obtained from other appropriate sources?	X				
S13	OI	**Compound/analyte identification procedures**					
		Are the procedures for compound/analyte identification documented?	X				
S14	OI	**Demonstration of analyst competency (DOC)**					
		Was DOC conducted consistent with NELAC Chapter 5C or ISO/IEC 4?	X				
		Is documentation of the analyst's competency up-to-date and on file?	X				
S15	OI	**Verification/validation documentation for methods** (NELAC Chap 5 or ISO/IEC 17025 Section 5)					
		Are all the methods used to generate the data documented, verified, and validated, where applicable?	X				
S16	OI	**Laboratory standard operating procedures (SOPs):**					
		Are laboratory SOPs current and on file for each method performed?	X				

Items identified by the letter "R" must be included in the laboratory data package submitted in the TRRP-required report(s). Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period.
O = Organic Analyses; I = Inorganic Analyses (and general chemistry, when applicable);
NA = Not Applicable;
NR = Not Reviewed;
R# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

Laboratory Review Checklist: Reportable Data	
Laboratory Name: ALS Laboratory Group	LRC Date: 03/01/2016
Project Name: 1620-10-Rev1 HoustonTX-Wood	Laboratory Job Number: HS16021192
Reviewer Name: Dane Wacasey	Prep Batch Number(s): 101886,101895,R270105

ER#[5]	Description
1	Batch 101886, Metals Method SW6020, sample HS16021040-01, MS and MSD were performed on unrelated sample. Batch 101895, Semivolatile Organics Method SW8270, sample HS16020797-02, MS and MSD were performed on unrelated sample.
2	Batch 101886, Metals Method SW6020, sample HS16021040-01, MSD RPD is for an unrelated sample.

Items identified by the letter "R" must be included in the laboratory data package submitted in the TRRP-required report(s). Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period.
O = Organic Analyses; I = Inorganic Analyses (and general chemistry, when applicable);
NA = Not Applicable;
NR = Not Reviewed;
R# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
Work Order: HS16021192

SAMPLE SUMMARY

Lab Samp ID	Client Sample ID	Matrix	TagNo	Collection Date	Date Received	Hold
HS16021192-01	SO-1620-CSA8(0-3.5)-20160227	Soil		27-Feb-2016 14:10	29-Feb-2016 09:25	☐

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
Sample ID: SO-1620-CSA8(0-3.5)-20160227
Collection Date: 27-Feb-2016 14:10

ANALYTICAL REPORT
WorkOrder:HS16021192
Lab ID:HS16021192-01
Matrix:Soil

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES	**Method:SW8270**				Prep:SW3541 / 29-Feb-2016		Analyst: STH
1,2-Diphenylhydrazine	U		0.0013	0.0077	mg/Kg-dry	1	29-Feb-2016 20:04
2,4-Dimethylphenol	**0.015**		**0.0038**	**0.0077**	**mg/Kg-dry**	1	29-Feb-2016 20:04
2,4-Dinitrotoluene	U		0.0010	0.0077	mg/Kg-dry	1	29-Feb-2016 20:04
2,6-Dinitrotoluene	U		0.0038	0.0077	mg/Kg-dry	1	29-Feb-2016 20:04
2-Chloronaphthalene	U		0.0015	0.0077	mg/Kg-dry	1	29-Feb-2016 20:04
2-Methylnaphthalene	**0.022**		**0.00058**	**0.0038**	**mg/Kg-dry**	1	29-Feb-2016 20:04
4,6-Dinitro-2-methylphenol	U		0.0024	0.0077	mg/Kg-dry	1	29-Feb-2016 20:04
4-Nitrophenol	U		0.0022	0.015	mg/Kg-dry	1	29-Feb-2016 20:04
Acenaphthene	**0.013**		**0.00058**	**0.0038**	**mg/Kg-dry**	1	29-Feb-2016 20:04
Acenaphthylene	**0.16**		**0.0012**	**0.0038**	**mg/Kg-dry**	1	29-Feb-2016 20:04
Anthracene	**0.41**		**0.0058**	**0.038**	**mg/Kg-dry**	10	29-Feb-2016 21:20
Benz(a)anthracene	**0.13**		**0.0019**	**0.0038**	**mg/Kg-dry**	1	29-Feb-2016 20:04
Benzo(a)pyrene	**0.20**		**0.0012**	**0.0038**	**mg/Kg-dry**	1	29-Feb-2016 20:04
Bis(2-chloroethoxy)methane	U		0.0010	0.0077	mg/Kg-dry	1	29-Feb-2016 20:04
Bis(2-ethylhexyl)phthalate	**0.012**		**0.0020**	**0.0077**	**mg/Kg-dry**	1	29-Feb-2016 20:04
Chrysene	**0.14**		**0.00093**	**0.0038**	**mg/Kg-dry**	1	29-Feb-2016 20:04
Dibenzofuran	**0.022**		**0.00082**	**0.0038**	**mg/Kg-dry**	1	29-Feb-2016 20:04
Di-n-butyl phthalate	U		0.0014	0.0077	mg/Kg-dry	1	29-Feb-2016 20:04
Fluoranthene	**0.17**		**0.0013**	**0.0038**	**mg/Kg-dry**	1	29-Feb-2016 20:04
Fluorene	**0.021**		**0.0013**	**0.0038**	**mg/Kg-dry**	1	29-Feb-2016 20:04
Naphthalene	**0.078**		**0.00070**	**0.0038**	**mg/Kg-dry**	1	29-Feb-2016 20:04
Nitrobenzene	U		0.0010	0.0077	mg/Kg-dry	1	29-Feb-2016 20:04
N-Nitrosodiphenylamine	U		0.00082	0.0077	mg/Kg-dry	1	29-Feb-2016 20:04
Pentachlorophenol	**0.12**		**0.0038**	**0.0077**	**mg/Kg-dry**	1	29-Feb-2016 20:04
Phenanthrene	**0.090**		**0.0017**	**0.0038**	**mg/Kg-dry**	1	29-Feb-2016 20:04
Phenol	**0.013**		**0.0013**	**0.0077**	**mg/Kg-dry**	1	29-Feb-2016 20:04
Pyrene	**0.21**		**0.00070**	**0.0038**	**mg/Kg-dry**	1	29-Feb-2016 20:04
Surr: 2,4,6-Tribromophenol	*93.1*			*36-126*	*%REC*	*1*	*29-Feb-2016 20:04*
Surr: 2,4,6-Tribromophenol	*98.0*			*36-126*	*%REC*	*10*	*29-Feb-2016 21:20*
Surr: 2-Fluorobiphenyl	*79.7*			*43-125*	*%REC*	*1*	*29-Feb-2016 20:04*
Surr: 2-Fluorobiphenyl	*86.5*			*43-125*	*%REC*	*10*	*29-Feb-2016 21:20*
Surr: 2-Fluorophenol	*71.1*			*37-125*	*%REC*	*1*	*29-Feb-2016 20:04*
Surr: 2-Fluorophenol	*100*			*37-125*	*%REC*	*10*	*29-Feb-2016 21:20*
Surr: 4-Terphenyl-d14	*92.2*			*32-125*	*%REC*	*1*	*29-Feb-2016 20:04*
Surr: 4-Terphenyl-d14	*107*			*32-125*	*%REC*	*10*	*29-Feb-2016 21:20*
Surr: Nitrobenzene-d5	*88.3*			*37-125*	*%REC*	*1*	*29-Feb-2016 20:04*
Surr: Nitrobenzene-d5	*103*			*37-125*	*%REC*	*10*	*29-Feb-2016 21:20*
Surr: Phenol-d6	*84.6*			*40-125*	*%REC*	*1*	*29-Feb-2016 20:04*
Surr: Phenol-d6	*92.8*			*40-125*	*%REC*	*10*	*29-Feb-2016 21:20*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
Sample ID: SO-1620-CSA8(0-3.5)-20160227
Collection Date: 27-Feb-2016 14:10

ANALYTICAL REPORT
WorkOrder:HS16021192
Lab ID:HS16021192-01
Matrix:Soil

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
METALS BY SW6020A	**Method:SW6020**				Prep:SW3050A / 29-Feb-2016		Analyst: JDE
Arsenic	**1.23**		**0.109**	**0.545**	**mg/Kg-dry**	1	01-Mar-2016 12:12
Lead	**12.3**		**0.0545**	**0.545**	**mg/Kg-dry**	1	01-Mar-2016 12:12
MOISTURE - ASTM D2216	**Method:ASTM D2216**						Analyst: DFF
Percent Moisture	**14.6**		**0.0100**	**0.0100**	**wt%**	1	29-Feb-2016 09:57

Note: See Qualifiers Page for a list of qualifiers and their explanation.

WEIGHT LOG

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
WorkOrder: HS16021192

Batch ID: 101886 **Method:** METALS BY SW6020A **Prep:** 3050_I_LOW

SampID	Container	Sample Wt/Vol	Final Volume	Prep Factor
HS16021192-01	1	0.5371	50 (mL)	93.09

Batch ID: 101895 **Method:** LOW-LEVEL SEMIVOLATILES **Prep:** 3541_B_LOW

SampID	Container	Sample Wt/Vol	Final Volume	Prep Factor
HS16021192-01	1	30.08	1 (mL)	0.03317

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
WorkOrder: HS16021192

DATES REPORT

Sample ID	Client Samp ID	Collection Date	TCLP Date	Prep Date	Analysis Date	DF
Batch ID 101886	**Test Name :** METALS BY SW6020A			**Matrix:** Soil		
HS16021192-01	SO-1620-CSA8(0-3.5)-20160227	27 Feb 2016 14:10		29 Feb 2016 11:00	01 Mar 2016 12:12	1
Batch ID 101895	**Test Name :** LOW-LEVEL SEMIVOLATILES			**Matrix:** Soil		
HS16021192-01	SO-1620-CSA8(0-3.5)-20160227	27 Feb 2016 14:10		29 Feb 2016 09:04	29 Feb 2016 21:20	10
HS16021192-01	SO-1620-CSA8(0-3.5)-20160227	27 Feb 2016 14:10		29 Feb 2016 09:04	29 Feb 2016 20:04	1
Batch ID R270105	**Test Name :** MOISTURE - ASTM D2216			**Matrix:** Soil		
HS16021192-01	SO-1620-CSA8(0-3.5)-20160227	27 Feb 2016 14:10			29 Feb 2016 09:57	1

WorkOrder: HS16021192
InstrumentID: ICPMS04
Test Code: ICP_S_Low
Test Number: SW6020
Test Name: Metals by SW6020A

METHOD DETECTION / REPORTING LIMITS

Matrix: Solid **Units:** mg/Kg

Type	Analyte	CAS	DCS Spike	DCS	MDL	PQL
A	Arsenic	7440-38-2	0.100	0.0974	0.100	0.500
A	Lead	7439-92-1	0.100	0.0927	0.0500	0.500

WorkOrder: HS16021192
InstrumentID: SV-6
Test Code: 8270_LOW_S
Test Number: SW8270
Test Name: Low-Level Semivolatiles

METHOD DETECTION / REPORTING LIMITS

Matrix: Solid **Units:** mg/Kg

Type	Analyte	CAS	DCS Spike	DCS	MDL	PQL
A	1,2-Diphenylhydrazine	122-66-7	0.0033	0.0037	0.0011	0.0066
A	2,4-Dimethylphenol	105-67-9	0.0033	0.0022	0.0033	0.0066
A	2,4-Dinitrotoluene	121-14-2	0.0033	0.0023	0.00090	0.0066
A	2,6-Dinitrotoluene	606-20-2	0.0033	0.0022	0.0033	0.0066
A	2-Chloronaphthalene	91-58-7	0.0033	0.0028	0.0013	0.0066
A	2-Methylnaphthalene	91-57-6	0.0017	0.0016	0.00050	0.0033
A	4,6-Dinitro-2-methylphenol	534-52-1	0.0033	0.0010	0.0021	0.0066
A	4-Nitrophenol	100-02-7	0.0033	0.0026	0.0019	0.013
A	Acenaphthene	83-32-9	0.0017	0.0016	0.00050	0.0033
A	Acenaphthylene	208-96-8	0.0017	0.0017	0.0010	0.0033
A	Anthracene	120-12-7	0.0017	0.0017	0.00050	0.0033
A	Benz(a)anthracene	56-55-3	0.0017	0.0018	0.0016	0.0033
A	Benzo(a)pyrene	50-32-8	0.0017	0.0017	0.0010	0.0033
A	Bis(2-chloroethoxy)methane	111-91-1	0.0033	0.0028	0.00090	0.0066
A	Bis(2-ethylhexyl)phthalate	117-81-7	0.0033	0.0029	0.0017	0.0066
A	Chrysene	218-01-9	0.0017	0.0019	0.00080	0.0033
A	Dibenzofuran	132-64-9	0.0033	0.0031	0.00070	0.0033
A	Di-n-butyl phthalate	84-74-2	0.0033	0.0031	0.0012	0.0066
A	Fluoranthene	206-44-0	0.0017	0.0018	0.0011	0.0033
A	Fluorene	86-73-7	0.0017	0.0015	0.0011	0.0033
A	Naphthalene	91-20-3	0.0017	0.0016	0.00060	0.0033
A	Nitrobenzene	98-95-3	0.0033	0.0034	0.00090	0.0066
A	N-Nitrosodiphenylamine	86-30-6	0.0033	0.0035	0.00070	0.0066
A	Pentachlorophenol	87-86-5	0.0033	0.0020	0.0033	0.0066
A	Phenanthrene	85-01-8	0.0017	0.0017	0.0015	0.0033
A	Phenol	108-95-2	0.0033	0.0032	0.0011	0.0066
A	Pyrene	129-00-0	0.0017	0.0019	0.00060	0.0033
S	2,4,6-Tribromophenol	118-79-6	0	0	0	0
S	2-Fluorobiphenyl	321-60-8	0	0	0	0
S	2-Fluorophenol	367-12-4	0	0	0	0
S	4-Terphenyl-d14	1718-51-0	0	0	0	0
S	Nitrobenzene-d5	4165-60-0	0	0	0	0
S	Phenol-d6	13127-88-3	0	0	0	0

WorkOrder: HS16021192
InstrumentID: Balance1
Test Code: MOIST_ASTM
Test Number: ASTM D2216
Test Name: Moisture - ASTM D2216

METHOD DETECTION / REPORTING LIMITS

Matrix: Solid **Units:** wt%

Type	Analyte	CAS	DCS Spike	DCS	MDL	PQL
A	Percent Moisture	MOIST	0.0100	0.0100	0.0100	0.0100

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
WorkOrder: HS16021192

QC BATCH REPORT

Batch ID: 101886 **Instrument: ICPMS04** **Method: SW6020**

MBLK Sample ID: **MBLK-101886** Units: **mg/Kg** Analysis Date: **01-Mar-2016 12:03**
Client ID: Run ID: **ICPMS04_270116** SeqNo: **3601282** PrepDate: **29-Feb-2016** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	0.1903	0.563								J
Lead	U	0.563								

LCS Sample ID: **MLCS-101886** Units: **mg/Kg** Analysis Date: **01-Mar-2016 12:08**
Client ID: Run ID: **ICPMS04_270116** SeqNo: **3601283** PrepDate: **29-Feb-2016** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	11.58	0.574	11.47	0	101	80 - 120				
Lead	11.6	0.574	11.47	0	101	80 - 120				

MS Sample ID: **HS16021040-01MS** Units: **mg/Kg** Analysis Date: **01-Mar-2016 12:25**
Client ID: Run ID: **ICPMS04_270116** SeqNo: **3601287** PrepDate: **29-Feb-2016** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	8.714	0.458	9.151	0.3202	91.7	75 - 125				
Lead	12.15	0.458	9.151	2.352	107	75 - 125				

MSD Sample ID: **HS16021040-01MSD** Units: **mg/Kg** Analysis Date: **01-Mar-2016 12:29**
Client ID: Run ID: **ICPMS04_270116** SeqNo: **3601288** PrepDate: **29-Feb-2016** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	20.51	0.477	9.54	0.3202	212	75 - 125	8.714	80.7	20	SR
Lead	19.19	0.477	9.54	2.352	176	75 - 125	12.15	44.9	20	SR

PDS Sample ID: **HS16021040-01BS** Units: **mg/Kg** Analysis Date: **01-Mar-2016 12:33**
Client ID: Run ID: **ICPMS04_270116** SeqNo: **3601289** PrepDate: **29-Feb-2016** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	8.952	0.453	9.069	0.3202	95.2	75 - 125				
Lead	11.49	0.453	9.069	2.352	101	75 - 125				

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
WorkOrder: HS16021192

QC BATCH REPORT

Batch ID: 101886 **Instrument: ICPMS04** **Method: SW6020**

SD Sample ID: **HS16021040-01 DIL SX** Units: **mg/Kg** Analysis Date: **01-Mar-2016 12:20**
Client ID: Run ID: **ICPMS04_270116** SeqNo: **3601286** PrepDate: **29-Feb-2016** DF: **5**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%D	%D Limit	Qual
Arsenic	0.5015	2.27					0.3202	0	10	J
Lead	2.481	2.27					2.352	5.49	10	

The following samples were anayzed in this batch: HS16021192-01

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
WorkOrder: HS16021192

QC BATCH REPORT

Batch ID: 101895 **Instrument: SV-6** **Method: SW8270**

MBLK Sample ID: **MBLK-101895** Units: **ug/Kg** Analysis Date: **01-Mar-2016 13:50**
Client ID: Run ID: **SV-6_270120** SeqNo: **3601534** PrepDate: **29-Feb-2016** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Diphenylhydrazine	U	6.6								
2,4-Dimethylphenol	U	6.6								
2,4-Dinitrotoluene	U	6.6								
2,6-Dinitrotoluene	U	6.6								
2-Chloronaphthalene	U	6.6								
2-Methylnaphthalene	U	3.3								
4,6-Dinitro-2-methylphenol	U	6.6								
4-Nitrophenol	U	13								
Acenaphthene	U	3.3								
Acenaphthylene	U	3.3								
Anthracene	U	3.3								
Benz(a)anthracene	U	3.3								
Benzo(a)pyrene	U	3.3								
Bis(2-chloroethoxy)methane	U	6.6								
Bis(2-ethylhexyl)phthalate	U	6.6								
Chrysene	U	3.3								
Dibenzofuran	U	3.3								
Di-n-butyl phthalate	U	6.6								
Fluoranthene	U	3.3								
Fluorene	U	3.3								
Naphthalene	U	3.3								
Nitrobenzene	U	6.6								
N-Nitrosodiphenylamine	U	6.6								
Pentachlorophenol	U	6.6								
Phenanthrene	U	3.3								
Phenol	U	6.6								
Pyrene	U	3.3								
Surr: 2,4,6-Tribromophenol	*149.4*	*0*	*167*	*0*	*89.5*	*36 - 126*				
Surr: 2-Fluorobiphenyl	*140.1*	*0*	*167*	*0*	*83.9*	*43 - 125*				
Surr: 2-Fluorophenol	*118.2*	*0*	*167*	*0*	*70.8*	*37 - 125*				
Surr: 4-Terphenyl-d14	*163.3*	*0*	*167*	*0*	*97.8*	*32 - 125*				
Surr: Nitrobenzene-d5	*162.8*	*0*	*167*	*0*	*97.5*	*37 - 125*				
Surr: Phenol-d6	*153.4*	*0*	*167*	*0*	*91.9*	*40 - 125*				

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
WorkOrder: HS16021192

QC BATCH REPORT

Batch ID: 101895 **Instrument: SV-6** **Method: SW8270**

LCS Sample ID: **LCS-101895** Units: **ug/Kg** Analysis Date: **01-Mar-2016 14:09**
Client ID: Run ID: **SV-6_270120** SeqNo: **3601535** PrepDate: **29-Feb-2016** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Diphenylhydrazine	164.1	6.6	167	0	98.2	50 - 135				
2,4-Dimethylphenol	143.9	6.6	167	0	86.2	45 - 120				
2,4-Dinitrotoluene	148.5	6.6	167	0	88.9	50 - 130				
2,6-Dinitrotoluene	146.5	6.6	167	0	87.7	50 - 125				
2-Chloronaphthalene	156.9	6.6	167	0	93.9	50 - 145				
2-Methylnaphthalene	144.4	3.3	167	0	86.5	50 - 120				
4,6-Dinitro-2-methylphenol	118.1	6.6	167	0	70.7	15 - 135				
4-Nitrophenol	189.1	13	167	0	113	40 - 147				
Acenaphthene	137.2	3.3	167	0	82.2	50 - 120				
Acenaphthylene	156.2	3.3	167	0	93.5	50 - 120				
Anthracene	157.5	3.3	167	0	94.3	50 - 123				
Benz(a)anthracene	147.6	3.3	167	0	88.4	50 - 131				
Benzo(a)pyrene	169.2	3.3	167	0	101	50 - 130				
Bis(2-chloroethoxy)methane	153.4	6.6	167	0	91.9	50 - 120				
Bis(2-ethylhexyl)phthalate	169.7	6.6	167	0	102	21 - 148				
Chrysene	148	3.3	167	0	88.6	50 - 130				
Dibenzofuran	152.9	3.3	167	0	91.5	50 - 125				
Di-n-butyl phthalate	165.8	6.6	167	0	99.3	50 - 140				
Fluoranthene	149.1	3.3	167	0	89.3	50 - 131				
Fluorene	150.6	3.3	167	0	90.2	50 - 125				
Naphthalene	154.2	3.3	167	0	92.3	50 - 125				
Nitrobenzene	166.1	6.6	167	0	99.5	50 - 125				
N-Nitrosodiphenylamine	146.9	6.6	167	0	88.0	50 - 130				
Pentachlorophenol	138.6	6.6	167	0	83.0	23 - 136				
Phenanthrene	154.1	3.3	167	0	92.3	50 - 125				
Phenol	137.2	6.6	167	0	82.2	45 - 130				
Pyrene	144.4	3.3	167	0	86.5	45 - 130				
Surr: 2,4,6-Tribromophenol	*162*	*0*	*167*	*0*	*97.0*	*36 - 126*				
Surr: 2-Fluorobiphenyl	*148.4*	*0*	*167*	*0*	*88.9*	*43 - 125*				
Surr: 2-Fluorophenol	*166.7*	*0*	*167*	*0*	*99.8*	*37 - 125*				
Surr: 4-Terphenyl-d14	*149.7*	*0*	*167*	*0*	*89.6*	*32 - 125*				
Surr: Nitrobenzene-d5	*159.5*	*0*	*167*	*0*	*95.5*	*37 - 125*				
Surr: Phenol-d6	*148.7*	*0*	*167*	*0*	*89.0*	*40 - 125*				

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
WorkOrder: HS16021192

QC BATCH REPORT

Batch ID: 101895 **Instrument: SV-6** **Method: SW8270**

MS Sample ID: **HS16020797-02MS** Units: **ug/Kg** Analysis Date: **29-Feb-2016 20:42**
Client ID: Run ID: **SV-6_270120** SeqNo: **3601205** PrepDate: **29-Feb-2016** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Diphenylhydrazine	146.9	6.6	166.1	0	88.4	50 - 135				
2,4-Dimethylphenol	121.7	6.6	166.1	0	73.3	45 - 120				
2,4-Dinitrotoluene	124.2	6.6	166.1	0	74.8	50 - 130				
2,6-Dinitrotoluene	112.8	6.6	166.1	0	67.9	50 - 125				
2-Chloronaphthalene	124.7	6.6	166.1	0	75.1	50 - 145				
2-Methylnaphthalene	125.9	3.3	166.1	0	75.8	50 - 120				
4,6-Dinitro-2-methylphenol	13.52	6.6	166.1	0	8.14	15 - 135				S
4-Nitrophenol	166	13	166.1	0	99.9	40 - 147				
Acenaphthene	110.9	3.3	166.1	1.017	66.2	50 - 120				
Acenaphthylene	121.2	3.3	166.1	0.9632	72.4	50 - 120				
Anthracene	134.8	3.3	166.1	3.7	78.9	50 - 123				
Benz(a)anthracene	160.3	3.3	166.1	17.18	86.2	50 - 131				
Benzo(a)pyrene	176.2	3.3	166.1	24.42	91.4	50 - 130				
Bis(2-chloroethoxy)methane	123.1	6.6	166.1	0	74.1	50 - 120				
Bis(2-ethylhexyl)phthalate	213.4	6.6	166.1	0	128	21 - 148				
Chrysene	172	3.3	166.1	30.83	85.0	50 - 130				
Dibenzofuran	121.5	3.3	166.1	0	73.2	50 - 125				
Di-n-butyl phthalate	147.1	6.6	166.1	0	88.6	50 - 140				
Fluoranthene	178	3.3	166.1	42.83	81.4	50 - 131				
Fluorene	121.2	3.3	166.1	2.333	71.6	50 - 125				
Naphthalene	123.9	3.3	166.1	4.601	71.8	50 - 125				
Nitrobenzene	132.6	6.6	166.1	0	79.8	50 - 125				
N-Nitrosodiphenylamine	137.4	6.6	166.1	0	82.7	50 - 130				
Pentachlorophenol	134.4	6.6	166.1	0	80.9	23 - 136				
Phenanthrene	150.8	3.3	166.1	24.46	76.0	50 - 125				
Phenol	123.7	6.6	166.1	0	74.4	45 - 130				
Pyrene	187	3.3	166.1	37.84	89.8	45 - 130				
Surr: 2,4,6-Tribromophenol	*138.6*	*0*	*166.1*	*0*	*83.4*	*36 - 126*				
Surr: 2-Fluorobiphenyl	*110.1*	*0*	*166.1*	*0*	*66.3*	*43 - 125*				
Surr: 2-Fluorophenol	*95.67*	*0*	*166.1*	*0*	*57.6*	*37 - 125*				
Surr: 4-Terphenyl-d14	*141.5*	*0*	*166.1*	*0*	*85.2*	*32 - 125*				
Surr: Nitrobenzene-d5	*129*	*0*	*166.1*	*0*	*77.6*	*37 - 125*				
Surr: Phenol-d6	*119*	*0*	*166.1*	*0*	*71.7*	*40 - 125*				

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
WorkOrder: HS16021192

QC BATCH REPORT

Batch ID: 101895 **Instrument: SV-6** **Method: SW8270**

MSD Sample ID: **HS16020797-02MSD** Units: **ug/Kg** Analysis Date: **29-Feb-2016 21:01**
Client ID: Run ID: **SV-6_270120** SeqNo: **3601206** PrepDate: **29-Feb-2016** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual
1,2-Diphenylhydrazine	155.8	6.6	166.2	0	93.8	50 - 135	146.9	5.91	30	
2,4-Dimethylphenol	118.2	6.6	166.2	0	71.1	45 - 120	121.7	2.92	30	
2,4-Dinitrotoluene	133.7	6.6	166.2	0	80.5	50 - 130	124.2	7.36	30	
2,6-Dinitrotoluene	131.1	6.6	166.2	0	78.9	50 - 125	112.8	15	30	
2-Chloronaphthalene	135	6.6	166.2	0	81.2	50 - 145	124.7	7.92	30	
2-Methylnaphthalene	125.5	3.3	166.2	0	75.5	50 - 120	125.9	0.316	30	
4,6-Dinitro-2-methylphenol	15.82	6.6	166.2	0	9.52	15 - 135	13.52	15.7	30	S
4-Nitrophenol	191.9	13	166.2	0	116	40 - 147	166	14.5	30	
Acenaphthene	121.2	3.3	166.2	1.017	72.3	50 - 120	110.9	8.83	30	
Acenaphthylene	132	3.3	166.2	0.9632	78.9	50 - 120	121.2	8.56	30	
Anthracene	143.8	3.3	166.2	3.7	84.3	50 - 123	134.8	6.45	30	
Benz(a)anthracene	159.7	3.3	166.2	17.18	85.8	50 - 131	160.3	0.374	30	
Benzo(a)pyrene	186.5	3.3	166.2	24.42	97.6	50 - 130	176.2	5.69	30	
Bis(2-chloroethoxy)methane	121.6	6.6	166.2	0	73.2	50 - 120	123.1	1.25	30	
Bis(2-ethylhexyl)phthalate	227.5	6.6	166.2	0	137	21 - 148	213.4	6.39	30	
Chrysene	168	3.3	166.2	30.83	82.5	50 - 130	172	2.37	30	
Dibenzofuran	135.1	3.3	166.2	0	81.3	50 - 125	121.5	10.6	30	
Di-n-butyl phthalate	153.7	6.6	166.2	0	92.5	50 - 140	147.1	4.37	30	
Fluoranthene	163.8	3.3	166.2	42.83	72.8	50 - 131	178	8.29	30	
Fluorene	136.5	3.3	166.2	2.333	80.7	50 - 125	121.2	11.9	30	
Naphthalene	121	3.3	166.2	4.601	70.1	50 - 125	123.9	2.33	30	
Nitrobenzene	132.3	6.6	166.2	0	79.6	50 - 125	132.6	0.294	30	
N-Nitrosodiphenylamine	143.1	6.6	166.2	0	86.1	50 - 130	137.4	4.08	30	
Pentachlorophenol	131.3	6.6	166.2	0	79.0	23 - 136	134.4	2.32	30	
Phenanthrene	153.9	3.3	166.2	24.46	77.9	50 - 125	150.8	2.07	30	
Phenol	121	6.6	166.2	0	72.8	45 - 130	123.7	2.14	30	
Pyrene	168	3.3	166.2	37.84	78.3	45 - 130	187	10.7	30	
Surr: 2,4,6-Tribromophenol	*155.6*	*0*	*166.2*	*0*	*93.6*	*36 - 126*	*138.6*	*11.5*	*30*	
Surr: 2-Fluorobiphenyl	*118.5*	*0*	*166.2*	*0*	*71.3*	*43 - 125*	*110.1*	*7.34*	*30*	
Surr: 2-Fluorophenol	*103.8*	*0*	*166.2*	*0*	*62.5*	*37 - 125*	*95.67*	*8.15*	*30*	
Surr: 4-Terphenyl-d14	*145.6*	*0*	*166.2*	*0*	*87.6*	*32 - 125*	*141.5*	*2.89*	*30*	
Surr: Nitrobenzene-d5	*122.1*	*0*	*166.2*	*0*	*73.5*	*37 - 125*	*129*	*5.49*	*30*	
Surr: Phenol-d6	*119.9*	*0*	*166.2*	*0*	*72.2*	*40 - 125*	*119*	*0.721*	*30*	

The following samples were anayzed in this batch: HS16021192-01

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
WorkOrder: HS16021192

QC BATCH REPORT

Batch ID: R270105 **Instrument: Balance1** **Method: ASTM D2216**

DUP Sample ID: **HS16021193-05DUP** Units: **wt%** Analysis Date: **29-Feb-2016 09:57**
Client ID: Run ID: **Balance1_270105** SeqNo: **3600870** PrepDate: DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Percent Moisture	15.8	0.0100					16	1.26	20	

The following samples were anayzed in this batch: HS16021192-01

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
WorkOrder: **HS16021192**

QUALIFIERS, ACRONYMS, UNITS

Qualifier	Description
*	Value exceeds Regulatory Limit
a	Not accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte detected below quantitation limit
M	Manually integrated, see raw data for justification
n	Not offered for accreditation
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL/SDL

Acronym	Description
DCS	Detectability Check Study
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
MBLK	Method Blank
MDL	Method Detection Limit
MQL	Method Quantitation Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PDS	Post Digestion Spike
PQL	Practical Quantitaion Limit
SD	Serial Dilution
SDL	Sample Detection Limit
TRRP	Texas Risk Reduction Program

Unit Reported	Description
mg/Kg-dry	Milligrams per Kilogram- Dry weight corrected

CERTIFICATIONS,ACCREDITATIONS & LICENSES

Agency	Number	Expire Date
Arkansas	15-024-0	27-Mar-2016
California	2919	31-Jul-2016
Illinois	003622	09-May-2016
Kentucky	KY 2015-2016	30-Apr-2016
Louisiana	03087 2015/2016	30-Jun-2016
North Carolina	624 - 2016	31-Dec-2016
North Dakota	R-193 2015-2016	30-Apr-2016
Oklahoma	2015-047	31-Aug-2016
Texas	T104704231-15-15	30-Apr-2016

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
Work Order: HS16021192

SAMPLE TRACKING

Lab Samp ID	Client Sample ID	Action	Date	Person	New Location
HS16021192-01	SO-1620-CSA8(0-3.5)-20160227	Login	2/29/2016 9:41:56 AM	RPG	1D

Sample Receipt Checklist

Client Name: PBW
Work Order: HS16021192

Date/Time Received: **29-Feb-2016 09:25**
Received by: **JJT**

Checklist completed by: *Raegen Giga* eSignature — 29-Feb-2016 Date

Reviewed by: *Dane J. Wacasey* eSignature — 29-Feb-2016 Date

Matrices: **soil**

Carrier name: **Client**

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on shipping container/cooler?	Yes ☐	No ☐	Not Present ☑
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☑	No ☐	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
TX1005 solids received in hermetically sealed vials?	Yes ☐	No ☐	N/A ☑
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time?	Yes ☑	No ☐	
Container/Temp Blank temperature in compliance?	Yes ☑	No ☐	
Temperature(s)/Thermometer(s):	2.9c/3.5c UC/C	IR 5	
Cooler(s)/Kit(s):	42597		
Date/Time sample(s) sent to storage:	02/29/2016 09:45		
Water - VOA vials have zero headspace?	Yes ☐	No ☐	No VOA vials submitted ☑
Water - pH acceptable upon receipt?	Yes ☐	No ☐	N/A ☑
pH adjusted?	Yes ☐	No ☐	N/A ☑
pH adjusted by:			

Login Notes:

Client Contacted: Date Contacted: Person Contacted:

Contacted By: 0 Regarding:

Comments:

Corrective Action:

ALS Environmental

Cincinnati, OH +1 513 733 5336
Everett, WA +1 425 356 2600
Fort Collins, CO +1 970 490 1511
Holland, MI +1 616 399 6070

Chain of Custody Form

Page 1 of 1

COC ID: 141486

HS16021192

Pastor, Behling & Wheeler, LLC
1620-10-Rev1 HoustonTX-Wood

ALS Project Manager:

Customer Information		Project Information			
Purchase Order	UPRR	Project Name	1620-10-Rev1 HoustonTX-Wood	A	8270_LOW_S (5632532 SemiVolatiles)
Work Order		Project Number	1620-10-Rev1	B	ICP_S_Low (5636002 5652646 Metals - As, Pb)
Company Name	Pastor, Behling & Wheeler, LLC	Bill To Company	Union Pacific Railroad- A/P	C	MOIST_ASTM (5631931 Gen.Chem. MOIST%)
Send Report To	Eric Matzner	Invoice Attn	Accounts Payable	D	
Address	2201 Double Creek Drive Suite 4004	Address	1400 Douglas Street Stop 0750	E	
				F	
City/State/Zip	Round Rock, TX 78664	City/State/Zip	Omaha, NE 681790750	G	
Phone	(512) 671-3434	Phone		H	
Fax	(512) 671-3446	Fax		I	
e-Mail Address		e-Mail Address		J	

No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
1	SO-1620-BSA2(5)-20160227	2-27-2016	1320	Soil	8	1											
2	SO-1620-BSA3(5)-20160227		1330			1											
3	SO-1620-BSA4(5)-20160227		1340			1											
4	SO-1620-BSA5(5)-20160227		1350			1					Standard TAT						
5	SO-1620-BSA6(5)-20160227		1400			1											
6	~~SO-1620-BSA7(0-3.5)-20160227~~																
7	SO-1620-CSA8(0-3.5)-20160227		1410			1					Rush TAT						
8																	
9																	
10																	

Sampler(s) Please Print & Sign: Stephen Grahmann

Shipment Method:

Required Turnaround Time: (Check Box) TAT 1 days Other:

Results Due Date:

Relinquished by:	Date:	Time:	Received by:
Stephen Grahmann	2-29-2016	0815	
Relinquished by:	Date:	Time:	Received by (Laboratory):
	2-24-2016	0925	
Logged by (Laboratory):	Date:	Time:	Checked by (Laboratory):
			2.29.16

Notes: [UPRR Houston MWPW]

Cooler ID	Cooler Temp.
42597	2.9 °C #5

QC Package: (Check One Box Below)
QC Level: TRRP LRC
Other:

Preservative Key: 1-HCl 2-HNO_3 3-H_2SO_4 4-NaOH 5-$Na_2S_2O_3$ 6-$NaHSO_4$ 7-Other 8-4°C 9-5035

Note:
1. Any changes must be made in writing once samples and COC Form have been submitted to ALS Environmental.
2. Unless otherwise agreed in a formal contract, services provided by ALS Environmental are expressly limited to the terms and conditions stated on the reverse.
3. The Chain of Custody is a legal document. All information must be completed accurately.

10450 Stancliff Rd. Suite 210
Houston, TX 77099
T: +1 281 530 5656
F: +1 281 530 5887
www.alsglobal.com

March 03, 2016

Eric Matzner
Pastor, Behling & Wheeler, LLC
2201 Double Creek Drive
Suite 4004
Round Rock, TX 78664

Work Order: **HS16021193**

Laboratory Results for: **1620-10-Rev1 HoustonTX-Wood**

Dear Eric,

ALS Environmental received 5 sample(s) on Feb 29, 2016 for the analysis presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested. Results are expressed as "as received" unless otherwise noted.

QC sample results for this data met EPA or laboratory specifications except as noted in the Case Narrative or as noted with qualifiers in the QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained by ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

If you have any questions regarding this report, please feel free to call me.

Sincerely,

Generated By: Jumoke.Lawal
Dane J. Wacasey

Client:	Pastor, Behling & Wheeler, LLC	**TRRP Laboratory Data Package Cover Page**
Project:	1620-10-Rev1 HoustonTX-Wood	
WorkOrder:	**HS16021193**	

This data package consists of all or some of the following as applicable:

This signature page, the laboratory review checklist, and the following reportable data:

R1 Field chain-of-custody documentation;

R2 Sample identification cross-reference;

R3 Test reports (analytical data sheets) for each environmental sample that includes:

a) Items consistent with NELAC Chapter 5,
b) dilution factors,
c) preparation methods,
d) cleanup methods, and
e) if required for the project, tentatively identified compounds (TICs).

R4 Surrogate recovery data including:

a) Calculated recovery (%R), and
b) The laboratory's surrogate QC limits.

R5 Test reports/summary forms for blank samples;

R6 Test reports/summary forms for laboratory control samples (LCSs) including:

a) LCS spiking amounts,
b) Calculated %R for each analyte, and
c)The laboratory's LCS QC limits.

R7 Test reports for project matrix spike/matrix spike duplicates (MS/MSDs) including:

a) Samples associated with the MS/MSD clearly identified,
b) MS/MSD spiking amounts,
c) Concentration of each MS/MSD analyte measured in the parent and spiked samples,
d) Calculated %Rs and relative percent differences (RPDs), and
e) The laboratory's MS/MSD QC limits.

R8 Laboratory analytical duplicate (if applicable) recovery and precision:

a) the amount of analyte measured in the duplicate,
b) the calculated RPD, and
c) the laboratory's QC limits for analytical duplicates.

R9 List of method quantitation limits (MQLs) and detectability check sample results for each analyte for each method and matrix.

R10 Other problems or anomalies.
The Exception Report for each "No" or "Not Reviewed (NR)" item in Laboratory Review Checklist and for each analyte, matrix, and method for which the laboratory does not hold NELAC accreditation under the Texas Laboratory Accreditation Program.

Client:	Pastor, Behling & Wheeler, LLC
Project:	1620-10-Rev1 HoustonTX-Wood
WorkOrder:	**HS16021193**

TRRP Laboratory Data Package Cover Page

Release Statement: I am responsible for the release of this laboratory data package. This laboratory is NELAC accredited under the Texas Laboratory Accreditation Program for all the methods, analytes and matrices reported in this data package except as noted in the Exception Reports. The data have been reviewed and are technically compliant with the requirements of the methods used, except where noted by the laboratory in the attached exception reports. By my signature below, I affirm to the best of my knowledge, all problems/anomalies, observed by the laboratory have been identified by the laboratory in the Laboratory Review Checklist, and no information affecting the quality of the data has been knowingly withheld.

Check, if applicable: [NA] This laboratory meets an exception under 30 TAC §25.6 and was last inspected by [ ] TCEQ or [ ] _____ on (enter date of last inspection). Any findings affecting the data in this laboratory data package are noted in the Exception Reports herein. The official signing the cover page of the report in which these data are used is responsible for releasing this data package and is by signature affirming the above release statement is true.

Dane J. Wacasey

Laboratory Review Checklist: Reportable Data								
Laboratory Name: ALS Laboratory Group			LRC Date: 03/04/2016					
Project Name: 1620-10-Rev1 HoustonTX-Wood			Laboratory Job Number: HS16021193					
Reviewer Name: Dane Wacasey			Prep Batch Number(s): 101891,101895,R270105					
#[1]	A[2]	Description	Yes	No	NA[3]	NR[4]	ER#[5]	
R1	OI	**Chain-of-custody (C-O-C)**						
		Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?	X					
		Were all departures from standard conditions described in an exception report?	X					
R2	OI	**Sample and quality control (QC) identification**						
		Are all field sample ID numbers cross-referenced to the laboratory ID numbers?	X					
		Are all laboratory ID numbers cross-referenced to the corresponding QC data?	X					
R3	OI	**Test reports**						
		Were all samples prepared and analyzed within holding times?	X					
		Other than those results < MQL, were all other raw values bracketed by calibration standards?	X					
		Were calculations checked by a peer or supervisor?	X					
		Were all analyte identifications checked by a peer or supervisor?	X					
		Were sample detection limits reported for all analytes not detected?	X					
		Were all results for soil and sediment samples reported on a dry weight basis?	X					
		Were % moisture (or solids) reported for all soil and sediment samples?	X					
		Were bulk soils/solids samples for volatile analysis extracted with methanol per SW-846 Method 5035?			X			
		If required for the project, TICs reported?			X			
R4	O	**Surrogate recovery data**						
		Were surrogates added prior to extraction?	X					
		Were surrogate percent recoveries in all samples within the laboratory QC limits?	X					
R5	OI	**Test reports/summary forms for blank samples**						
		Were appropriate type(s) of blanks analyzed?	X					
		Were blanks analyzed at the appropriate frequency?	X					
		Were method blanks taken through the entire analytical process, including preparation and, if applicable, cleanup procedures?	X					
		Were blank concentrations < MQL?	X					
R6	OI	**Laboratory control samples (LCS):**						
		Were all COCs included in the LCS?	X					
		Was each LCS taken through the entire analytical procedure, including prep and cleanup steps?	X					
		Were LCSs analyzed at the required frequency?	X					
		Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?	X					
		Does the detectability data document the laboratory's capability to detect the COCs at the MDL used to calculate the SDLs?	X					
		Was the LCSD RPD within QC limits?	X					
R7	OI	**Matrix spike (MS) and matrix spike duplicate (MSD) data**						
		Were the project/method specified analytes included in the MS and MSD?	X					
		Were MS/MSD analyzed at the appropriate frequency?	X					
		Were MS (and MSD, if applicable) %Rs within the laboratory QC limits?		X			1	
		Were MS/MSD RPDs within laboratory QC limits?	X					
R8	OI	**Analytical duplicate data**						
		Were appropriate analytical duplicates analyzed for each matrix?	X					
		Were analytical duplicates analyzed at the appropriate frequency?	X					
		Were RPDs or relative standard deviations within the laboratory QC limits?	X					
R9	OI	**Method quantitation limits (MQLs):**						
		Are the MQLs for each method analyte included in the laboratory data package?	X					
		Do the MQLs correspond to the concentration of the lowest non-zero calibration standard?	X					
		Are unadjusted MQLs and DCSs included in the laboratory data package?	X					
R10	OI	**Other problems/anomalies**						
		Are all known problems/anomalies/special conditions noted in this LRC and ER?	X					
		Were all necessary corrective actions performed for the reported data?	X					
		Was applicable and available technology used to lower the SDL and minimize the matrix interference affects on the sample results?	X					
		Is the laboratory NELAC-accredited under the Texas Laboratory Program for the analytes, matrices and methods associated with this laboratory data package?	X					

Laboratory Review Checklist: Reportable Data							
Laboratory Name: ALS Laboratory Group			LRC Date: 03/04/2016				
Project Name: 1620-10-Rev1 HoustonTX-Wood			Laboratory Job Number: HS16021193				
Reviewer Name: Dane Wacasey			Prep Batch Number(s): 101891,101895,R270105				
#[1]	A[2]	Description	Yes	No	NA[3]	NR[4]	ER#[5]
S1	OI	**Initial calibration (ICAL)**					
		Were response factors and/or relative response factors for each analyte within QC limits?	X				
		Were percent RSDs or correlation coefficient criteria met?	X				
		Was the number of standards recommended in the method used for all analytes?	X				
		Were all points generated between the lowest and highest standard used to calculate the curve?	X				
		Are ICAL data available for all instruments used?	X				
		Has the initial calibration curve been verified using an appropriate second source standard?	X				
S2	OI	**Initial and continuing calibration verification (ICCV and CCV) and continuing calibration blank (CCB)**					
		Was the CCV analyzed at the method-required frequency?	X				
		Were percent differences for each analyte within the method-required QC limits?	X				
		Was the ICAL curve verified for each analyte?	X				
		Was the absolute value of the analyte concentration in the inorganic CCB < MDL?		X			2
S3	O	**Mass spectral tuning:**					
		Was the appropriate compound for the method used for tuning?	X				
		Were ion abundance data within the method-required QC limits?	X				
S4	O	**Internal standards (IS):**					
		Were IS area counts and retention times within the method-required QC limits?	X				
S5	OI	**Raw data** (NELAC section 1 appendix A glossary, and section 5.12 or ISO/IEC 17025 section					
		Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst?	X				
		Were data associated with manual integrations flagged on the raw data?	X				
S6	O	**Dual column confirmation**					
		Did dual column confirmation results meet the method-required QC?			X		
S7	O	**Tentatively identified compounds (TICs):**					
		If TICs were requested, were the mass spectra and TIC data subject to appropriate checks?			X		
S8	I	**Interference Check Sample (ICS) results:**					
		Were percent recoveries within method QC limits?	X				
S9	I	**Serial dilutions, post digestion spikes, and method of standard additions**					
		Were percent differences, recoveries, and the linearity within the QC limits specified in the method?	X				
S10	OI	**Method detection limit (MDL) studies**					
		Was a MDL study performed for each reported analyte?	X				
		Is the MDL either adjusted or supported by the analysis of DCSs?	X				
S11	OI	**Proficiency test reports:**					
		Was the laboratory's performance acceptable on the applicable proficiency tests or evaluation studies?	X				
S12	OI	**Standards documentation**					
		Are all standards used in the analyses NIST-traceable or obtained from other appropriate sources?	X				
S13	OI	**Compound/analyte identification procedures**					
		Are the procedures for compound/analyte identification documented?	X				
S14	OI	**Demonstration of analyst competency (DOC)**					
		Was DOC conducted consistent with NELAC Chapter 5C or ISO/IEC 4?	X				
		Is documentation of the analyst's competency up-to-date and on file?	X				
S15	OI	**Verification/validation documentation for methods** (NELAC Chap 5 or ISO/IEC 17025 Section 5)					
		Are all the methods used to generate the data documented, verified, and validated, where applicable?	X				
S16	OI	**Laboratory standard operating procedures (SOPs):**					
		Are laboratory SOPs current and on file for each method performed?	X				

Items identified by the letter "R" must be included in the laboratory data package submitted in the TRRP-required report(s). Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period.
O = Organic Analyses; I = Inorganic Analyses (and general chemistry, when applicable);
NA = Not Applicable;
NR = Not Reviewed;
R# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

Laboratory Review Checklist: Reportable Data	
Laboratory Name: ALS Laboratory Group	LRC Date: 03/04/2016
Project Name: 1620-10-Rev1 HoustonTX-Wood	Laboratory Job Number: HS16021193
Reviewer Name: Dane Wacasey	Prep Batch Number(s): 101891,101895,R270105

ER#[5]	Description
1	Batch 101895, Semivolatile Organics Method SW8270, sample HS16020797-02, MS and MSD were performed on unrelated sample.
2	See Run Log and CCB Exceptions Report.

Items identified by the letter "R" must be included in the laboratory data package submitted in the TRRP-required report(s). Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period.
O = Organic Analyses; I = Inorganic Analyses (and general chemistry, when applicable);
NA = Not Applicable;
NR = Not Reviewed;
R# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

FORM 13 - ANALYSIS RUN LOG

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
WorkOrder: HS16021193
Start Date: 01-Mar-2016 End Date: 01-Mar-2016

Run ID:ICPMS04_270116
Instrument:ICPMS04
Method:SW6020

Sample No.	D/F	Time	FileID	Analytes
ICV	1	01-Mar-2016 11:32	009_ICV.D	AS PB
LLICV5	1	01-Mar-2016 11:36	010SMPL.D	AS PB
LLICV2	1	01-Mar-2016 11:41	011SMPL.D	AS PB
ICB	1	01-Mar-2016 11:45	012_ICB.D	AS PB
ICSA	1	01-Mar-2016 11:50	013ICSA.D	AS PB
ICSAB	1	01-Mar-2016 11:54	014ICSB.D	AS PB
CCV 1	1	01-Mar-2016 12:37	024SMPL.D	AS PB
CCB 1	1	01-Mar-2016 12:41	025CCB.D	AS PB
CCV 2	1	01-Mar-2016 13:24	035SMPL.D	AS PB
CCB 2	1	01-Mar-2016 13:28	036CCB.D	AS PB
CCV 3	1	01-Mar-2016 14:17	047SMPL.D	AS PB
CCB 3	1	01-Mar-2016 14:21	048CCB.D	AS PB
MBLK-101891	1	01-Mar-2016 14:26	049SMPL.D	AS PB
MLCS-101891	1	01-Mar-2016 14:31	050SMPL.D	AS PB
CCV 4	1	01-Mar-2016 14:43	053SMPL.D	AS PB
CCB 4	1	01-Mar-2016 14:47	054CCB.D	AS PB
ZZZZZZSD	5	01-Mar-2016 15:01	057SMPL.D	AS PB
ZZZZZZMS	1	01-Mar-2016 15:05	058SMPL.D	AS PB
ZZZZZZMSD	1	01-Mar-2016 15:09	059SMPL.D	AS PB
ZZZZZZPDS	1	01-Mar-2016 15:13	060SMPL.D	AS PB
CCV 5	1	01-Mar-2016 15:21	062SMPL.D	AS PB
CCB 5	1	01-Mar-2016 15:25	063CCB.D	AS PB
SO-1620-BSA2(5)-20160227	1	01-Mar-2016 15:51	069SMPL.D	AS PB
SO-1620-BSA3(5)-20160227	1	01-Mar-2016 15:56	070SMPL.D	AS PB
SO-1620-BSA4(5)-20160227	1	01-Mar-2016 16:00	071SMPL.D	AS PB
SO-1620-BSA5(5)-20160227	1	01-Mar-2016 16:04	072SMPL.D	AS PB
SO-1620-BSA6(5)-20160227	1	01-Mar-2016 16:09	073SMPL.D	AS PB
CCV 6	1	01-Mar-2016 16:22	076CCV.D	AS PB
CCB 6	1	01-Mar-2016 16:26	077CCB.D	AS PB
ICCV 7	1	01-Mar-2016 17:00	085SMPL.D	AS PB
LLCCV5	1	01-Mar-2016 17:04	086SMPL.D	AS PB
LLCCV2	1	01-Mar-2016 17:09	087SMPL.D	AS PB
ICCB 7	1	01-Mar-2016 17:13	088SMPL.D	AS PB

FORM 13 - ANALYSIS RUN LOG

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
WorkOrder: HS16021193
Start Date: 01-Mar-2016 End Date: 01-Mar-2016

Run ID:ICPMS04_270116
Instrument:ICPMS04
Method:SW6020

Sample No.	D/F	Time	FileID	Analytes
CCV 8	1	01-Mar-2016 17:18	089CCV.D	AS PB
CCB 8	1	01-Mar-2016 17:22	090CCB.D	AS PB
CCV 9	1	01-Mar-2016 17:56	098CCV.D	AS PB
CCB 9	1	01-Mar-2016 18:00	099CCB.D	AS PB
CCV 10	1	01-Mar-2016 18:43	109CCV.D	AS PB
CCB 10	1	01-Mar-2016 18:47	110CCB.D	AS PB
CCV 11	1	01-Mar-2016 19:35	121CCV.D	AS PB
CCB 11	1	01-Mar-2016 19:39	122CCB.D	AS PB
LLCCV2	1	01-Mar-2016 19:43	123SMPL.D	AS PB
LLCCV5	1	01-Mar-2016 19:48	124SMPL.D	AS PB
ICSA	1	01-Mar-2016 19:52	125SMPL.D	AS PB
ICSAB	1	01-Mar-2016 19:57	126SMPL.D	AS PB

CCB EXCEPTIONS REPORT

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
WorkOrder: HS16021193

Run ID:ICPMS04_270116
Instrument:ICPMS04
Method:SW6020

CCB 2	Date: 01-Mar-2016 13:28	Seq: 3601519		D/F: 1	Units: ug/L
	Analyte	**Result**	**MDL**	**Report Limit**	
	Arsenic	-0.795	0.4	5	
CCB 3	Date: 01-Mar-2016 14:21	Seq: 3601550		D/F: 1	Units: ug/L
	Analyte	**Result**	**MDL**	**Report Limit**	
	Arsenic	-0.543	0.4	5	
CCB 4	Date: 01-Mar-2016 14:47	Seq: 3601632		D/F: 1	Units: ug/L
	Analyte	**Result**	**MDL**	**Report Limit**	
	Arsenic	-0.89	0.4	5	
CCB 5	Date: 01-Mar-2016 15:25	Seq: 3601962		D/F: 1	Units: ug/L
	Analyte	**Result**	**MDL**	**Report Limit**	
	Arsenic	-0.581	0.4	5	
CCB 6	Date: 01-Mar-2016 16:26	Seq: 3601976		D/F: 1	Units: ug/L
	Analyte	**Result**	**MDL**	**Report Limit**	
	Arsenic	-0.824	0.4	5	
CCB 9	Date: 01-Mar-2016 18:00	Seq: 3601997		D/F: 1	Units: ug/L
	Analyte	**Result**	**MDL**	**Report Limit**	
	Arsenic	0.521	0.4	5	
CCB 10	Date: 01-Mar-2016 18:47	Seq: 3602008		D/F: 1	Units: ug/L
	Analyte	**Result**	**MDL**	**Report Limit**	
	Arsenic	0.694	0.4	5	
CCB 11	Date: 01-Mar-2016 19:39	Seq: 3602020		D/F: 1	Units: ug/L
	Analyte	**Result**	**MDL**	**Report Limit**	
	Arsenic	0.67	0.4	5	

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
Work Order: HS16021193

SAMPLE SUMMARY

Lab Samp ID	Client Sample ID	Matrix	TagNo	Collection Date	Date Received	Hold
HS16021193-01	SO-1620-BSA2(5)-20160227	Soil		27-Feb-2016 13:20	29-Feb-2016 09:25	☐
HS16021193-02	SO-1620-BSA3(5)-20160227	Soil		27-Feb-2016 13:30	29-Feb-2016 09:25	☐
HS16021193-03	SO-1620-BSA4(5)-20160227	Soil		27-Feb-2016 13:40	29-Feb-2016 09:25	☐
HS16021193-04	SO-1620-BSA5(5)-20160227	Soil		27-Feb-2016 13:50	29-Feb-2016 09:25	☐
HS16021193-05	SO-1620-BSA6(5)-20160227	Soil		27-Feb-2016 14:00	29-Feb-2016 09:25	☐

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
Sample ID: SO-1620-BSA2(5)-20160227
Collection Date: 27-Feb-2016 13:20

ANALYTICAL REPORT
WorkOrder:HS16021193
Lab ID:HS16021193-01
Matrix:Soil

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES		**Method:SW8270**			Prep:SW3541 / 29-Feb-2016		Analyst: STH
1,2-Diphenylhydrazine	U		0.0013	0.0080	mg/Kg-dry	1	01-Mar-2016 20:29
2,4-Dimethylphenol	U		0.0040	0.0080	mg/Kg-dry	1	01-Mar-2016 20:29
2,4-Dinitrotoluene	U		0.0011	0.0080	mg/Kg-dry	1	01-Mar-2016 20:29
2,6-Dinitrotoluene	U		0.0040	0.0080	mg/Kg-dry	1	01-Mar-2016 20:29
2-Chloronaphthalene	U		0.0016	0.0080	mg/Kg-dry	1	01-Mar-2016 20:29
2-Methylnaphthalene	U		0.00061	0.0040	mg/Kg-dry	1	01-Mar-2016 20:29
4,6-Dinitro-2-methylphenol	U		0.0025	0.0080	mg/Kg-dry	1	01-Mar-2016 20:29
4-Nitrophenol	U		0.0023	0.016	mg/Kg-dry	1	01-Mar-2016 20:29
Acenaphthene	U		0.00061	0.0040	mg/Kg-dry	1	01-Mar-2016 20:29
Acenaphthylene	U		0.0012	0.0040	mg/Kg-dry	1	01-Mar-2016 20:29
Anthracene	**0.0021**	J	**0.00061**	**0.0040**	**mg/Kg-dry**	1	01-Mar-2016 20:29
Benz(a)anthracene	U		0.0019	0.0040	mg/Kg-dry	1	01-Mar-2016 20:29
Benzo(a)pyrene	U		0.0012	0.0040	mg/Kg-dry	1	01-Mar-2016 20:29
Bis(2-chloroethoxy)methane	U		0.0011	0.0080	mg/Kg-dry	1	01-Mar-2016 20:29
Bis(2-ethylhexyl)phthalate	U		0.0021	0.0080	mg/Kg-dry	1	01-Mar-2016 20:29
Chrysene	U		0.00097	0.0040	mg/Kg-dry	1	01-Mar-2016 20:29
Dibenzofuran	U		0.00085	0.0040	mg/Kg-dry	1	01-Mar-2016 20:29
Di-n-butyl phthalate	U		0.0015	0.0080	mg/Kg-dry	1	01-Mar-2016 20:29
Fluoranthene	**0.0031**	J	**0.0013**	**0.0040**	**mg/Kg-dry**	1	01-Mar-2016 20:29
Fluorene	U		0.0013	0.0040	mg/Kg-dry	1	01-Mar-2016 20:29
Naphthalene	U		0.00073	0.0040	mg/Kg-dry	1	01-Mar-2016 20:29
Nitrobenzene	U		0.0011	0.0080	mg/Kg-dry	1	01-Mar-2016 20:29
N-Nitrosodiphenylamine	U		0.00085	0.0080	mg/Kg-dry	1	01-Mar-2016 20:29
Pentachlorophenol	U		0.0040	0.0080	mg/Kg-dry	1	01-Mar-2016 20:29
Phenanthrene	**0.0024**	J	**0.0018**	**0.0040**	**mg/Kg-dry**	1	01-Mar-2016 20:29
Phenol	U		0.0013	0.0080	mg/Kg-dry	1	01-Mar-2016 20:29
Pyrene	**0.0030**	J	**0.00073**	**0.0040**	**mg/Kg-dry**	1	01-Mar-2016 20:29
Surr: 2,4,6-Tribromophenol	*80.2*			*36-126*	*%REC*	*1*	*01-Mar-2016 20:29*
Surr: 2-Fluorobiphenyl	*69.1*			*43-125*	*%REC*	*1*	*01-Mar-2016 20:29*
Surr: 2-Fluorophenol	*69.5*			*37-125*	*%REC*	*1*	*01-Mar-2016 20:29*
Surr: 4-Terphenyl-d14	*84.3*			*32-125*	*%REC*	*1*	*01-Mar-2016 20:29*
Surr: Nitrobenzene-d5	*79.2*			*37-125*	*%REC*	*1*	*01-Mar-2016 20:29*
Surr: Phenol-d6	*76.9*			*40-125*	*%REC*	*1*	*01-Mar-2016 20:29*
METALS BY SW6020A		**Method:SW6020**			Prep:SW3050A / 29-Feb-2016		Analyst: JDE
Arsenic	**1.18**		**0.115**	**0.573**	**mg/Kg-dry**	1	01-Mar-2016 15:51
Lead	**7.54**		**0.0573**	**0.573**	**mg/Kg-dry**	1	01-Mar-2016 15:51
MOISTURE - ASTM D2216		**Method:ASTM D2216**					Analyst: DFF
Percent Moisture	**17.8**		**0.0100**	**0.0100**	**wt%**	1	29-Feb-2016 09:57

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
Sample ID: SO-1620-BSA3(5)-20160227
Collection Date: 27-Feb-2016 13:30

ANALYTICAL REPORT
WorkOrder:HS16021193
Lab ID:HS16021193-02
Matrix:Soil

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES		**Method:SW8270**			Prep:SW3541 / 29-Feb-2016		Analyst: STH
1,2-Diphenylhydrazine	U		0.0013	0.0081	mg/Kg-dry	1	01-Mar-2016 20:48
2,4-Dimethylphenol	U		0.0040	0.0081	mg/Kg-dry	1	01-Mar-2016 20:48
2,4-Dinitrotoluene	U		0.0011	0.0081	mg/Kg-dry	1	01-Mar-2016 20:48
2,6-Dinitrotoluene	U		0.0040	0.0081	mg/Kg-dry	1	01-Mar-2016 20:48
2-Chloronaphthalene	U		0.0016	0.0081	mg/Kg-dry	1	01-Mar-2016 20:48
2-Methylnaphthalene	**0.037**		**0.00061**	**0.0040**	**mg/Kg-dry**	1	01-Mar-2016 20:48
4,6-Dinitro-2-methylphenol	U		0.0026	0.0081	mg/Kg-dry	1	01-Mar-2016 20:48
4-Nitrophenol	U		0.0023	0.016	mg/Kg-dry	1	01-Mar-2016 20:48
Acenaphthene	**0.038**		**0.00061**	**0.0040**	**mg/Kg-dry**	1	01-Mar-2016 20:48
Acenaphthylene	U		0.0012	0.0040	mg/Kg-dry	1	01-Mar-2016 20:48
Anthracene	**0.084**		**0.00061**	**0.0040**	**mg/Kg-dry**	1	01-Mar-2016 20:48
Benz(a)anthracene	**0.011**		**0.0020**	**0.0040**	**mg/Kg-dry**	1	01-Mar-2016 20:48
Benzo(a)pyrene	U		0.0012	0.0040	mg/Kg-dry	1	01-Mar-2016 20:48
Bis(2-chloroethoxy)methane	U		0.0011	0.0081	mg/Kg-dry	1	01-Mar-2016 20:48
Bis(2-ethylhexyl)phthalate	U		0.0021	0.0081	mg/Kg-dry	1	01-Mar-2016 20:48
Chrysene	**0.010**		**0.00098**	**0.0040**	**mg/Kg-dry**	1	01-Mar-2016 20:48
Dibenzofuran	**0.040**		**0.00086**	**0.0040**	**mg/Kg-dry**	1	01-Mar-2016 20:48
Di-n-butyl phthalate	U		0.0015	0.0081	mg/Kg-dry	1	01-Mar-2016 20:48
Fluoranthene	**0.066**		**0.0013**	**0.0040**	**mg/Kg-dry**	1	01-Mar-2016 20:48
Fluorene	**0.050**		**0.0013**	**0.0040**	**mg/Kg-dry**	1	01-Mar-2016 20:48
Naphthalene	**0.12**		**0.00073**	**0.0040**	**mg/Kg-dry**	1	01-Mar-2016 20:48
Nitrobenzene	U		0.0011	0.0081	mg/Kg-dry	1	01-Mar-2016 20:48
N-Nitrosodiphenylamine	U		0.00086	0.0081	mg/Kg-dry	1	01-Mar-2016 20:48
Pentachlorophenol	U		0.0040	0.0081	mg/Kg-dry	1	01-Mar-2016 20:48
Phenanthrene	**0.12**		**0.0018**	**0.0040**	**mg/Kg-dry**	1	01-Mar-2016 20:48
Phenol	U		0.0013	0.0081	mg/Kg-dry	1	01-Mar-2016 20:48
Pyrene	**0.044**		**0.00073**	**0.0040**	**mg/Kg-dry**	1	01-Mar-2016 20:48
Surr: 2,4,6-Tribromophenol	*88.5*			*36-126*	*%REC*	*1*	*01-Mar-2016 20:48*
Surr: 2-Fluorobiphenyl	*75.1*			*43-125*	*%REC*	*1*	*01-Mar-2016 20:48*
Surr: 2-Fluorophenol	*73.1*			*37-125*	*%REC*	*1*	*01-Mar-2016 20:48*
Surr: 4-Terphenyl-d14	*93.8*			*32-125*	*%REC*	*1*	*01-Mar-2016 20:48*
Surr: Nitrobenzene-d5	*83.9*			*37-125*	*%REC*	*1*	*01-Mar-2016 20:48*
Surr: Phenol-d6	*83.9*			*40-125*	*%REC*	*1*	*01-Mar-2016 20:48*
METALS BY SW6020A		**Method:SW6020**			Prep:SW3050A / 29-Feb-2016		Analyst: JDE
Arsenic	**3.69**		**0.117**	**0.587**	**mg/Kg-dry**	1	01-Mar-2016 15:56
Lead	**7.68**		**0.0587**	**0.587**	**mg/Kg-dry**	1	01-Mar-2016 15:56
MOISTURE - ASTM D2216		**Method:ASTM D2216**					Analyst: DFF
Percent Moisture	**18.7**		**0.0100**	**0.0100**	**wt%**	1	29-Feb-2016 09:57

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
Sample ID: SO-1620-BSA4(5)-20160227
Collection Date: 27-Feb-2016 13:40

ANALYTICAL REPORT
WorkOrder:HS16021193
Lab ID:HS16021193-03
Matrix:Soil

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES	**Method:SW8270**				Prep:SW3541 / 29-Feb-2016		Analyst: STH
1,2-Diphenylhydrazine	U		0.0013	0.0079	mg/Kg-dry	1	01-Mar-2016 21:07
2,4-Dimethylphenol	U		0.0040	0.0079	mg/Kg-dry	1	01-Mar-2016 21:07
2,4-Dinitrotoluene	U		0.0011	0.0079	mg/Kg-dry	1	01-Mar-2016 21:07
2,6-Dinitrotoluene	U		0.0040	0.0079	mg/Kg-dry	1	01-Mar-2016 21:07
2-Chloronaphthalene	U		0.0016	0.0079	mg/Kg-dry	1	01-Mar-2016 21:07
2-Methylnaphthalene	**0.80**		**0.0060**	**0.040**	**mg/Kg-dry**	10	02-Mar-2016 13:48
4,6-Dinitro-2-methylphenol	U		0.0025	0.0079	mg/Kg-dry	1	01-Mar-2016 21:07
4-Nitrophenol	U		0.0023	0.016	mg/Kg-dry	1	01-Mar-2016 21:07
Acenaphthene	**1.8**		**0.0060**	**0.040**	**mg/Kg-dry**	10	02-Mar-2016 13:48
Acenaphthylene	U		0.0012	0.0040	mg/Kg-dry	1	01-Mar-2016 21:07
Anthracene	**1.9**		**0.0060**	**0.040**	**mg/Kg-dry**	10	02-Mar-2016 13:48
Benz(a)anthracene	**0.45**		**0.019**	**0.040**	**mg/Kg-dry**	10	02-Mar-2016 13:48
Benzo(a)pyrene	**0.15**		**0.0012**	**0.0040**	**mg/Kg-dry**	1	01-Mar-2016 21:07
Bis(2-chloroethoxy)methane	U		0.0011	0.0079	mg/Kg-dry	1	01-Mar-2016 21:07
Bis(2-ethylhexyl)phthalate	U		0.0020	0.0079	mg/Kg-dry	1	01-Mar-2016 21:07
Chrysene	**0.49**		**0.0096**	**0.040**	**mg/Kg-dry**	10	02-Mar-2016 13:48
Dibenzofuran	**1.8**		**0.0084**	**0.040**	**mg/Kg-dry**	10	02-Mar-2016 13:48
Di-n-butyl phthalate	U		0.0014	0.0079	mg/Kg-dry	1	01-Mar-2016 21:07
Fluoranthene	**3.6**		**0.013**	**0.040**	**mg/Kg-dry**	10	02-Mar-2016 13:48
Fluorene	**2.3**		**0.013**	**0.040**	**mg/Kg-dry**	10	02-Mar-2016 13:48
Naphthalene	**0.21**		**0.00072**	**0.0040**	**mg/Kg-dry**	1	01-Mar-2016 21:07
Nitrobenzene	U		0.0011	0.0079	mg/Kg-dry	1	01-Mar-2016 21:07
N-Nitrosodiphenylamine	U		0.00084	0.0079	mg/Kg-dry	1	01-Mar-2016 21:07
Pentachlorophenol	U		0.0040	0.0079	mg/Kg-dry	1	01-Mar-2016 21:07
Phenanthrene	**7.8**		**0.090**	**0.20**	**mg/Kg-dry**	50	02-Mar-2016 14:07
Phenol	U		0.0013	0.0079	mg/Kg-dry	1	01-Mar-2016 21:07
Pyrene	**2.4**		**0.0072**	**0.040**	**mg/Kg-dry**	10	02-Mar-2016 13:48
Surr: 2,4,6-Tribromophenol	*81.0*			*36-126*	*%REC*	*1*	*01-Mar-2016 21:07*
Surr: 2,4,6-Tribromophenol	*87.8*			*36-126*	*%REC*	*10*	*02-Mar-2016 13:48*
Surr: 2,4,6-Tribromophenol	*108*			*36-126*	*%REC*	*50*	*02-Mar-2016 14:07*
Surr: 2-Fluorobiphenyl	*68.2*			*43-125*	*%REC*	*1*	*01-Mar-2016 21:07*
Surr: 2-Fluorobiphenyl	*77.1*			*43-125*	*%REC*	*10*	*02-Mar-2016 13:48*
Surr: 2-Fluorobiphenyl	*76.6*			*43-125*	*%REC*	*50*	*02-Mar-2016 14:07*
Surr: 2-Fluorophenol	*70.6*			*37-125*	*%REC*	*1*	*01-Mar-2016 21:07*
Surr: 2-Fluorophenol	*79.2*			*37-125*	*%REC*	*10*	*02-Mar-2016 13:48*
Surr: 2-Fluorophenol	*74.6*			*37-125*	*%REC*	*50*	*02-Mar-2016 14:07*
Surr: 4-Terphenyl-d14	*87.1*			*32-125*	*%REC*	*1*	*01-Mar-2016 21:07*
Surr: 4-Terphenyl-d14	*96.1*			*32-125*	*%REC*	*10*	*02-Mar-2016 13:48*
Surr: 4-Terphenyl-d14	*94.6*			*32-125*	*%REC*	*50*	*02-Mar-2016 14:07*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
Sample ID: SO-1620-BSA4(5)-20160227
Collection Date: 27-Feb-2016 13:40

ANALYTICAL REPORT
WorkOrder:HS16021193
Lab ID:HS16021193-03
Matrix:Soil

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES	**Method:SW8270**				Prep:SW3541 / 29-Feb-2016		Analyst: STH
Surr: Nitrobenzene-d5	*81.3*			*37-125*	*%REC*	*1*	*01-Mar-2016 21:07*
Surr: Nitrobenzene-d5	*89.2*			*37-125*	*%REC*	*50*	*02-Mar-2016 14:07*
Surr: Nitrobenzene-d5	*88.9*			*37-125*	*%REC*	*10*	*02-Mar-2016 13:48*
Surr: Phenol-d6	*85.3*			*40-125*	*%REC*	*10*	*02-Mar-2016 13:48*
Surr: Phenol-d6	*81.2*			*40-125*	*%REC*	*50*	*02-Mar-2016 14:07*
Surr: Phenol-d6	*81.6*			*40-125*	*%REC*	*1*	*01-Mar-2016 21:07*
METALS BY SW6020A	**Method:SW6020**				Prep:SW3050A / 29-Feb-2016		Analyst: JDE
Arsenic	**2.10**		**0.108**	**0.542**	**mg/Kg-dry**	1	01-Mar-2016 16:00
Lead	**6.45**		**0.0542**	**0.542**	**mg/Kg-dry**	1	01-Mar-2016 16:00
MOISTURE - ASTM D2216	**Method:ASTM D2216**						Analyst: DFF
Percent Moisture	**16.9**		**0.0100**	**0.0100**	**wt%**	1	29-Feb-2016 09:57

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
Sample ID: SO-1620-BSA5(5)-20160227
Collection Date: 27-Feb-2016 13:50

ANALYTICAL REPORT
WorkOrder:HS16021193
Lab ID:HS16021193-04
Matrix:Soil

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES	**Method:SW8270**				Prep:SW3541 / 29-Feb-2016		Analyst: STH
1,2-Diphenylhydrazine	U		0.0013	0.0079	mg/Kg-dry	1	01-Mar-2016 21:26
2,4-Dimethylphenol	U		0.0039	0.0079	mg/Kg-dry	1	01-Mar-2016 21:26
2,4-Dinitrotoluene	U		0.0011	0.0079	mg/Kg-dry	1	01-Mar-2016 21:26
2,6-Dinitrotoluene	U		0.0039	0.0079	mg/Kg-dry	1	01-Mar-2016 21:26
2-Chloronaphthalene	U		0.0015	0.0079	mg/Kg-dry	1	01-Mar-2016 21:26
2-Methylnaphthalene	**0.39**		**0.00060**	**0.0039**	**mg/Kg-dry**	1	01-Mar-2016 21:26
4,6-Dinitro-2-methylphenol	U		0.0025	0.0079	mg/Kg-dry	1	01-Mar-2016 21:26
4-Nitrophenol	U		0.0023	0.016	mg/Kg-dry	1	01-Mar-2016 21:26
Acenaphthene	**0.37**		**0.00060**	**0.0039**	**mg/Kg-dry**	1	01-Mar-2016 21:26
Acenaphthylene	U		0.0012	0.0039	mg/Kg-dry	1	01-Mar-2016 21:26
Anthracene	**0.21**		**0.00060**	**0.0039**	**mg/Kg-dry**	1	01-Mar-2016 21:26
Benz(a)anthracene	**0.095**		**0.0019**	**0.0039**	**mg/Kg-dry**	1	01-Mar-2016 21:26
Benzo(a)pyrene	**0.044**		**0.0012**	**0.0039**	**mg/Kg-dry**	1	01-Mar-2016 21:26
Bis(2-chloroethoxy)methane	U		0.0011	0.0079	mg/Kg-dry	1	01-Mar-2016 21:26
Bis(2-ethylhexyl)phthalate	U		0.0020	0.0079	mg/Kg-dry	1	01-Mar-2016 21:26
Chrysene	**0.096**		**0.00095**	**0.0039**	**mg/Kg-dry**	1	01-Mar-2016 21:26
Dibenzofuran	**0.31**		**0.00083**	**0.0039**	**mg/Kg-dry**	1	01-Mar-2016 21:26
Di-n-butyl phthalate	U		0.0014	0.0079	mg/Kg-dry	1	01-Mar-2016 21:26
Fluoranthene	**0.57**		**0.013**	**0.039**	**mg/Kg-dry**	10	02-Mar-2016 14:26
Fluorene	**0.46**		**0.013**	**0.039**	**mg/Kg-dry**	10	02-Mar-2016 14:26
Naphthalene	**0.063**		**0.00072**	**0.0039**	**mg/Kg-dry**	1	01-Mar-2016 21:26
Nitrobenzene	U		0.0011	0.0079	mg/Kg-dry	1	01-Mar-2016 21:26
N-Nitrosodiphenylamine	U		0.00083	0.0079	mg/Kg-dry	1	01-Mar-2016 21:26
Pentachlorophenol	U		0.0039	0.0079	mg/Kg-dry	1	01-Mar-2016 21:26
Phenanthrene	**1.2**		**0.018**	**0.039**	**mg/Kg-dry**	10	02-Mar-2016 14:26
Phenol	U		0.0013	0.0079	mg/Kg-dry	1	01-Mar-2016 21:26
Pyrene	**0.35**		**0.00072**	**0.0039**	**mg/Kg-dry**	1	01-Mar-2016 21:26
Surr: 2,4,6-Tribromophenol	*84.3*			*36-126*	*%REC*	*10*	*02-Mar-2016 14:26*
Surr: 2,4,6-Tribromophenol	*82.5*			*36-126*	*%REC*	*1*	*01-Mar-2016 21:26*
Surr: 2-Fluorobiphenyl	*69.9*			*43-125*	*%REC*	*1*	*01-Mar-2016 21:26*
Surr: 2-Fluorobiphenyl	*74.3*			*43-125*	*%REC*	*10*	*02-Mar-2016 14:26*
Surr: 2-Fluorophenol	*73.9*			*37-125*	*%REC*	*10*	*02-Mar-2016 14:26*
Surr: 2-Fluorophenol	*69.0*			*37-125*	*%REC*	*1*	*01-Mar-2016 21:26*
Surr: 4-Terphenyl-d14	*87.2*			*32-125*	*%REC*	*10*	*02-Mar-2016 14:26*
Surr: 4-Terphenyl-d14	*87.4*			*32-125*	*%REC*	*1*	*01-Mar-2016 21:26*
Surr: Nitrobenzene-d5	*84.7*			*37-125*	*%REC*	*10*	*02-Mar-2016 14:26*
Surr: Nitrobenzene-d5	*81.9*			*37-125*	*%REC*	*1*	*01-Mar-2016 21:26*
Surr: Phenol-d6	*79.0*			*40-125*	*%REC*	*1*	*01-Mar-2016 21:26*
Surr: Phenol-d6	*87.3*			*40-125*	*%REC*	*10*	*02-Mar-2016 14:26*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
Sample ID: SO-1620-BSA5(5)-20160227
Collection Date: 27-Feb-2016 13:50

ANALYTICAL REPORT
WorkOrder:HS16021193
Lab ID:HS16021193-04
Matrix:Soil

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
METALS BY SW6020A	**Method:SW6020**				Prep:SW3050A / 29-Feb-2016		Analyst: JDE
Arsenic	**1.14**		**0.115**	**0.573**	**mg/Kg-dry**	1	01-Mar-2016 16:04
Lead	**5.82**		**0.0573**	**0.573**	**mg/Kg-dry**	1	01-Mar-2016 16:04
MOISTURE - ASTM D2216	**Method:ASTM D2216**						Analyst: DFF
Percent Moisture	**16.4**		**0.0100**	**0.0100**	**wt%**	1	29-Feb-2016 09:57

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
Sample ID: SO-1620-BSA6(5)-20160227
Collection Date: 27-Feb-2016 14:00

ANALYTICAL REPORT
WorkOrder:HS16021193
Lab ID:HS16021193-05
Matrix:Soil

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES		**Method:SW8270**			Prep:SW3541 / 29-Feb-2016		Analyst: STH
1,2-Diphenylhydrazine	U		0.0013	0.0078	mg/Kg-dry	1	01-Mar-2016 21:45
2,4-Dimethylphenol	U		0.0039	0.0078	mg/Kg-dry	1	01-Mar-2016 21:45
2,4-Dinitrotoluene	U		0.0011	0.0078	mg/Kg-dry	1	01-Mar-2016 21:45
2,6-Dinitrotoluene	U		0.0039	0.0078	mg/Kg-dry	1	01-Mar-2016 21:45
2-Chloronaphthalene	U		0.0015	0.0078	mg/Kg-dry	1	01-Mar-2016 21:45
2-Methylnaphthalene	U		0.00059	0.0039	mg/Kg-dry	1	01-Mar-2016 21:45
4,6-Dinitro-2-methylphenol	U		0.0025	0.0078	mg/Kg-dry	1	01-Mar-2016 21:45
4-Nitrophenol	U		0.0023	0.016	mg/Kg-dry	1	01-Mar-2016 21:45
Acenaphthene	**0.056**		**0.00059**	**0.0039**	**mg/Kg-dry**	1	01-Mar-2016 21:45
Acenaphthylene	U		0.0012	0.0039	mg/Kg-dry	1	01-Mar-2016 21:45
Anthracene	**0.046**		**0.00059**	**0.0039**	**mg/Kg-dry**	1	01-Mar-2016 21:45
Benz(a)anthracene	**0.037**		**0.0019**	**0.0039**	**mg/Kg-dry**	1	01-Mar-2016 21:45
Benzo(a)pyrene	**0.019**		**0.0012**	**0.0039**	**mg/Kg-dry**	1	01-Mar-2016 21:45
Bis(2-chloroethoxy)methane	U		0.0011	0.0078	mg/Kg-dry	1	01-Mar-2016 21:45
Bis(2-ethylhexyl)phthalate	U		0.0020	0.0078	mg/Kg-dry	1	01-Mar-2016 21:45
Chrysene	**0.035**		**0.00095**	**0.0039**	**mg/Kg-dry**	1	01-Mar-2016 21:45
Dibenzofuran	**0.045**		**0.00083**	**0.0039**	**mg/Kg-dry**	1	01-Mar-2016 21:45
Di-n-butyl phthalate	U		0.0014	0.0078	mg/Kg-dry	1	01-Mar-2016 21:45
Fluoranthene	**0.21**		**0.0013**	**0.0039**	**mg/Kg-dry**	1	01-Mar-2016 21:45
Fluorene	**0.071**		**0.0013**	**0.0039**	**mg/Kg-dry**	1	01-Mar-2016 21:45
Naphthalene	U		0.00071	0.0039	mg/Kg-dry	1	01-Mar-2016 21:45
Nitrobenzene	U		0.0011	0.0078	mg/Kg-dry	1	01-Mar-2016 21:45
N-Nitrosodiphenylamine	U		0.00083	0.0078	mg/Kg-dry	1	01-Mar-2016 21:45
Pentachlorophenol	U		0.0039	0.0078	mg/Kg-dry	1	01-Mar-2016 21:45
Phenanthrene	**0.24**		**0.0018**	**0.0039**	**mg/Kg-dry**	1	01-Mar-2016 21:45
Phenol	U		0.0013	0.0078	mg/Kg-dry	1	01-Mar-2016 21:45
Pyrene	**0.14**		**0.00071**	**0.0039**	**mg/Kg-dry**	1	01-Mar-2016 21:45
Surr: 2,4,6-Tribromophenol	*81.1*			*36-126*	*%REC*	*1*	*01-Mar-2016 21:45*
Surr: 2-Fluorobiphenyl	*70.9*			*43-125*	*%REC*	*1*	*01-Mar-2016 21:45*
Surr: 2-Fluorophenol	*63.9*			*37-125*	*%REC*	*1*	*01-Mar-2016 21:45*
Surr: 4-Terphenyl-d14	*86.0*			*32-125*	*%REC*	*1*	*01-Mar-2016 21:45*
Surr: Nitrobenzene-d5	*79.5*			*37-125*	*%REC*	*1*	*01-Mar-2016 21:45*
Surr: Phenol-d6	*71.8*			*40-125*	*%REC*	*1*	*01-Mar-2016 21:45*
METALS BY SW6020A		**Method:SW6020**			Prep:SW3050A / 29-Feb-2016		Analyst: JDE
Arsenic	**0.538**		**0.107**	**0.537**	**mg/Kg-dry**	1	01-Mar-2016 16:09
Lead	**5.71**		**0.0537**	**0.537**	**mg/Kg-dry**	1	01-Mar-2016 16:09
MOISTURE - ASTM D2216		**Method:ASTM D2216**					Analyst: DFF
Percent Moisture	**16.0**		**0.0100**	**0.0100**	**wt%**	1	29-Feb-2016 09:57

Note: See Qualifiers Page for a list of qualifiers and their explanation.

WEIGHT LOG

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
WorkOrder: HS16021193

Batch ID: 101891 **Method:** METALS BY SW6020A **Prep:** 3050_I_LOW

SampID	Container	Sample Wt/Vol	Final Volume	Prep Factor
HS16021193-01	1	0.5312	50 (mL)	94.13
HS16021193-02	1	0.524	50 (mL)	95.42
HS16021193-03	1	0.5548	50 (mL)	90.12
HS16021193-04	1	0.5218	50 (mL)	95.82
HS16021193-05	1	0.5544	50 (mL)	90.19

Batch ID: 101895 **Method:** LOW-LEVEL SEMIVOLATILES **Prep:** 3541_B_LOW

SampID	Container	Sample Wt/Vol	Final Volume	Prep Factor
HS16021193-01	1	30.16	1 (mL)	0.03316
HS16021193-02	1	30.17	1 (mL)	0.03315
HS16021193-03	1	30.15	1 (mL)	0.03317
HS16021193-04	1	30.11	1 (mL)	0.03321
HS16021193-05	1	30.05	1 (mL)	0.03328

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
WorkOrder: HS16021193

DATES REPORT

Sample ID	Client Samp ID	Collection Date	TCLP Date	Prep Date	Analysis Date	DF
Batch ID 101891	**Test Name :** METALS BY SW6020A			**Matrix:** Soil		
HS16021193-01	SO-1620-BSA2(5)-20160227	27 Feb 2016 13:20		29 Feb 2016 12:20	01 Mar 2016 15:51	1
HS16021193-02	SO-1620-BSA3(5)-20160227	27 Feb 2016 13:30		29 Feb 2016 12:20	01 Mar 2016 15:56	1
HS16021193-03	SO-1620-BSA4(5)-20160227	27 Feb 2016 13:40		29 Feb 2016 12:20	01 Mar 2016 16:00	1
HS16021193-04	SO-1620-BSA5(5)-20160227	27 Feb 2016 13:50		29 Feb 2016 12:20	01 Mar 2016 16:04	1
HS16021193-05	SO-1620-BSA6(5)-20160227	27 Feb 2016 14:00		29 Feb 2016 12:20	01 Mar 2016 16:09	1
Batch ID 101895	**Test Name :** LOW-LEVEL SEMIVOLATILES			**Matrix:** Soil		
HS16021193-01	SO-1620-BSA2(5)-20160227	27 Feb 2016 13:20		29 Feb 2016 09:04	01 Mar 2016 20:29	1
HS16021193-02	SO-1620-BSA3(5)-20160227	27 Feb 2016 13:30		29 Feb 2016 09:04	01 Mar 2016 20:48	1
HS16021193-03	SO-1620-BSA4(5)-20160227	27 Feb 2016 13:40		29 Feb 2016 09:04	02 Mar 2016 14:07	50
HS16021193-03	SO-1620-BSA4(5)-20160227	27 Feb 2016 13:40		29 Feb 2016 09:04	02 Mar 2016 13:48	10
HS16021193-03	SO-1620-BSA4(5)-20160227	27 Feb 2016 13:40		29 Feb 2016 09:04	01 Mar 2016 21:07	1
HS16021193-04	SO-1620-BSA5(5)-20160227	27 Feb 2016 13:50		29 Feb 2016 09:04	02 Mar 2016 14:26	10
HS16021193-04	SO-1620-BSA5(5)-20160227	27 Feb 2016 13:50		29 Feb 2016 09:04	01 Mar 2016 21:26	1
HS16021193-05	SO-1620-BSA6(5)-20160227	27 Feb 2016 14:00		29 Feb 2016 09:04	01 Mar 2016 21:45	1
Batch ID R270105	**Test Name :** MOISTURE - ASTM D2216			**Matrix:** Soil		
HS16021193-01	SO-1620-BSA2(5)-20160227	27 Feb 2016 13:20			29 Feb 2016 09:57	1
HS16021193-02	SO-1620-BSA3(5)-20160227	27 Feb 2016 13:30			29 Feb 2016 09:57	1
HS16021193-03	SO-1620-BSA4(5)-20160227	27 Feb 2016 13:40			29 Feb 2016 09:57	1
HS16021193-04	SO-1620-BSA5(5)-20160227	27 Feb 2016 13:50			29 Feb 2016 09:57	1
HS16021193-05	SO-1620-BSA6(5)-20160227	27 Feb 2016 14:00			29 Feb 2016 09:57	1

WorkOrder: HS16021193
InstrumentID: ICPMS04
Test Code: ICP_S_Low
Test Number: SW6020
Test Name: Metals by SW6020A

METHOD DETECTION / REPORTING LIMITS

Matrix: Solid **Units:** mg/Kg

Type	Analyte	CAS	DCS Spike	DCS	MDL	PQL
A	Arsenic	7440-38-2	0.100	0.0974	0.100	0.500
A	Lead	7439-92-1	0.100	0.0927	0.0500	0.500

WorkOrder: HS16021193
InstrumentID: SV-6
Test Code: 8270_LOW_S
Test Number: SW8270
Test Name: Low-Level Semivolatiles

METHOD DETECTION / REPORTING LIMITS

Matrix: Solid **Units:** mg/Kg

Type	Analyte	CAS	DCS Spike	DCS	MDL	PQL
A	1,2-Diphenylhydrazine	122-66-7	0.0033	0.0037	0.0011	0.0066
A	2,4-Dimethylphenol	105-67-9	0.0033	0.0022	0.0033	0.0066
A	2,4-Dinitrotoluene	121-14-2	0.0033	0.0023	0.00090	0.0066
A	2,6-Dinitrotoluene	606-20-2	0.0033	0.0022	0.0033	0.0066
A	2-Chloronaphthalene	91-58-7	0.0033	0.0028	0.0013	0.0066
A	2-Methylnaphthalene	91-57-6	0.0017	0.0016	0.00050	0.0033
A	4,6-Dinitro-2-methylphenol	534-52-1	0.0033	0.0010	0.0021	0.0066
A	4-Nitrophenol	100-02-7	0.0033	0.0026	0.0019	0.013
A	Acenaphthene	83-32-9	0.0017	0.0016	0.00050	0.0033
A	Acenaphthylene	208-96-8	0.0017	0.0017	0.0010	0.0033
A	Anthracene	120-12-7	0.0017	0.0017	0.00050	0.0033
A	Benz(a)anthracene	56-55-3	0.0017	0.0018	0.0016	0.0033
A	Benzo(a)pyrene	50-32-8	0.0017	0.0017	0.0010	0.0033
A	Bis(2-chloroethoxy)methane	111-91-1	0.0033	0.0028	0.00090	0.0066
A	Bis(2-ethylhexyl)phthalate	117-81-7	0.0033	0.0029	0.0017	0.0066
A	Chrysene	218-01-9	0.0017	0.0019	0.00080	0.0033
A	Dibenzofuran	132-64-9	0.0033	0.0031	0.00070	0.0033
A	Di-n-butyl phthalate	84-74-2	0.0033	0.0031	0.0012	0.0066
A	Fluoranthene	206-44-0	0.0017	0.0018	0.0011	0.0033
A	Fluorene	86-73-7	0.0017	0.0015	0.0011	0.0033
A	Naphthalene	91-20-3	0.0017	0.0016	0.00060	0.0033
A	Nitrobenzene	98-95-3	0.0033	0.0034	0.00090	0.0066
A	N-Nitrosodiphenylamine	86-30-6	0.0033	0.0035	0.00070	0.0066
A	Pentachlorophenol	87-86-5	0.0033	0.0020	0.0033	0.0066
A	Phenanthrene	85-01-8	0.0017	0.0017	0.0015	0.0033
A	Phenol	108-95-2	0.0033	0.0032	0.0011	0.0066
A	Pyrene	129-00-0	0.0017	0.0019	0.00060	0.0033
S	2,4,6-Tribromophenol	118-79-6	0	0	0	0
S	2-Fluorobiphenyl	321-60-8	0	0	0	0
S	2-Fluorophenol	367-12-4	0	0	0	0
S	4-Terphenyl-d14	1718-51-0	0	0	0	0
S	Nitrobenzene-d5	4165-60-0	0	0	0	0
S	Phenol-d6	13127-88-3	0	0	0	0

WorkOrder: HS16021193
InstrumentID: Balance1
Test Code: MOIST_ASTM
Test Number: ASTM D2216
Test Name: Moisture - ASTM D2216

METHOD DETECTION / REPORTING LIMITS

Matrix: Solid **Units:** wt%

Type	Analyte	CAS	DCS Spike	DCS	MDL	PQL
A	Percent Moisture	MOIST	0.0100	0.0100	0.0100	0.0100

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
WorkOrder: HS16021193

QC BATCH REPORT

Batch ID: 101891 **Instrument: ICPMS04** **Method: SW6020**

MBLK Sample ID: **MBLK-101891** Units: **mg/Kg** Analysis Date: **01-Mar-2016 14:26**
Client ID: Run ID: **ICPMS04_270116** SeqNo: **3601551** PrepDate: **29-Feb-2016** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	U	0.582								
Lead	U	0.582								

LCS Sample ID: **MLCS-101891** Units: **mg/Kg** Analysis Date: **01-Mar-2016 14:31**
Client ID: Run ID: **ICPMS04_270116** SeqNo: **3601552** PrepDate: **29-Feb-2016** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	11.71	0.574	11.48	0	102	80 - 120				
Lead	12.15	0.574	11.48	0	106	80 - 120				

MS Sample ID: **HS16020970-01MS** Units: **mg/Kg** Analysis Date: **01-Mar-2016 15:05**
Client ID: Run ID: **ICPMS04_270116** SeqNo: **3601636** PrepDate: **29-Feb-2016** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	10.3	0.475	9.508	0.603	102	75 - 125				
Lead	15.81	0.475	9.508	8.388	78.0	75 - 125				

MSD Sample ID: **HS16020970-01MSD** Units: **mg/Kg** Analysis Date: **01-Mar-2016 15:09**
Client ID: Run ID: **ICPMS04_270116** SeqNo: **3601637** PrepDate: **29-Feb-2016** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	9.55	0.454	9.086	0.603	98.5	75 - 125	10.3	7.59	20	
Lead	16.66	0.454	9.086	8.388	91.1	75 - 125	15.81	5.26	20	

PDS Sample ID: **HS16020970-01BS** Units: **mg/Kg** Analysis Date: **01-Mar-2016 15:13**
Client ID: Run ID: **ICPMS04_270116** SeqNo: **3601638** PrepDate: **29-Feb-2016** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	9.211	0.457	9.142	0.603	94.2	75 - 125				
Lead	16.99	0.457	9.142	8.388	94.0	75 - 125				

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
WorkOrder: HS16021193

QC BATCH REPORT

Batch ID: 101891 **Instrument: ICPMS04** **Method: SW6020**

SD Sample ID: **HS16020970-01 DIL SX** Units: **mg/Kg** Analysis Date: **01-Mar-2016 15:01**
Client ID: Run ID: **ICPMS04_270116** SeqNo: **3601635** PrepDate: **29-Feb-2016** DF: **5**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%D	%D Limit	Qual
Arsenic	U	2.29					0.603	0	10	
Lead	7.777	2.29					8.388	7.28	10	

The following samples were anayzed in this batch: HS16021193-01 HS16021193-02 HS16021193-03 HS16021193-04 HS16021193-05

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
WorkOrder: HS16021193

QC BATCH REPORT

Batch ID: 101895 **Instrument: SV-6** **Method: SW8270**

MBLK Sample ID: **MBLK-101895** Units: **ug/Kg** Analysis Date: **01-Mar-2016 13:50**
Client ID: Run ID: **SV-6_270120** SeqNo: **3601534** PrepDate: **29-Feb-2016** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Diphenylhydrazine	U	6.6								
2,4-Dimethylphenol	U	6.6								
2,4-Dinitrotoluene	U	6.6								
2,6-Dinitrotoluene	U	6.6								
2-Chloronaphthalene	U	6.6								
2-Methylnaphthalene	U	3.3								
4,6-Dinitro-2-methylphenol	U	6.6								
4-Nitrophenol	U	13								
Acenaphthene	U	3.3								
Acenaphthylene	U	3.3								
Anthracene	U	3.3								
Benz(a)anthracene	U	3.3								
Benzo(a)pyrene	U	3.3								
Bis(2-chloroethoxy)methane	U	6.6								
Bis(2-ethylhexyl)phthalate	U	6.6								
Chrysene	U	3.3								
Dibenzofuran	U	3.3								
Di-n-butyl phthalate	U	6.6								
Fluoranthene	U	3.3								
Fluorene	U	3.3								
Naphthalene	U	3.3								
Nitrobenzene	U	6.6								
N-Nitrosodiphenylamine	U	6.6								
Pentachlorophenol	U	6.6								
Phenanthrene	U	3.3								
Phenol	U	6.6								
Pyrene	U	3.3								
Surr: 2,4,6-Tribromophenol	*149.4*	*0*	*167*	*0*	*89.5*	*36 - 126*				
Surr: 2-Fluorobiphenyl	*140.1*	*0*	*167*	*0*	*83.9*	*43 - 125*				
Surr: 2-Fluorophenol	*118.2*	*0*	*167*	*0*	*70.8*	*37 - 125*				
Surr: 4-Terphenyl-d14	*163.3*	*0*	*167*	*0*	*97.8*	*32 - 125*				
Surr: Nitrobenzene-d5	*162.8*	*0*	*167*	*0*	*97.5*	*37 - 125*				
Surr: Phenol-d6	*153.4*	*0*	*167*	*0*	*91.9*	*40 - 125*				

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
WorkOrder: HS16021193

QC BATCH REPORT

Batch ID: 101895 **Instrument: SV-6** **Method: SW8270**

LCS Sample ID: **LCS-101895** Units: **ug/Kg** Analysis Date: **01-Mar-2016 14:09**
Client ID: Run ID: **SV-6_270120** SeqNo: **3601535** PrepDate: **29-Feb-2016** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Diphenylhydrazine	164.1	6.6	167	0	98.2	50 - 135				
2,4-Dimethylphenol	143.9	6.6	167	0	86.2	45 - 120				
2,4-Dinitrotoluene	148.5	6.6	167	0	88.9	50 - 130				
2,6-Dinitrotoluene	146.5	6.6	167	0	87.7	50 - 125				
2-Chloronaphthalene	156.9	6.6	167	0	93.9	50 - 145				
2-Methylnaphthalene	144.4	3.3	167	0	86.5	50 - 120				
4,6-Dinitro-2-methylphenol	118.1	6.6	167	0	70.7	15 - 135				
4-Nitrophenol	189.1	13	167	0	113	40 - 147				
Acenaphthene	137.2	3.3	167	0	82.2	50 - 120				
Acenaphthylene	156.2	3.3	167	0	93.5	50 - 120				
Anthracene	157.5	3.3	167	0	94.3	50 - 123				
Benz(a)anthracene	147.6	3.3	167	0	88.4	50 - 131				
Benzo(a)pyrene	169.2	3.3	167	0	101	50 - 130				
Bis(2-chloroethoxy)methane	153.4	6.6	167	0	91.9	50 - 120				
Bis(2-ethylhexyl)phthalate	169.7	6.6	167	0	102	21 - 148				
Chrysene	148	3.3	167	0	88.6	50 - 130				
Dibenzofuran	152.9	3.3	167	0	91.5	50 - 125				
Di-n-butyl phthalate	165.8	6.6	167	0	99.3	50 - 140				
Fluoranthene	149.1	3.3	167	0	89.3	50 - 131				
Fluorene	150.6	3.3	167	0	90.2	50 - 125				
Naphthalene	154.2	3.3	167	0	92.3	50 - 125				
Nitrobenzene	166.1	6.6	167	0	99.5	50 - 125				
N-Nitrosodiphenylamine	146.9	6.6	167	0	88.0	50 - 130				
Pentachlorophenol	138.6	6.6	167	0	83.0	23 - 136				
Phenanthrene	154.1	3.3	167	0	92.3	50 - 125				
Phenol	137.2	6.6	167	0	82.2	45 - 130				
Pyrene	144.4	3.3	167	0	86.5	45 - 130				
Surr: 2,4,6-Tribromophenol	*162*	*0*	*167*	*0*	*97.0*	*36 - 126*				
Surr: 2-Fluorobiphenyl	*148.4*	*0*	*167*	*0*	*88.9*	*43 - 125*				
Surr: 2-Fluorophenol	*166.7*	*0*	*167*	*0*	*99.8*	*37 - 125*				
Surr: 4-Terphenyl-d14	*149.7*	*0*	*167*	*0*	*89.6*	*32 - 125*				
Surr: Nitrobenzene-d5	*159.5*	*0*	*167*	*0*	*95.5*	*37 - 125*				
Surr: Phenol-d6	*148.7*	*0*	*167*	*0*	*89.0*	*40 - 125*				

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
WorkOrder: HS16021193

QC BATCH REPORT

Batch ID: 101895 **Instrument: SV-6** **Method: SW8270**

MS Sample ID: **HS16020797-02MS** Units: **ug/Kg** Analysis Date: **29-Feb-2016 20:42**
Client ID: Run ID: **SV-6_270120** SeqNo: **3601205** PrepDate: **29-Feb-2016** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Diphenylhydrazine	146.9	6.6	166.1	0	88.4	50 - 135				
2,4-Dimethylphenol	121.7	6.6	166.1	0	73.3	45 - 120				
2,4-Dinitrotoluene	124.2	6.6	166.1	0	74.8	50 - 130				
2,6-Dinitrotoluene	112.8	6.6	166.1	0	67.9	50 - 125				
2-Chloronaphthalene	124.7	6.6	166.1	0	75.1	50 - 145				
2-Methylnaphthalene	125.9	3.3	166.1	0	75.8	50 - 120				
4,6-Dinitro-2-methylphenol	13.52	6.6	166.1	0	8.14	15 - 135				S
4-Nitrophenol	166	13	166.1	0	99.9	40 - 147				
Acenaphthene	110.9	3.3	166.1	1.017	66.2	50 - 120				
Acenaphthylene	121.2	3.3	166.1	0.9632	72.4	50 - 120				
Anthracene	134.8	3.3	166.1	3.7	78.9	50 - 123				
Benz(a)anthracene	160.3	3.3	166.1	17.18	86.2	50 - 131				
Benzo(a)pyrene	176.2	3.3	166.1	24.42	91.4	50 - 130				
Bis(2-chloroethoxy)methane	123.1	6.6	166.1	0	74.1	50 - 120				
Bis(2-ethylhexyl)phthalate	213.4	6.6	166.1	0	128	21 - 148				
Chrysene	172	3.3	166.1	30.83	85.0	50 - 130				
Dibenzofuran	121.5	3.3	166.1	0	73.2	50 - 125				
Di-n-butyl phthalate	147.1	6.6	166.1	0	88.6	50 - 140				
Fluoranthene	178	3.3	166.1	42.83	81.4	50 - 131				
Fluorene	121.2	3.3	166.1	2.333	71.6	50 - 125				
Naphthalene	123.9	3.3	166.1	4.601	71.8	50 - 125				
Nitrobenzene	132.6	6.6	166.1	0	79.8	50 - 125				
N-Nitrosodiphenylamine	137.4	6.6	166.1	0	82.7	50 - 130				
Pentachlorophenol	134.4	6.6	166.1	0	80.9	23 - 136				
Phenanthrene	150.8	3.3	166.1	24.46	76.0	50 - 125				
Phenol	123.7	6.6	166.1	0	74.4	45 - 130				
Pyrene	187	3.3	166.1	37.84	89.8	45 - 130				
Surr: 2,4,6-Tribromophenol	*138.6*	*0*	*166.1*	*0*	*83.4*	*36 - 126*				
Surr: 2-Fluorobiphenyl	*110.1*	*0*	*166.1*	*0*	*66.3*	*43 - 125*				
Surr: 2-Fluorophenol	*95.67*	*0*	*166.1*	*0*	*57.6*	*37 - 125*				
Surr: 4-Terphenyl-d14	*141.5*	*0*	*166.1*	*0*	*85.2*	*32 - 125*				
Surr: Nitrobenzene-d5	*129*	*0*	*166.1*	*0*	*77.6*	*37 - 125*				
Surr: Phenol-d6	*119*	*0*	*166.1*	*0*	*71.7*	*40 - 125*				

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
WorkOrder: HS16021193

QC BATCH REPORT

Batch ID: 101895 **Instrument: SV-6** **Method: SW8270**

MSD Sample ID: **HS16020797-02MSD** Units: **ug/Kg** Analysis Date: **29-Feb-2016 21:01**
Client ID: Run ID: **SV-6_270120** SeqNo: **3601206** PrepDate: **29-Feb-2016** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual
1,2-Diphenylhydrazine	155.8	6.6	166.2	0	93.8	50 - 135	146.9	5.91	30	
2,4-Dimethylphenol	118.2	6.6	166.2	0	71.1	45 - 120	121.7	2.92	30	
2,4-Dinitrotoluene	133.7	6.6	166.2	0	80.5	50 - 130	124.2	7.36	30	
2,6-Dinitrotoluene	131.1	6.6	166.2	0	78.9	50 - 125	112.8	15	30	
2-Chloronaphthalene	135	6.6	166.2	0	81.2	50 - 145	124.7	7.92	30	
2-Methylnaphthalene	125.5	3.3	166.2	0	75.5	50 - 120	125.9	0.316	30	
4,6-Dinitro-2-methylphenol	15.82	6.6	166.2	0	9.52	15 - 135	13.52	15.7	30	S
4-Nitrophenol	191.9	13	166.2	0	116	40 - 147	166	14.5	30	
Acenaphthene	121.2	3.3	166.2	1.017	72.3	50 - 120	110.9	8.83	30	
Acenaphthylene	132	3.3	166.2	0.9632	78.9	50 - 120	121.2	8.56	30	
Anthracene	143.8	3.3	166.2	3.7	84.3	50 - 123	134.8	6.45	30	
Benz(a)anthracene	159.7	3.3	166.2	17.18	85.8	50 - 131	160.3	0.374	30	
Benzo(a)pyrene	186.5	3.3	166.2	24.42	97.6	50 - 130	176.2	5.69	30	
Bis(2-chloroethoxy)methane	121.6	6.6	166.2	0	73.2	50 - 120	123.1	1.25	30	
Bis(2-ethylhexyl)phthalate	227.5	6.6	166.2	0	137	21 - 148	213.4	6.39	30	
Chrysene	168	3.3	166.2	30.83	82.5	50 - 130	172	2.37	30	
Dibenzofuran	135.1	3.3	166.2	0	81.3	50 - 125	121.5	10.6	30	
Di-n-butyl phthalate	153.7	6.6	166.2	0	92.5	50 - 140	147.1	4.37	30	
Fluoranthene	163.8	3.3	166.2	42.83	72.8	50 - 131	178	8.29	30	
Fluorene	136.5	3.3	166.2	2.333	80.7	50 - 125	121.2	11.9	30	
Naphthalene	121	3.3	166.2	4.601	70.1	50 - 125	123.9	2.33	30	
Nitrobenzene	132.3	6.6	166.2	0	79.6	50 - 125	132.6	0.294	30	
N-Nitrosodiphenylamine	143.1	6.6	166.2	0	86.1	50 - 130	137.4	4.08	30	
Pentachlorophenol	131.3	6.6	166.2	0	79.0	23 - 136	134.4	2.32	30	
Phenanthrene	153.9	3.3	166.2	24.46	77.9	50 - 125	150.8	2.07	30	
Phenol	121	6.6	166.2	0	72.8	45 - 130	123.7	2.14	30	
Pyrene	168	3.3	166.2	37.84	78.3	45 - 130	187	10.7	30	
Surr: 2,4,6-Tribromophenol	*155.6*	*0*	*166.2*	*0*	*93.6*	*36 - 126*	*138.6*	*11.5*	*30*	
Surr: 2-Fluorobiphenyl	*118.5*	*0*	*166.2*	*0*	*71.3*	*43 - 125*	*110.1*	*7.34*	*30*	
Surr: 2-Fluorophenol	*103.8*	*0*	*166.2*	*0*	*62.5*	*37 - 125*	*95.67*	*8.15*	*30*	
Surr: 4-Terphenyl-d14	*145.6*	*0*	*166.2*	*0*	*87.6*	*32 - 125*	*141.5*	*2.89*	*30*	
Surr: Nitrobenzene-d5	*122.1*	*0*	*166.2*	*0*	*73.5*	*37 - 125*	*129*	*5.49*	*30*	
Surr: Phenol-d6	*119.9*	*0*	*166.2*	*0*	*72.2*	*40 - 125*	*119*	*0.721*	*30*	

The following samples were anayzed in this batch: HS16021193-01 HS16021193-02 HS16021193-03 HS16021193-04 HS16021193-05

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
WorkOrder: HS16021193

QC BATCH REPORT

Batch ID: **R270105** **Instrument:** **Balance1** **Method:** **ASTM D2216**

DUP Sample ID: **HS16021193-05DUP** Units: **wt%** Analysis Date: **29-Feb-2016 09:57**
Client ID: **SO-1620-BSA6(5)-20160227** Run ID: **Balance1_270105** SeqNo: **3600870** PrepDate: DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Percent Moisture	15.8	0.0100					16	1.26	20	

The following samples were anayzed in this batch: HS16021193-01 HS16021193-02 HS16021193-03 HS16021193-04 HS16021193-05

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
WorkOrder: **HS16021193**

QUALIFIERS, ACRONYMS, UNITS

Qualifier	Description
*	Value exceeds Regulatory Limit
a	Not accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte detected below quantitation limit
M	Manually integrated, see raw data for justification
n	Not offered for accreditation
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL/SDL

Acronym	Description
DCS	Detectability Check Study
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
MBLK	Method Blank
MDL	Method Detection Limit
MQL	Method Quantitation Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PDS	Post Digestion Spike
PQL	Practical Quantitaion Limit
SD	Serial Dilution
SDL	Sample Detection Limit
TRRP	Texas Risk Reduction Program

Unit Reported	Description
mg/Kg-dry	Milligrams per Kilogram- Dry weight corrected

CERTIFICATIONS,ACCREDITATIONS & LICENSES

Agency	Number	Expire Date
Arkansas	15-024-0	27-Mar-2016
California	2919	31-Jul-2016
Illinois	003622	09-May-2016
Kentucky	KY 2015-2016	30-Apr-2016
Louisiana	03087 2015/2016	30-Jun-2016
North Carolina	624 - 2016	31-Dec-2016
North Dakota	R-193 2015-2016	30-Apr-2016
Oklahoma	2015-047	31-Aug-2016
Texas	T104704231-15-15	30-Apr-2016

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
Work Order: HS16021193

SAMPLE TRACKING

Lab Samp ID	Client Sample ID	Action	Date	Person	New Location
HS16021193-01	SO-1620-BSA2(5)-20160227	Login	2/29/2016 9:54:31 AM	RPG	1D
HS16021193-02	SO-1620-BSA3(5)-20160227	Login	2/29/2016 9:56:42 AM	RPG	1D
HS16021193-03	SO-1620-BSA4(5)-20160227	Login	2/29/2016 9:56:43 AM	RPG	1D
HS16021193-04	SO-1620-BSA5(5)-20160227	Login	2/29/2016 9:56:43 AM	RPG	1D
HS16021193-05	SO-1620-BSA6(5)-20160227	Login	2/29/2016 9:56:43 AM	RPG	1D

ALS Group USA, Corp Date: 03-Mar-16

Sample Receipt Checklist

Client Name: PBW Date/Time Received: **29-Feb-2016 09:25**

Work Order: HS16021193 Received by: **JJT**

Checklist completed by: *Raegen Giga* 29-Feb-2016
eSignature Date

Reviewed by: *Dane J. Wacasey* 2-Mar-2016
eSignature Date

Matrices: **soil** Carrier name: **Client**

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on shipping container/cooler?	Yes ☐	No ☐	Not Present ☑
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☑	No ☐	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
TX1005 solids received in hermetically sealed vials?	Yes ☐	No ☐	N/A ☑
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time?	Yes ☑	No ☐	
Container/Temp Blank temperature in compliance?	Yes ☑	No ☐	
Temperature(s)/Thermometer(s):	2.9c/3.5c UC/C	IR 5	
Cooler(s)/Kit(s):	42597		
Date/Time sample(s) sent to storage:	02/29/2016 09:45		
Water - VOA vials have zero headspace?	Yes ☐	No ☐	No VOA vials submitted ☑
Water - pH acceptable upon receipt?	Yes ☐	No ☐	N/A ☑
pH adjusted?	Yes ☐	No ☐	N/A ☑
pH adjusted by:			

Login Notes:

Client Contacted: Date Contacted: Person Contacted:

Contacted By: 0 Regarding:

Comments:

Corrective Action:

ALS Environmental

Cincinnati, OH +1 513 733 5336 | Everett, WA +1 425 356 2600 | Fort Collins, CO +1 970 490 1511 | Holland, MI +1 616 399 6070

Chain of Custody Form

Page 1 of 1

COC ID: 141486

HS16021193

Pastor, Behling & Wheeler, LLC

1620-10-Rev1 HoustonTX-Wood

ALS Project Manager:

Customer Information		Project Information			
Purchase Order	UPRR	Project Name	1620-10-Rev1 HoustonTX-Wood	A	8270_LOW_S (5632532 SemiVolatiles)
Work Order		Project Number	1620-10-Rev1	B	ICP_S_Low (5636002 5652646 Metals - As, Pb)
Company Name	Pastor, Behling & Wheeler, LLC	Bill To Company	Union Pacific Railroad- A/P	C	MOIST_ASTM (5631931 Gen.Chem. MOIST%)
Send Report To	Eric Matzner	Invoice Attn	Accounts Payable	D	
Address	2201 Double Creek Drive Suite 4004	Address	1400 Douglas Street Stop 0750	E	
				F	
City/State/Zip	Round Rock, TX 78664	City/State/Zip	Omaha, NE 681790750	G	
Phone	(512) 671-3434	Phone		H	
Fax	(512) 671-3446	Fax		I	
e-Mail Address		e-Mail Address		J	

No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
1	SO-1620-BSA2(5)-20160227	2-27-2016	1320	Soil	8	1											
2	SO-1620-BSA3(5)-20160227		1330			1											
3	SO-1620-BSA4(5)-20160227		1340			1					Standard TAT						
4	SO-1620-BSA5(5)-20160227		1350			1											
5	SO-1620-BSA6(5)-20160227		1400			1											
6	SO-1620-BSA7(0-3.5)-20160227		1405			1											
7	SO-1620-CSA8(0-3.5)-20160227		1410			1					Rush TAT						
8																	
9																	
10																	

Sampler(s) Please Print & Sign: Stephen Grahmann

Shipment Method:

Required Turnaround Time: (Check Box) TAT 1 days Other:

Results Due Date:

Relinquished by:	Date:	Time:	Received by:
Stephen Grahmann	2-29-2016	0815	
Relinquished by:	Date:	Time:	Received by (Laboratory):
	2-29-2016	0925	DATE 9:25 2.29.16
Logged by (Laboratory):	Date:	Time:	Checked by (Laboratory):

Notes: [UPRR Houston MWPW]

Cooler ID	Cooler Temp.
42597	2.9 U/C #5

QC Package: (Check One Box Below)

QC Level: TRRP LRC

Other:

Preservative Key: 1-HCl 2-HNO_3 3-H_2SO_4 4-NaOH 5-$Na_2S_2O_3$ 6-$NaHSO_4$ 7-Other 8-4°C 9-5035

Note: 1. Any changes must be made in writing once samples and COC Form have been submitted to ALS Environmental.
2. Unless otherwise agreed in a formal contract, services provided by ALS Environmental are expressly limited to the terms and conditions stated on the reverse.
3. The Chain of Custody is a legal document. All information must be completed accurately.

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F: +1 281 530 5887
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March 07, 2016

Eric Matzner
Pastor, Behling & Wheeler, LLC
2201 Double Creek Drive
Suite 4004
Round Rock, TX 78664

Work Order: **HS16030172**

Laboratory Results for: **1620-10-Rev1 HoustonTX-Wood**

Dear Eric,

ALS Environmental received 1 sample(s) on Mar 03, 2016 for the analysis presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested. Results are expressed as "as received" unless otherwise noted.

QC sample results for this data met EPA or laboratory specifications except as noted in the Case Narrative or as noted with qualifiers in the QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained by ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

If you have any questions regarding this report, please feel free to call me.

Sincerely,

Generated By: Jumoke.Lawal
Dane J. Wacasey

Client:	Pastor, Behling & Wheeler, LLC	**TRRP Laboratory Data Package Cover Page**
Project:	1620-10-Rev1 HoustonTX-Wood	
WorkOrder:	**HS16030172**	

This data package consists of all or some of the following as applicable:

This signature page, the laboratory review checklist, and the following reportable data:

R1 Field chain-of-custody documentation;

R2 Sample identification cross-reference;

R3 Test reports (analytical data sheets) for each environmental sample that includes:

a) Items consistent with NELAC Chapter 5,
b) dilution factors,
c) preparation methods,
d) cleanup methods, and
e) if required for the project, tentatively identified compounds (TICs).

R4 Surrogate recovery data including:

a) Calculated recovery (%R), and
b) The laboratory's surrogate QC limits.

R5 Test reports/summary forms for blank samples;

R6 Test reports/summary forms for laboratory control samples (LCSs) including:

a) LCS spiking amounts,
b) Calculated %R for each analyte, and
c)The laboratory's LCS QC limits.

R7 Test reports for project matrix spike/matrix spike duplicates (MS/MSDs) including:

a) Samples associated with the MS/MSD clearly identified,
b) MS/MSD spiking amounts,
c) Concentration of each MS/MSD analyte measured in the parent and spiked samples,
d) Calculated %Rs and relative percent differences (RPDs), and
e) The laboratory's MS/MSD QC limits.

R8 Laboratory analytical duplicate (if applicable) recovery and precision:

a) the amount of analyte measured in the duplicate,
b) the calculated RPD, and
c) the laboratory's QC limits for analytical duplicates.

R9 List of method quantitation limits (MQLs) and detectability check sample results for each analyte for each method and matrix.

R10 Other problems or anomalies.
The Exception Report for each "No" or "Not Reviewed (NR)" item in Laboratory Review Checklist and for each analyte, matrix, and method for which the laboratory does not hold NELAC accreditation under the Texas Laboratory Accreditation Program.

Client:	Pastor, Behling & Wheeler, LLC
Project:	1620-10-Rev1 HoustonTX-Wood
WorkOrder:	**HS16030172**

TRRP Laboratory Data Package Cover Page

Release Statement: I am responsible for the release of this laboratory data package. This laboratory is NELAC accredited under the Texas Laboratory Accreditation Program for all the methods, analytes and matrices reported in this data package except as noted in the Exception Reports. The data have been reviewed and are technically compliant with the requirements of the methods used, except where noted by the laboratory in the attached exception reports. By my signature below, I affirm to the best of my knowledge, all problems/anomalies, observed by the laboratory have been identified by the laboratory in the Laboratory Review Checklist, and no information affecting the quality of the data has been knowingly withheld.

Check, if applicable: [NA] This laboratory meets an exception under 30 TAC §25.6 and was last inspected by [ ] TCEQ or [ ] _____ on (enter date of last inspection). Any findings affecting the data in this laboratory data package are noted in the Exception Reports herein. The official signing the cover page of the report in which these data are used is responsible for releasing this data package and is by signature affirming the above release statement is true.

Dane J. Wacasey

Laboratory Review Checklist: Reportable Data								
Laboratory Name: ALS Laboratory Group			LRC Date: 03/07/2016					
Project Name: 1620-10-Rev1 HoustonTX-Wood			Laboratory Job Number: HS16030172					
Reviewer Name: Dane Wacasey			Prep Batch Number(s): 102004,102026,R270327					
#[1]	**A[2]**	**Description**	**Yes**	**No**	**NA[3]**	**NR[4]**	**ER#[5]**
R1	OI	**Chain-of-custody (C-O-C)**					
		Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?	X				
		Were all departures from standard conditions described in an exception report?	X				
R2	OI	**Sample and quality control (QC) identification**					
		Are all field sample ID numbers cross-referenced to the laboratory ID numbers?	X				
		Are all laboratory ID numbers cross-referenced to the corresponding QC data?	X				
R3	OI	**Test reports**					
		Were all samples prepared and analyzed within holding times?	X				
		Other than those results < MQL, were all other raw values bracketed by calibration standards?	X				
		Were calculations checked by a peer or supervisor?	X				
		Were all analyte identifications checked by a peer or supervisor?	X				
		Were sample detection limits reported for all analytes not detected?	X				
		Were all results for soil and sediment samples reported on a dry weight basis?	X				
		Were % moisture (or solids) reported for all soil and sediment samples?	X				
		Were bulk soils/solids samples for volatile analysis extracted with methanol per SW-846 Method 5035?			X		
		If required for the project, TICs reported?			X		
R4	O	**Surrogate recovery data**					
		Were surrogates added prior to extraction?	X				
		Were surrogate percent recoveries in all samples within the laboratory QC limits?	X				
R5	OI	**Test reports/summary forms for blank samples**					
		Were appropriate type(s) of blanks analyzed?	X				
		Were blanks analyzed at the appropriate frequency?	X				
		Were method blanks taken through the entire analytical process, including preparation and, if applicable, cleanup procedures?	X				
		Were blank concentrations < MQL?	X				
R6	OI	**Laboratory control samples (LCS):**					
		Were all COCs included in the LCS?	X				
		Was each LCS taken through the entire analytical procedure, including prep and cleanup steps?	X				
		Were LCSs analyzed at the required frequency?	X				
		Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?	X				
		Does the detectability data document the laboratory's capability to detect the COCs at the MDL used to calculate the SDLs?	X				
		Was the LCSD RPD within QC limits?	X				
R7	OI	**Matrix spike (MS) and matrix spike duplicate (MSD) data**					
		Were the project/method specified analytes included in the MS and MSD?	X				
		Were MS/MSD analyzed at the appropriate frequency?	X				
		Were MS (and MSD, if applicable) %Rs within the laboratory QC limits?		X			1
		Were MS/MSD RPDs within laboratory QC limits?	X				
R8	OI	**Analytical duplicate data**					
		Were appropriate analytical duplicates analyzed for each matrix?	X				
		Were analytical duplicates analyzed at the appropriate frequency?	X				
		Were RPDs or relative standard deviations within the laboratory QC limits?	X				
R9	OI	**Method quantitation limits (MQLs):**					
		Are the MQLs for each method analyte included in the laboratory data package?	X				
		Do the MQLs correspond to the concentration of the lowest non-zero calibration standard?	X				
		Are unadjusted MQLs and DCSs included in the laboratory data package?	X				
R10	OI	**Other problems/anomalies**					
		Are all known problems/anomalies/special conditions noted in this LRC and ER?	X				
		Were all necessary corrective actions performed for the reported data?	X				
		Was applicable and available technology used to lower the SDL and minimize the matrix interference affects on the sample results?	X				
		Is the laboratory NELAC-accredited under the Texas Laboratory Program for the analytes, matrices and methods associated with this laboratory data package?	X				

Laboratory Review Checklist: Reportable Data								
Laboratory Name: ALS Laboratory Group			LRC Date: 03/07/2016					
Project Name: 1620-10-Rev1 HoustonTX-Wood			Laboratory Job Number: HS16030172					
Reviewer Name: Dane Wacasey			Prep Batch Number(s): 102004,102026,R270327					
#[1]	**A[2]**	**Description**	**Yes**	**No**	**NA[3]**	**NR[4]**	**ER#[5]**
S1	OI	**Initial calibration (ICAL)**					
		Were response factors and/or relative response factors for each analyte within QC limits?	X				
		Were percent RSDs or correlation coefficient criteria met?	X				
		Was the number of standards recommended in the method used for all analytes?	X				
		Were all points generated between the lowest and highest standard used to calculate the curve?	X				
		Are ICAL data available for all instruments used?	X				
		Has the initial calibration curve been verified using an appropriate second source standard?	X				
S2	OI	**Initial and continuing calibration verification (ICCV and CCV) and continuing calibration blank (CCB)**					
		Was the CCV analyzed at the method-required frequency?	X				
		Were percent differences for each analyte within the method-required QC limits?	X				
		Was the ICAL curve verified for each analyte?	X				
		Was the absolute value of the analyte concentration in the inorganic CCB < MDL?		X			2
S3	O	**Mass spectral tuning:**					
		Was the appropriate compound for the method used for tuning?	X				
		Were ion abundance data within the method-required QC limits?	X				
S4	O	**Internal standards (IS):**					
		Were IS area counts and retention times within the method-required QC limits?	X				
S5	OI	**Raw data** (NELAC section 1 appendix A glossary, and section 5.12 or ISO/IEC 17025 section					
		Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst?	X				
		Were data associated with manual integrations flagged on the raw data?	X				
S6	O	**Dual column confirmation**					
		Did dual column confirmation results meet the method-required QC?			X		
S7	O	**Tentatively identified compounds (TICs):**					
		If TICs were requested, were the mass spectra and TIC data subject to appropriate checks?			X		
S8	I	**Interference Check Sample (ICS) results:**					
		Were percent recoveries within method QC limits?	X				
S9	I	**Serial dilutions, post digestion spikes, and method of standard additions**					
		Were percent differences, recoveries, and the linearity within the QC limits specified in the method?		X			3
S10	OI	**Method detection limit (MDL) studies**					
		Was a MDL study performed for each reported analyte?	X				
		Is the MDL either adjusted or supported by the analysis of DCSs?	X				
S11	OI	**Proficiency test reports:**					
		Was the laboratory's performance acceptable on the applicable proficiency tests or evaluation studies?	X				
S12	OI	**Standards documentation**					
		Are all standards used in the analyses NIST-traceable or obtained from other appropriate sources?	X				
S13	OI	**Compound/analyte identification procedures**					
		Are the procedures for compound/analyte identification documented?	X				
S14	OI	**Demonstration of analyst competency (DOC)**					
		Was DOC conducted consistent with NELAC Chapter 5C or ISO/IEC 4?	X				
		Is documentation of the analyst's competency up-to-date and on file?	X				
S15	OI	**Verification/validation documentation for methods** (NELAC Chap 5 or ISO/IEC 17025 Section 5)					
		Are all the methods used to generate the data documented, verified, and validated, where applicable?	X				
S16	OI	**Laboratory standard operating procedures (SOPs):**					
		Are laboratory SOPs current and on file for each method performed?	X				

Items identified by the letter "R" must be included in the laboratory data package submitted in the TRRP-required report(s). Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period.
O = Organic Analyses; I = Inorganic Analyses (and general chemistry, when applicable);
NA = Not Applicable;
NR = Not Reviewed;
R# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

Laboratory Review Checklist: Reportable Data	
Laboratory Name: ALS Laboratory Group	LRC Date: 03/07/2016
Project Name: 1620-10-Rev1 HoustonTX-Wood	Laboratory Job Number: HS16030172
Reviewer Name: Dane Wacasey	Prep Batch Number(s): 102004,102026,R270327

ER#[5]	Description
1	Batch 102026, Metals Method SW6020, sample SO-1620-Railcar-20160303, MS and MSD recovered below the control limits for Lead, however, the result in the parent sample is greater than 4x the spike amount. Batch 102004, Semivolatile Organics Method SW8270, sample HS16030118-01, MS and MSD were performed on unrelated sample.
2	See Run Log and CCB Exceptions Report.
3	Batch 102026, Metals Method SW6020, sample SO-1620-Railcar-20160303, Bench Spike (PDS) recovered below the lower control limit for Lead, however the result in the parent sample is greater than 4x the spike amount.

Items identified by the letter "R" must be included in the laboratory data package submitted in the TRRP-required report(s). Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period.
O = Organic Analyses; I = Inorganic Analyses (and general chemistry, when applicable);
NA = Not Applicable;
NR = Not Reviewed;
R# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

FORM 13 - ANALYSIS RUN LOG

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
WorkOrder: HS16030172
Start Date: 04-Mar-2016 End Date: 04-Mar-2016

Run ID:ICPMS04_270317
Instrument:ICPMS04
Method:SW6020

Sample No.	D/F	Time	FileID	Analytes
ICV	1	04-Mar-2016 11:44	010SMPL.D	AS PB
LLICV5	1	04-Mar-2016 11:48	011SMPL.D	AS PB
LLICV2	1	04-Mar-2016 11:53	012SMPL.D	AS PB
ICB	1	04-Mar-2016 11:57	013CCB.D	AS PB
ICSA	1	04-Mar-2016 12:02	014SMPL.D	AS PB
ICSAB	1	04-Mar-2016 12:06	015SMPL.D	AS PB
MBLK-102026	1	04-Mar-2016 12:17	017SMPL.D	AS PB
MLCS-102026	1	04-Mar-2016 12:21	018SMPL.D	AS PB
SO-1620-Railcar-20160303	1	04-Mar-2016 12:25	019SMPL.D	AS PB
SO-1620-Railcar-20160303SD	5	04-Mar-2016 12:29	020SMPL.D	AS PB
SO-1620-Railcar-20160303MS	1	04-Mar-2016 12:34	021SMPL.D	AS PB
SO-1620-Railcar-20160303MSD	1	04-Mar-2016 12:38	022SMPL.D	AS PB
SO-1620-Railcar-20160303PDS	1	04-Mar-2016 12:42	023SMPL.D	AS PB
CCV 1	1	04-Mar-2016 12:57	026SMPL.D	AS PB
CCB 1	1	04-Mar-2016 13:01	027CCB.D	AS PB
CCV 2	1	04-Mar-2016 13:14	030SMPL.D	AS PB

CCB EXCEPTIONS REPORT

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
WorkOrder: HS16030172

Run ID:ICPMS04_270317
Instrument:ICPMS04
Method:SW6020

CCB 1 Date: 04-Mar-2016 13:01 Seq: 3604979 D/F: 1 Units: ug/L

Analyte	Result	MDL	Report Limit
Arsenic	-0.44	0.4	5

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
Work Order: HS16030172

SAMPLE SUMMARY

Lab Samp ID	Client Sample ID	Matrix	TagNo	Collection Date	Date Received	Hold
HS16030172-01	SO-1620-Railcar-20160303	Soil		03-Mar-2016 15:00	03-Mar-2016 17:50	☐

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
Sample ID: SO-1620-Railcar-20160303
Collection Date: 03-Mar-2016 15:00

ANALYTICAL REPORT
WorkOrder:HS16030172
Lab ID:HS16030172-01
Matrix:Soil

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES	**Method:SW8270**				Prep:SW3541 / 03-Mar-2016		Analyst: STH
1,2-Diphenylhydrazine	U		0.0070	0.042	mg/Kg-dry	1	04-Mar-2016 14:39
2,4-Dimethylphenol	U		0.021	0.042	mg/Kg-dry	1	04-Mar-2016 14:39
2,4-Dinitrotoluene	U		0.0057	0.042	mg/Kg-dry	1	04-Mar-2016 14:39
2,6-Dinitrotoluene	U		0.021	0.042	mg/Kg-dry	1	04-Mar-2016 14:39
2-Chloronaphthalene	U		0.0083	0.042	mg/Kg-dry	1	04-Mar-2016 14:39
2-Methylnaphthalene	**0.92**		**0.0032**	**0.021**	**mg/Kg-dry**	1	04-Mar-2016 14:39
4,6-Dinitro-2-methylphenol	U		0.013	0.042	mg/Kg-dry	1	04-Mar-2016 14:39
4-Nitrophenol	U		0.012	0.084	mg/Kg-dry	1	04-Mar-2016 14:39
Acenaphthene	**2.5**		**0.032**	**0.21**	**mg/Kg-dry**	10	04-Mar-2016 16:33
Acenaphthylene	**0.29**		**0.0064**	**0.021**	**mg/Kg-dry**	1	04-Mar-2016 14:39
Anthracene	**4.5**		**0.032**	**0.21**	**mg/Kg-dry**	10	04-Mar-2016 16:33
Benz(a)anthracene	**3.6**		**0.10**	**0.21**	**mg/Kg-dry**	10	04-Mar-2016 16:33
Benzo(a)pyrene	**1.3**		**0.0064**	**0.021**	**mg/Kg-dry**	1	04-Mar-2016 14:39
Bis(2-chloroethoxy)methane	U		0.0057	0.042	mg/Kg-dry	1	04-Mar-2016 14:39
Bis(2-ethylhexyl)phthalate	**0.74**		**0.011**	**0.042**	**mg/Kg-dry**	1	04-Mar-2016 14:39
Chrysene	**6.3**		**0.051**	**0.21**	**mg/Kg-dry**	10	04-Mar-2016 16:33
Dibenzofuran	**1.8**		**0.0045**	**0.021**	**mg/Kg-dry**	1	04-Mar-2016 14:39
Di-n-butyl phthalate	U		0.0077	0.042	mg/Kg-dry	1	04-Mar-2016 14:39
Fluoranthene	**21**		**0.070**	**0.21**	**mg/Kg-dry**	10	04-Mar-2016 16:33
Fluorene	**2.5**		**0.070**	**0.21**	**mg/Kg-dry**	10	04-Mar-2016 16:33
Naphthalene	**0.25**		**0.0038**	**0.021**	**mg/Kg-dry**	1	04-Mar-2016 14:39
Nitrobenzene	U		0.0057	0.042	mg/Kg-dry	1	04-Mar-2016 14:39
N-Nitrosodiphenylamine	U		0.0045	0.042	mg/Kg-dry	1	04-Mar-2016 14:39
Pentachlorophenol	U		0.021	0.042	mg/Kg-dry	1	04-Mar-2016 14:39
Phenanthrene	**13**		**0.096**	**0.21**	**mg/Kg-dry**	10	04-Mar-2016 16:33
Phenol	U		0.0070	0.042	mg/Kg-dry	1	04-Mar-2016 14:39
Pyrene	**16**		**0.038**	**0.21**	**mg/Kg-dry**	10	04-Mar-2016 16:33
Surr: 2,4,6-Tribromophenol	*85.7*			*36-126*	*%REC*	*1*	*04-Mar-2016 14:39*
Surr: 2,4,6-Tribromophenol	*56.6*			*36-126*	*%REC*	*10*	*04-Mar-2016 16:33*
Surr: 2-Fluorobiphenyl	*79.9*			*43-125*	*%REC*	*1*	*04-Mar-2016 14:39*
Surr: 2-Fluorobiphenyl	*70.9*			*43-125*	*%REC*	*10*	*04-Mar-2016 16:33*
Surr: 2-Fluorophenol	*74.4*			*37-125*	*%REC*	*1*	*04-Mar-2016 14:39*
Surr: 2-Fluorophenol	*107*			*37-125*	*%REC*	*10*	*04-Mar-2016 16:33*
Surr: 4-Terphenyl-d14	*119*			*32-125*	*%REC*	*1*	*04-Mar-2016 14:39*
Surr: 4-Terphenyl-d14	*114*			*32-125*	*%REC*	*10*	*04-Mar-2016 16:33*
Surr: Nitrobenzene-d5	*114*			*37-125*	*%REC*	*1*	*04-Mar-2016 14:39*
Surr: Nitrobenzene-d5	*112*			*37-125*	*%REC*	*10*	*04-Mar-2016 16:33*
Surr: Phenol-d6	*81.9*			*40-125*	*%REC*	*1*	*04-Mar-2016 14:39*
Surr: Phenol-d6	*89.1*			*40-125*	*%REC*	*10*	*04-Mar-2016 16:33*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
Sample ID: SO-1620-Railcar-20160303
Collection Date: 03-Mar-2016 15:00

ANALYTICAL REPORT
WorkOrder:HS16030172
Lab ID:HS16030172-01
Matrix:Soil

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
METALS BY SW6020A	**Method:SW6020**				Prep:SW3050A / 04-Mar-2016		Analyst: JDE
Arsenic	**5.08**		**0.117**	**0.584**	**mg/Kg-dry**	1	04-Mar-2016 12:25
Lead	**58.3**		**0.0584**	**0.584**	**mg/Kg-dry**	1	04-Mar-2016 12:25
MOISTURE - ASTM D2216	**Method:ASTM D2216**						Analyst: DFF
Percent Moisture	**21.8**		**0.0100**	**0.0100**	**wt%**	1	04-Mar-2016 09:01

Note: See Qualifiers Page for a list of qualifiers and their explanation.

WEIGHT LOG

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
WorkOrder: HS16030172

Batch ID: 102004 **Method:** LOW-LEVEL SEMIVOLATILES **Prep:** 3541_B_LOW

SampID	Container	Sample Wt/Vol	Final Volume	Prep Factor
HS16030172-01	1	30.03	5 (mL)	0.1665

Batch ID: 102026 **Method:** METALS BY SW6020A **Prep:** 3050_I_LOW

SampID	Container	Sample Wt/Vol	Final Volume	Prep Factor
HS16030172-01	1	0.5477	50 (mL)	91.29

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
WorkOrder: HS16030172

DATES REPORT

Sample ID	Client Samp ID	Collection Date	TCLP Date	Prep Date	Analysis Date	DF
Batch ID 102004	**Test Name :** LOW-LEVEL SEMIVOLATILES			**Matrix:** Soil		
HS16030172-01	SO-1620-Railcar-20160303	03 Mar 2016 15:00		03 Mar 2016 09:00	04 Mar 2016 16:33	10
HS16030172-01	SO-1620-Railcar-20160303	03 Mar 2016 15:00		03 Mar 2016 09:00	04 Mar 2016 14:39	1
Batch ID 102026	**Test Name :** METALS BY SW6020A			**Matrix:** Soil		
HS16030172-01	SO-1620-Railcar-20160303	03 Mar 2016 15:00		04 Mar 2016 08:40	04 Mar 2016 12:25	1
Batch ID R270327	**Test Name :** MOISTURE - ASTM D2216			**Matrix:** Soil		
HS16030172-01	SO-1620-Railcar-20160303	03 Mar 2016 15:00			04 Mar 2016 09:01	1

WorkOrder: HS16030172
InstrumentID: ICPMS04
Test Code: ICP_S_Low
Test Number: SW6020
Test Name: Metals by SW6020A

METHOD DETECTION / REPORTING LIMITS

Matrix: Solid **Units:** mg/Kg

Type	Analyte	CAS	DCS Spike	DCS	MDL	PQL
A	Arsenic	7440-38-2	0.100	0.0974	0.100	0.500
A	Lead	7439-92-1	0.100	0.0927	0.0500	0.500

WorkOrder: HS16030172
InstrumentID: SV-6
Test Code: 8270_LOW_S
Test Number: SW8270
Test Name: Low-Level Semivolatiles

METHOD DETECTION / REPORTING LIMITS

Matrix: Solid **Units:** mg/Kg

Type	Analyte	CAS	DCS Spike	DCS	MDL	PQL
A	1,2-Diphenylhydrazine	122-66-7	0.0033	0.0037	0.0011	0.0066
A	2,4-Dimethylphenol	105-67-9	0.0033	0.0022	0.0033	0.0066
A	2,4-Dinitrotoluene	121-14-2	0.0033	0.0023	0.00090	0.0066
A	2,6-Dinitrotoluene	606-20-2	0.0033	0.0022	0.0033	0.0066
A	2-Chloronaphthalene	91-58-7	0.0033	0.0028	0.0013	0.0066
A	2-Methylnaphthalene	91-57-6	0.0017	0.0016	0.00050	0.0033
A	4,6-Dinitro-2-methylphenol	534-52-1	0.0033	0.0010	0.0021	0.0066
A	4-Nitrophenol	100-02-7	0.0033	0.0026	0.0019	0.013
A	Acenaphthene	83-32-9	0.0017	0.0016	0.00050	0.0033
A	Acenaphthylene	208-96-8	0.0017	0.0017	0.0010	0.0033
A	Anthracene	120-12-7	0.0017	0.0017	0.00050	0.0033
A	Benz(a)anthracene	56-55-3	0.0017	0.0018	0.0016	0.0033
A	Benzo(a)pyrene	50-32-8	0.0017	0.0017	0.0010	0.0033
A	Bis(2-chloroethoxy)methane	111-91-1	0.0033	0.0028	0.00090	0.0066
A	Bis(2-ethylhexyl)phthalate	117-81-7	0.0033	0.0029	0.0017	0.0066
A	Chrysene	218-01-9	0.0017	0.0019	0.00080	0.0033
A	Dibenzofuran	132-64-9	0.0033	0.0031	0.00070	0.0033
A	Di-n-butyl phthalate	84-74-2	0.0033	0.0031	0.0012	0.0066
A	Fluoranthene	206-44-0	0.0017	0.0018	0.0011	0.0033
A	Fluorene	86-73-7	0.0017	0.0015	0.0011	0.0033
A	Naphthalene	91-20-3	0.0017	0.0016	0.00060	0.0033
A	Nitrobenzene	98-95-3	0.0033	0.0034	0.00090	0.0066
A	N-Nitrosodiphenylamine	86-30-6	0.0033	0.0035	0.00070	0.0066
A	Pentachlorophenol	87-86-5	0.0033	0.0020	0.0033	0.0066
A	Phenanthrene	85-01-8	0.0017	0.0017	0.0015	0.0033
A	Phenol	108-95-2	0.0033	0.0032	0.0011	0.0066
A	Pyrene	129-00-0	0.0017	0.0019	0.00060	0.0033
S	2,4,6-Tribromophenol	118-79-6	0	0	0	0
S	2-Fluorobiphenyl	321-60-8	0	0	0	0
S	2-Fluorophenol	367-12-4	0	0	0	0
S	4-Terphenyl-d14	1718-51-0	0	0	0	0
S	Nitrobenzene-d5	4165-60-0	0	0	0	0
S	Phenol-d6	13127-88-3	0	0	0	0

WorkOrder: HS16030172
InstrumentID: Balance1
Test Code: MOIST_ASTM
Test Number: ASTM D2216
Test Name: Moisture - ASTM D2216

METHOD DETECTION / REPORTING LIMITS

Matrix: Solid **Units:** wt%

Type	Analyte	CAS	DCS Spike	DCS	MDL	PQL
A	Percent Moisture	MOIST	0.0100	0.0100	0.0100	0.0100

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
WorkOrder: HS16030172

QC BATCH REPORT

Batch ID: 102026 **Instrument: ICPMS04** **Method: SW6020**

MBLK Sample ID: **MBLK-102026** Units: **mg/Kg** Analysis Date: **04-Mar-2016 12:17**
Client ID: Run ID: **ICPMS04_270317** SeqNo: **3604939** PrepDate: **04-Mar-2016** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	U	0.578								
Lead	U	0.578								

LCS Sample ID: **MLCS-102026** Units: **mg/Kg** Analysis Date: **04-Mar-2016 12:21**
Client ID: Run ID: **ICPMS04_270317** SeqNo: **3604940** PrepDate: **04-Mar-2016** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	10.41	0.575	11.49	0	90.5	80 - 120				
Lead	10.5	0.575	11.49	0	91.4	80 - 120				

MS Sample ID: **HS16030172-01MS** Units: **mg/Kg** Analysis Date: **04-Mar-2016 12:34**
Client ID: **SO-1620-Railcar-20160303** Run ID: **ICPMS04_270317** SeqNo: **3604943** PrepDate: **04-Mar-2016** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	13.46	0.479	9.577	3.97	99.1	75 - 125				
Lead	51.42	0.479	9.577	45.58	61.0	75 - 125				SO

MSD Sample ID: **HS16030172-01MSD** Units: **mg/Kg** Analysis Date: **04-Mar-2016 12:38**
Client ID: **SO-1620-Railcar-20160303** Run ID: **ICPMS04_270317** SeqNo: **3604944** PrepDate: **04-Mar-2016** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	13.03	0.458	9.151	3.97	99.0	75 - 125	13.46	3.21	20	
Lead	49.86	0.458	9.151	45.58	46.7	75 - 125	51.42	3.09	20	SO

PDS Sample ID: **HS16030172-01BS** Units: **mg/Kg** Analysis Date: **04-Mar-2016 12:42**
Client ID: **SO-1620-Railcar-20160303** Run ID: **ICPMS04_270317** SeqNo: **3604945** PrepDate: **04-Mar-2016** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	11.09	0.456	9.129	3.97	78.0	75 - 125				
Lead	49.14	0.456	9.129	45.58	39.0	75 - 125				SO

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
WorkOrder: HS16030172

QC BATCH REPORT

Batch ID: 102026 **Instrument: ICPMS04** **Method: SW6020**

SD Sample ID: **HS16030172-01 DIL SX** Units: **mg/Kg** Analysis Date: **04-Mar-2016 12:29**
Client ID: **SO-1620-Railcar-20160303** Run ID: **ICPMS04_270317** SeqNo: **3604942** PrepDate: **04-Mar-2016** DF: **5**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%D	%D Limit	Qual
Arsenic	3.795	2.28					3.97	4.4	10	
Lead	41.33	2.28					45.58	9.32	10	

The following samples were anayzed in this batch: HS16030172-01

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
WorkOrder: HS16030172

QC BATCH REPORT

Batch ID: 102004 **Instrument: SV-6** **Method: SW8270**

MBLK Sample ID: **MBLK-102004** Units: **ug/Kg** Analysis Date: **04-Mar-2016 15:55**
Client ID: Run ID: **SV-6_270342** SeqNo: **3605215** PrepDate: **03-Mar-2016** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Diphenylhydrazine	U	6.6								
2,4-Dimethylphenol	U	6.6								
2,4-Dinitrotoluene	U	6.6								
2,6-Dinitrotoluene	U	6.6								
2-Chloronaphthalene	U	6.6								
2-Methylnaphthalene	U	3.3								
4,6-Dinitro-2-methylphenol	U	6.6								
4-Nitrophenol	U	13								
Acenaphthene	U	3.3								
Acenaphthylene	U	3.3								
Anthracene	U	3.3								
Benz(a)anthracene	U	3.3								
Benzo(a)pyrene	U	3.3								
Bis(2-chloroethoxy)methane	U	6.6								
Bis(2-ethylhexyl)phthalate	U	6.6								
Chrysene	U	3.3								
Dibenzofuran	U	3.3								
Di-n-butyl phthalate	U	6.6								
Fluoranthene	U	3.3								
Fluorene	U	3.3								
Naphthalene	U	3.3								
Nitrobenzene	U	6.6								
N-Nitrosodiphenylamine	U	6.6								
Pentachlorophenol	U	6.6								
Phenanthrene	U	3.3								
Phenol	U	6.6								
Pyrene	U	3.3								
Surr: 2,4,6-Tribromophenol	*143.1*	*0*	*167*	*0*	*85.7*	*36 - 126*				
Surr: 2-Fluorobiphenyl	*149.3*	*0*	*167*	*0*	*89.4*	*43 - 125*				
Surr: 2-Fluorophenol	*143.2*	*0*	*167*	*0*	*85.8*	*37 - 125*				
Surr: 4-Terphenyl-d14	*144.6*	*0*	*167*	*0*	*86.6*	*32 - 125*				
Surr: Nitrobenzene-d5	*153.1*	*0*	*167*	*0*	*91.7*	*37 - 125*				
Surr: Phenol-d6	*133.5*	*0*	*167*	*0*	*79.9*	*40 - 125*				

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
WorkOrder: HS16030172

QC BATCH REPORT

Batch ID: 102004 **Instrument: SV-6** **Method: SW8270**

LCS Sample ID: **LCS-102004** Units: **ug/Kg** Analysis Date: **04-Mar-2016 16:14**
Client ID: Run ID: **SV-6_270342** SeqNo: **3605216** PrepDate: **03-Mar-2016** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Diphenylhydrazine	161.3	6.6	167	0	96.6	50 - 135				
2,4-Dimethylphenol	137.3	6.6	167	0	82.2	45 - 120				
2,4-Dinitrotoluene	146.9	6.6	167	0	88.0	50 - 130				
2,6-Dinitrotoluene	138.4	6.6	167	0	82.9	50 - 125				
2-Chloronaphthalene	153	6.6	167	0	91.6	50 - 145				
2-Methylnaphthalene	146.8	3.3	167	0	87.9	50 - 120				
4,6-Dinitro-2-methylphenol	131.8	6.6	167	0	78.9	15 - 135				
4-Nitrophenol	176.1	13	167	0	105	40 - 147				
Acenaphthene	132.7	3.3	167	0	79.5	50 - 120				
Acenaphthylene	151.8	3.3	167	0	90.9	50 - 120				
Anthracene	160.1	3.3	167	0	95.9	50 - 123				
Benz(a)anthracene	149.8	3.3	167	0	89.7	50 - 131				
Benzo(a)pyrene	158.1	3.3	167	0	94.7	50 - 130				
Bis(2-chloroethoxy)methane	151.7	6.6	167	0	90.8	50 - 120				
Bis(2-ethylhexyl)phthalate	169.7	6.6	167	0	102	21 - 148				
Chrysene	156.8	3.3	167	0	93.9	50 - 130				
Dibenzofuran	149.5	3.3	167	0	89.5	50 - 125				
Di-n-butyl phthalate	165.8	6.6	167	0	99.3	50 - 140				
Fluoranthene	145.2	3.3	167	0	86.9	50 - 131				
Fluorene	147.7	3.3	167	0	88.5	50 - 125				
Naphthalene	153.1	3.3	167	0	91.7	50 - 125				
Nitrobenzene	163.6	6.6	167	0	98.0	50 - 125				
N-Nitrosodiphenylamine	147.4	6.6	167	0	88.2	50 - 130				
Pentachlorophenol	114.1	6.6	167	0	68.3	23 - 136				
Phenanthrene	151.6	3.3	167	0	90.8	50 - 125				
Phenol	148.9	6.6	167	0	89.2	45 - 130				
Pyrene	148.2	3.3	167	0	88.8	45 - 130				
Surr: 2,4,6-Tribromophenol	*168*	*0*	*167*	*0*	*101*	*36 - 126*				
Surr: 2-Fluorobiphenyl	*140.4*	*0*	*167*	*0*	*84.1*	*43 - 125*				
Surr: 2-Fluorophenol	*153*	*0*	*167*	*0*	*91.6*	*37 - 125*				
Surr: 4-Terphenyl-d14	*144.9*	*0*	*167*	*0*	*86.8*	*32 - 125*				
Surr: Nitrobenzene-d5	*153.5*	*0*	*167*	*0*	*91.9*	*37 - 125*				
Surr: Phenol-d6	*152.3*	*0*	*167*	*0*	*91.2*	*40 - 125*				

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
WorkOrder: HS16030172

QC BATCH REPORT

Batch ID: 102004 **Instrument: SV-6** **Method: SW8270**

MS Sample ID: **HS16030118-01MS** Units: **ug/Kg** Analysis Date: **04-Mar-2016 15:16**
Client ID: Run ID: **SV-6_270342** SeqNo: **3605213** PrepDate: **03-Mar-2016** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Diphenylhydrazine	794.3	39	974.7	0	81.5	50 - 135				
2,4-Dimethylphenol	545.2	39	974.7	0	55.9	45 - 120				
2,4-Dinitrotoluene	719.3	39	974.7	0	73.8	50 - 130				
2,6-Dinitrotoluene	612	39	974.7	0	62.8	50 - 125				
2-Chloronaphthalene	689.7	39	974.7	0	70.8	50 - 145				
2-Methylnaphthalene	527.2	19	974.7	0	54.1	50 - 120				
4,6-Dinitro-2-methylphenol	601.8	39	974.7	0	61.7	15 - 135				
4-Nitrophenol	997.7	77	974.7	0	102	40 - 147				
Acenaphthene	556.5	19	974.7	0	57.1	50 - 120				
Acenaphthylene	626.6	19	974.7	0	64.3	50 - 120				
Anthracene	810.1	19	974.7	12.21	81.9	50 - 123				
Benz(a)anthracene	810.1	19	974.7	20.19	81.0	50 - 131				
Benzo(a)pyrene	863.6	19	974.7	14.26	87.1	50 - 130				
Bis(2-chloroethoxy)methane	535	39	974.7	0	54.9	50 - 120				
Bis(2-ethylhexyl)phthalate	998.2	39	974.7	56.22	96.6	21 - 148				
Chrysene	806.2	19	974.7	44.48	78.1	50 - 130				
Dibenzofuran	621.1	19	974.7	0	63.7	50 - 125				
Di-n-butyl phthalate	905.1	39	974.7	0	92.9	50 - 140				
Fluoranthene	825.3	19	974.7	57.97	78.7	50 - 131				
Fluorene	672.9	19	974.7	0	69.0	50 - 125				
Naphthalene	533	19	974.7	0	54.7	50 - 125				
Nitrobenzene	582.1	39	974.7	0	59.7	50 - 125				
N-Nitrosodiphenylamine	710.9	39	974.7	0	72.9	50 - 130				
Pentachlorophenol	549.1	39	974.7	0	56.3	23 - 136				
Phenanthrene	779.7	19	974.7	18.38	78.1	50 - 125				
Phenol	424.9	39	974.7	13.47	42.2	45 - 130				S
Pyrene	816	19	974.7	53.26	78.3	45 - 130				
Surr: 2,4,6-Tribromophenol	*814.3*	*0*	*974.7*	*0*	*83.5*	*36 - 126*				
Surr: 2-Fluorobiphenyl	*530.2*	*0*	*974.7*	*0*	*54.4*	*43 - 125*				
Surr: 2-Fluorophenol	*443.5*	*0*	*974.7*	*0*	*45.5*	*37 - 125*				
Surr: 4-Terphenyl-d14	*825*	*0*	*974.7*	*0*	*84.6*	*32 - 125*				
Surr: Nitrobenzene-d5	*576.4*	*0*	*974.7*	*0*	*59.1*	*37 - 125*				
Surr: Phenol-d6	*576.6*	*0*	*974.7*	*0*	*59.2*	*40 - 125*				

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
WorkOrder: HS16030172

QC BATCH REPORT

Batch ID: 102004 **Instrument: SV-6** **Method: SW8270**

MSD Sample ID: **HS16030118-01MSD** Units: **ug/Kg** Analysis Date: **04-Mar-2016 15:36**
Client ID: Run ID: **SV-6_270342** SeqNo: **3605214** PrepDate: **03-Mar-2016** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual
1,2-Diphenylhydrazine	787.6	38	972.8	0	81.0	50 - 135	794.3	0.836	30	
2,4-Dimethylphenol	516.8	38	972.8	0	53.1	45 - 120	545.2	5.36	30	
2,4-Dinitrotoluene	645.5	38	972.8	0	66.3	50 - 130	719.3	10.8	30	
2,6-Dinitrotoluene	567.2	38	972.8	0	58.3	50 - 125	612	7.61	30	
2-Chloronaphthalene	697.8	38	972.8	0	71.7	50 - 145	689.7	1.16	30	
2-Methylnaphthalene	521.5	19	972.8	0	53.6	50 - 120	527.2	1.08	30	
4,6-Dinitro-2-methylphenol	603.8	38	972.8	0	62.1	15 - 135	601.8	0.335	30	
4-Nitrophenol	864.7	77	972.8	0	88.9	40 - 147	997.7	14.3	30	
Acenaphthene	544.9	19	972.8	0	56.0	50 - 120	556.5	2.09	30	
Acenaphthylene	578.3	19	972.8	0	59.4	50 - 120	626.6	8.02	30	
Anthracene	837.5	19	972.8	12.21	84.8	50 - 123	810.1	3.34	30	
Benz(a)anthracene	828.5	19	972.8	20.19	83.1	50 - 131	810.1	2.24	30	
Benzo(a)pyrene	820.4	19	972.8	14.26	82.9	50 - 130	863.6	5.13	30	
Bis(2-chloroethoxy)methane	523	38	972.8	0	53.8	50 - 120	535	2.28	30	
Bis(2-ethylhexyl)phthalate	994.6	38	972.8	56.22	96.5	21 - 148	998.2	0.362	30	
Chrysene	865.2	19	972.8	44.48	84.4	50 - 130	806.2	7.06	30	
Dibenzofuran	590.1	19	972.8	0	60.7	50 - 125	621.1	5.12	30	
Di-n-butyl phthalate	923.6	38	972.8	0	94.9	50 - 140	905.1	2.03	30	
Fluoranthene	816.1	19	972.8	57.97	77.9	50 - 131	825.3	1.13	30	
Fluorene	612.9	19	972.8	0	63.0	50 - 125	672.9	9.33	30	
Naphthalene	548.4	19	972.8	0	56.4	50 - 125	533	2.85	30	
Nitrobenzene	589.4	38	972.8	0	60.6	50 - 125	582.1	1.25	30	
N-Nitrosodiphenylamine	718	38	972.8	0	73.8	50 - 130	710.9	0.995	30	
Pentachlorophenol	512.9	38	972.8	0	52.7	23 - 136	549.1	6.81	30	
Phenanthrene	775.8	19	972.8	18.38	77.9	50 - 125	779.7	0.507	30	
Phenol	421	38	972.8	13.47	41.9	45 - 130	424.9	0.913	30	S
Pyrene	836.8	19	972.8	53.26	80.5	45 - 130	816	2.52	30	
Surr: 2,4,6-Tribromophenol	*775.1*	*0*	*972.8*	*0*	*79.7*	*36 - 126*	*814.3*	*4.92*	*30*	
Surr: 2-Fluorobiphenyl	*516.3*	*0*	*972.8*	*0*	*53.1*	*43 - 125*	*530.2*	*2.64*	*30*	
Surr: 2-Fluorophenol	*449.6*	*0*	*972.8*	*0*	*46.2*	*37 - 125*	*443.5*	*1.35*	*30*	
Surr: 4-Terphenyl-d14	*817.9*	*0*	*972.8*	*0*	*84.1*	*32 - 125*	*825*	*0.859*	*30*	
Surr: Nitrobenzene-d5	*581.6*	*0*	*972.8*	*0*	*59.8*	*37 - 125*	*576.4*	*0.899*	*30*	
Surr: Phenol-d6	*596.9*	*0*	*972.8*	*0*	*61.4*	*40 - 125*	*576.6*	*3.47*	*30*	

The following samples were anayzed in this batch: HS16030172-01

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
WorkOrder: HS16030172

QC BATCH REPORT

Batch ID: R270327 **Instrument: Balance1** **Method: ASTM D2216**

DUP Sample ID: **HS16030173-06DUP** Units: **wt%** Analysis Date: **04-Mar-2016 09:01**
Client ID: Run ID: **Balance1_270327** SeqNo: **3605032** PrepDate: DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Percent Moisture	27	0.0100					26.2	3.01	20	

The following samples were anayzed in this batch: HS16030172-01

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
WorkOrder: **HS16030172**

QUALIFIERS, ACRONYMS, UNITS

Qualifier	Description
*	Value exceeds Regulatory Limit
a	Not accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte detected below quantitation limit
M	Manually integrated, see raw data for justification
n	Not offered for accreditation
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL/SDL

Acronym	Description
DCS	Detectability Check Study
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
MBLK	Method Blank
MDL	Method Detection Limit
MQL	Method Quantitation Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PDS	Post Digestion Spike
PQL	Practical Quantitaion Limit
SD	Serial Dilution
SDL	Sample Detection Limit
TRRP	Texas Risk Reduction Program

Unit Reported	Description
mg/Kg-dry	Milligrams per Kilogram- Dry weight corrected

CERTIFICATIONS,ACCREDITATIONS & LICENSES

Agency	Number	Expire Date
Arkansas	15-024-0	27-Mar-2016
California	2919	31-Jul-2016
Illinois	003622	09-May-2016
Kentucky	KY 2015-2016	30-Apr-2016
Louisiana	03087 2015/2016	30-Jun-2016
North Carolina	624 - 2016	31-Dec-2016
North Dakota	R-193 2015-2016	30-Apr-2016
Oklahoma	2015-047	31-Aug-2016
Texas	T104704231-15-15	30-Apr-2016

Client: Pastor, Behling & Wheeler, LLC
Project: 1620-10-Rev1 HoustonTX-Wood
Work Order: HS16030172

SAMPLE TRACKING

Lab Samp ID	Client Sample ID	Action	Date	Person	New Location
HS16030172-01	SO-1620-Railcar-20160303	Login	3/3/2016 6:05:36 PM	PMG	2D

ALS Group USA, Corp Date: 07-Mar-16

Sample Receipt Checklist

Client Name: PBW Date/Time Received: **03-Mar-2016 17:50**

Work Order: HS16030172 Received by: **PMG**

Checklist completed by: *Dane J. Wacasey* eSignature 3-Mar-2016 Date

Reviewed by: *Dane J. Wacasey* eSignature 3-Mar-2016 Date

Matrices: **Soil** Carrier name: **Client**

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on shipping container/cooler?	Yes ☐	No ☐	Not Present ☑
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☑	No ☐	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
TX1005 solids received in hermetically sealed vials?	Yes ☐	No ☐	N/A ☑
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time?	Yes ☑	No ☐	
Container/Temp Blank temperature in compliance?	Yes ☑	No ☐	
Temperature(s)/Thermometer(s):	1.2 C / 1.8 C uc/c	IR 5	
Cooler(s)/Kit(s):	Client Cooler		
Date/Time sample(s) sent to storage:			
Water - VOA vials have zero headspace?	Yes ☐	No ☐	No VOA vials submitted ☑
Water - pH acceptable upon receipt?	Yes ☐	No ☐	N/A ☑
pH adjusted?	Yes ☐	No ☐	N/A ☑
pH adjusted by:			

Login Notes:

Client Contacted: Date Contacted: Person Contacted:

Contacted By: 0 Regarding:

Comments:

Corrective Action:

ALS Environmental

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Fort Collins, CO +1 970 490 1511
Holland, MI +1 616 399 6070
Houston, TX +1 281 530 5656
Middletown, PA +1 717 944 5541
Spring City, PA +1 610 948 4903
Salt Lake City, UT +1 801 266 7700
South Charleston, WV +1 304 356 3168
York, PA +1 717 505 5280

Chain of Custody Form

COC ID: 138725

ALS Project Manager:		ALS Work Order #:	

Customer Information		Project Information		Parameter/Method Request for Analysis	
Purchase Order	UPRR	Project Name	1620-10-Rev1 HoustonTX-Wood	A	8270_LOW_S (5632532 SemiVolatiles)
Work Order		Project Number	1620-10-Rev1	B	ICP_S_Low (5636002 5652646 Metals - As, Pb)
Company Name	Pastor, Behling & Wheeler, LLC	Bill To Company	Union Pacific Railroad- A/P	C	MOIST_ASTM (5631931 Gen.Chem. MOIST%)
Send Report To	Eric Matzner	Invoice Attn	Accounts Payable	D	
Address	2201 Double Creek Drive Suite 4004	Address	1400 Douglas Street Stop 0750	E F	HS16030172 Pastor, Behling & Wheeler, LLC 1620-10-Rev1 HoustonTX-Wood
City/State/Zip	Round Rock, TX 78664	City/State/Zip	Omaha, NE 681790750	G	
Phone	(512) 671-3434	Phone		H	
Fax	(512) 671-3446	Fax		I	
e-Mail Address		e-Mail Address		J	

No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
1	SO-1620 - railcar - 20160303	3/3/16	1500	Soil	8	1	X	X	X								
2																	
3																	
4																	
5																	
6																	
7																	
8																	
9																	
10																	

Sampler(s) Please Print & Sign	Shipment Method	Required Turnaround Time: (Check Box)	Results Due Date:
Kevin Dworsky	Dropoff	TAT 1 days Other:	

Relinquished by:	Date:	Time:	Received by:	Notes:
	3/3/16	1750		[UPRR Houston MWPW]
Relinquished by:	Date:	Time:	Received by (Laboratory):	
			3-3-16. 17:50	
Logged by (Laboratory):	Date:	Time:	Checked by (Laboratory):	

Cooler ID	Cooler Temp.	QC Package: (Check One Box Below)
Cooler	n/c	QC Level TRRP LRC
Cooler	1.2°	Other:
	4°.	

Preservative Key: 1-HCl 2-HNO_3 3-H_2SO_4 4-NaOH 5-$Na_2S_2O_3$ 6-$NaHSO_4$ 7-Other 8-4°C 9-5035

Note: 1. Any changes must be made in writing once samples and COC Form have been submitted to ALS Environmental.
2. Unless otherwise agreed in a formal contract, services provided by ALS Environmental are expressly limited to the terms and conditions stated on the reverse.
3. The Chain of Custody is a legal document. All information must be completed accurately.

APPENDIX 7

STATISTICAL METHODOLOGY – NOT APPLICABLE

APPENDIX 8

WASTE DISPOSITION

PBW

Consulting Engineers
and Scientists

PASTOR, BEHLING & WHEELER, LLC
2201 Double Creek Drive, Suite 4004
Round Rock, TX 78664

Tel (512) 671-3434
Fax (512) 671-3446

April 20, 2016
PBW Project No. 1358

VIA EMAIL

Mr. Scott Green
MC-130
Industrial & Hazardous Waste Permits Section
Texas Commission on Environmental Quality
P.O. Box 13087
Austin, Texas 78711-3087

Re: Request for 30-Day Extension to Store Hazardous Waste without a Permit
Union Pacific Railroad Houston Tie Plant, 4910 Liberty Road, Houston, Texas
TCEQ Solid Waste Registration No. 31547, EPA ID No. TXD000820266

Dear Mr. Green:

Pastor, Behling & Wheeler, LLC (PBW), on behalf of Union Pacific Railroad (UPRR), respectfully submits the attached Texas Commission on Environmental Quality (TCEQ) *Request for 30 Day Extension to Store Hazardous Waste without a Permit* forms for your review for the UPRR Houston Wood Preserving Works (TCEQ Solid Waste Registration No. 31547). The request covers the following Texas Waste Code Number: 0915301H – Soil derived from environmental investigation or remediation activities.

We are requesting this extension to the storage date because of delays in proper characterization of the remediation waste (impacted soils) at the Site. During the remediation phase of the project, impacted soil cleaned out of a dump truck was placed in a roll-off bin and then characterized and evaluated for a "contained-in" determination. However, after review of the analytical data for the soil, the environmental media does not qualify for the "contained-in" designation. The impacted soil is currently being profiled and transportation and disposal of the soil should occur within the 30-day extension period.

If you have any questions or need additional information, please feel free to call me at (512) 671-3434 or Mr. Geoffrey Reeder of UPRR at (281) 350-7197.

Sincerely,

PASTOR, BEHLING & WHEELER, LLC

Eric C. Matzner, P.G.
Associate Hydrogeologist

cc: Mr. Geoffrey Reeder, P.G.

REQUEST FOR 30 DAY EXTENSION TO STORE HAZARDOUS WASTE WITHOUT A PERMIT

(Please allow ten (10) working days for processing)

1. Solid Waste Registration No.						3	1	5	4	7
2. Texas Waste Code No.			0	9	1	5	3	0	1	H
3. EPA Hazardous Waste No.		F	0	3	4		K	0	0	1
4. Intended waste shipment date	0	5		2	0		2	0	1	6
5. Expiration date of storage	0	4		2	2		2	0	1	6

INFORMATION NEEDED	REQUESTOR'S RESPONSE
6. Facility name	Union Pacific Railroad - Houston Wood Preserving Works
7. Facility contact person (name, phone and fax numbers)	Mr. Geoffrey Reeder, P.G. **Phone:** 281-350-7197 **Fax:** 402-233-2351
8. Waste description (amount and type)	Impacted soil from remediation activities, approx. 5 cubic yards (in roll-off bin)
9. Location of storage facility for waste	Waste Pile - NOR 005
10. Description of storage conditions for the waste	20-yd roll-off bin, covered and secured
11. Detailed reason for 30-day extension request*	During the remediation phase of the project, impacted soil cleaned out of a dump truck was placed in a roll-off bin and then characterized and evaluated for a "contained-in" determination. However, after review of the analytical data for the soil, the environmental media does not qualify for the "contained-in" designation.
12. TCEQ Regional personnel contacted (if any)	
13. Arrangement for waste shipment (status and Transporter's name)	Clean Harbors, pending final profile and manifest (est. T&D by 05/20/16).
14. Preventive measures for storage beyond 90 days	Roll-off bin covered and stored within the secured facility.

**If additional space is needed for response, please attach a separate sheet.*

GENERATOR/REPRESENTATIVE

Date: 04 2016
Printed Name: GEOFFREY REEDER
Signature: [signature] **Title:** Manager, Site Remediation
Company: Union Pacific Railroad

Phone: 281-350-7197 **Fax:** 402-233-2351
Mailing Address 24125 Aldine Westfield Road, Spring **State:** Texas **Zip Code:** 77373

Please submit the completed form to the I&H Waste Permits Section by facsimile (512) 239-6383) OR mail to I&HW Permits Section, MC-130, Waste Permits Division, TCEQ, P.O. Box 13087, Austin, TX 78711-3087.

Processed by: _____
Title: _____
I&HW Permits Section, Waste Permits Division

Granted ○
Denied Reason(s) for denial

Processed date: _____

Signature: _____

Copy to the TCEQ Region___, Office of Waste Program

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

April 1, 2016

Mr. Eric C. Matzner
Pastor, Behling & Wheeler, LLC
2201 Double Creek Drive, Suite 4004
Round Rock, Texas 78664

Re: Contained-In Determination, Houston Wood Preserving Works Facility
RN100674613/CN600131098
Solid Waste Registration Number 31547/Permit Number 50343
Mail Log Number 6828

Dear Mr. Matzner:

The Industrial and Hazardous Waste (I&HW) Permits Section of the Texas Commission on Environmental Quality (TCEQ) has received your letter of March 23, 2016. On behalf of the Union Pacific Railroad, your letter requests concurrence that it has been satisfactorily demonstrated that what is referred to as "containerized storm water" is not a listed hazardous waste under the provisions of Title 30 Texas Administrative Code Chapter 350, Section 350.2(h)(3).

After reviewing the information in your letter, and after consultation with members of the VCP & Corrective Action and I&HW Permits Sections, I wish to inform you that:

- It does not appear that the portion of the site on which remediation action discussed in your letter is being conducted is subject to nor covered under the provisions of the RCRA Permit having the number Permit Number 503431;
- A waste code for the containerized storm water should appear on the Notice of the Registration at the site at which the storm water is generated; and
- "Contained-in-determinations" are self-implementing2, and if you have questions regarding the contained-in-determination at the Union Pacific site, please direct those questions to Ms. Maureen Hatfield at (512) 239-2034/maureen.hatfield@tceq.texas.gov.

If you have questions regarding this letter, please contact Mr. Boultinghouse at (512) 239-6865. If you respond in writing, please include our mail code, MC130, in the address.

Sincerely,

M. Scott Green

Scott Green, Work Leader
Industrial and Hazardous Waste Permits Section
Waste Permits Division

MSG/JKB/cgm

[1] This is based on input from Ms. Karen Scott of the I&HW Permits Section.
[2] This is based on input from Ms. Maureen Hatfield of the Voluntary Clean-Up & Corrective Section.

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

April 28, 2016

Mr. Eric C. Matzner, P.G.
Pastor, Behling & Wheeler LLC
2201 Double Creek Drive, Suite 400
Round Rock, Texas 78664

Re: Thirty Day Extension Request
Solid Waste Registration Number 31547
RN100674613/CN600131098
Mailog Number 6868

Dear Mr. Matzner:

The Industrial and Hazardous Waste (I&HW) Permits Section of the Texas Commission on Environmental Quality (TCEQ) has received your letter of April 20, 2016 and TCEQ Form-0319 requesting, on behalf of the Union Pacific Railroad, a thirty day extension for the on-site accumulation of a waste described as "impacted soils" having TCEQ waste code number 0915301H. The reason for the request is that there have been delays in characterizing the soils in order to properly profile, transport, and dispose of them.

According to Title 30 Texas Administrative Code (30 TAC) Section 335.69(b), the Executive Director of the TCEQ may grant an extension for up to thirty days for the on-site accumulation of a hazardous waste beyond the normal period of time due to unforeseen, temporary and uncontrollable circumstances. The I&HW Permits Section believes that the circumstances described in your letter and Form-0319 constitute a valid basis to grant a thirty day extension for the on-site accumulation of the aforementioned waste. Please note that the additional thirty days begins at the close of the original ninety day period and not from the date of this letter. The Union Pacific Railroad is advised that it should explore every opportunity to avoid any future problems with getting its hazardous waste off-site within the normal period of time.

If you have any questions regarding this matter, please contact Mr. Jesse Boultinghouse at (512) 239-6865. If you respond in writing, please use Mail Code 130 in the address.

Sincerely,

M. Scott Green

Scott Green, Work Leader
Industrial and Hazardous Waste Permits Section
Waste Permits Division

MSG/JKB/cgm

cc: Mr. Geoffrey B Reeder, Union Pacific Railroad, Spring

REPUBLIC SERVICES

Please print or type.

NON-HAZARDOUS WASTE MANIFEST

2971874

1. Generator's US EPA ID Number	Manifest Document Number	2. Page 1 of

GENERATOR

3. Generator's Name and Mailing Address
UNION PACIFIC RAILROAD GEN: 31547
24125 ALDINE WESTFIELD ROAD
SPRING, TX 77373
4. Phone ( ) 281-350-7197

5. Generating Location (if different)
SAME
4910 LIBERTY ROAD
HOUSTON, TX 77026
6. Phone ( )

7. Transporter #1 Company Name	8. US EPA ID Number	9. Transporter #1's Phone
Stericycle Specialty Waste Solutions Inc.	MNS000119 24	
10. Transporter #2 Company Name	11. US EPA ID Number	12. Transporter #2's Phone

13. Designated T/S/D Facility Name and Site Address	14. US EPA ID Number	15. Facility's Phone
MCCARTY ROAD LANDFILL TX LP #261B 5757 OATES ROAD HOUSTON, TX 77078		713-676-7676

16. Waste Shipping Name and Description	17. Republic Services Approval # and Exp. Date	18. Containers No.	18. Containers Type	19. Total Quantity	20. Unit Wt/Vol
a. PETROLEUM AFFECTED STORM WATER TCEQ# 1485-102-2	5113165840 3/17/2017	001		4000	GL
b. CMS#100809					
c.					

21. Additional Descriptions for Materials Listed Above

22. Special Handling Instructions and Additional Information

23. **GENERATOR'S CERTIFICATION:** I hereby certify that the above named material is not a hazardous waste as defined by 40 CFR 261 or any applicable state law, has been properly described, classified and packaged, and is in proper condition for transportation according to applicable regulations; AND, if this waste is a treatment residue of a previously restricted hazardous waste subject to the Land Disposal Restrictions. I certify and warrant that the waste has been treated in accordance with the requirements of 40 CFR 268 and is no longer a hazardous waste as defined by 40 CFR 261.

Printed/Typed Name	Signature	Month	Day	Year
GEOFFREY REEDER	GeoffRReeder	4	27	16

TRANSPORTER

24. **Transporter #1:** Acknowledgement of Receipt of Materials

Printed/Typed Name	Signature	Month	Day	Year
Will MENCADO		4	27	16

25. **Transporter #2:** Acknowledgement of Receipt of Materials

Printed/Typed Name	Signature	Month	Day	Year

T/S/D FACILITY

26. Discrepancy Indication Space

27. **Facility Owner or Operator:** Certification of receipt of waste materials covered by this manifest (except as noted in Item 19)

Printed/Typed Name	Signature	Month	Day	Year

ORIGINAL - RETURN TO ORIGINATOR

COM000033

REV 01/14

RS-F15

REPUBLIC SERVICES

NON-HAZARDOUS WASTE MANIFEST

2956299

Please print or type.

1. Generator's US EPA ID Number	Manifest Document Number	2. Page 1 of

GENERATOR

3. Generator's Name and Mailing Address	5. Generating Location (if different)
UNION PACIFIC RAILROAD GEN: 31547 24125 ALDINE WESTFIELD ROAD SPRING, TX 77373 281-350-7197 4. Phone ( )	SAME 4910 LIBERTY ROAD HOUSTON, TX 77026 6. Phone ( )

7. Transporter #1 Company Name	8. US EPA ID Number	9. Transporter #1's Phone
~~EFFECTIVE ENVIRONMENTAL~~ STERICYCLE SPECIALTY WASTE Solutions	~~MNS~~ MSN 000110924	972 329-1200

10. Transporter #2 Company Name	11. US EPA ID Number	12. Transporter #2's Phone

13. Designated T/S/D Facility Name and Site Address	14. US EPA ID Number	15. Facility's Phone
MCCARTY ROAD LANDFILL TX LP #261B 5757 OATES ROAD HOUSTON, TX 77078		713-676-7675

	16. Waste Shipping Name and Description	17. Republic Services Approval # and Exp. Date	18. Containers No.	18. Containers Type	19. Total Quantity	20. Unit Wt/Vol
a.	PETROLEUM CONTAMINATED SOIL TCEQ# 1477-301-2 CMS#100809	5113162649 2/17/2017	001	CM	020	~~FY~~ YDS
b.						
c.						

21. Additional Descriptions for Materials Listed Above

22. Special Handling Instructions and Additional Information

ROB # 25026 RT

23. **GENERATOR'S CERTIFICATION:** I hereby certify that the above named material is not a hazardous waste as defined by 40 CFR 261 or any applicable state law, has been properly described, classified and packaged, and is in proper condition for transportation according to applicable regulations; AND, if this waste is a treatment residue of a previously restricted hazardous waste subject to the Land Disposal Restrictions. I certify and warrant that the waste has been treated in accordance with the requirements of 40 CFR 268 and is no longer a hazardous waste as defined by 40 CFR 261.

Printed/Typed Name	Signature	Month	Day	Year
GEOFFREY REEDER	Geoffrey Reeder	3	24	16

TRANSPORTER

24. **Transporter #1:** Acknowledgement of Receipt of Materials

Printed/Typed Name	Signature	Month	Day	Year
CHARLES JACKSON	Charles Jackson	03	24	16

25. **Transporter #2:** Acknowledgement of Receipt of Materials

Printed/Typed Name	Signature	Month	Day	Year

T/S/D FACILITY

26. Discrepancy Indication Space

137383

27. **Facility Owner or Operator:** Certification of receipt of waste materials covered by this manifest except as noted in Item 19.

Printed/Typed Name	Signature	Month	Day	Year
		3	24	16

Republic Services
McCarty Road Landfill
TDH Permit # 261-B
MAR 24 2016
5757A Oates Road
Houston, TX 77078
713-676-7600

ORIGINAL - RETURN TO ORIGINATOR

COM000033

REV 01/14

RS-F15

KBV GTRd 3

LT

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) DX1601402545 SC PPW 2/24/2015 Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST	1. Generator ID Number	2. Page 1 of	3. Emergency Response Phone	4. Manifest Tracking Number
	TXD000820266	1	(800) 483-3718	009550758 FLE

GENERATOR

5. Generator's Name and Mailing Address
Union Pacific Liberty Road
4910 Liberty Road
Houston, TX 77026
Generator's Phone: (281) 350-7197

Generator's Site Address (if different than mailing address)
SAME

6. Transporter 1 Company Name: Clean Harbors Environmental Service, Inc. — U.S. EPA ID Number: MAD039322250

7. Transporter 2 Company Name — U.S. EPA ID Number:

8. Designated Facility Name and Site Address
Clean Harbors LaPorte, LLC
500 Independence Parkway South
La Porte, TX 77571
Facility's Phone: (281) 884-8500
U.S. EPA ID Number: TXD982290140

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ, NA3082, HAZARDOUS WASTE, LIQUID, N.O.S., (CREOSOTE), 9, PG III	001	DM	200	P	F034 091827PH
	2. NON D.O.T. REGULATED, (EMPTY TOTE)	001	TP	80	P	09174069
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1. CH1184446 ERG#171 1 X 55
2. CH1184619 1 TOTE
TRK # 5174

15. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: GEOFFREY REEDER — Signature: [signature] — Month/Day/Year: 10/16/16

INTL

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

TRANSPORTER

17. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: JOE LACOUR — Signature: [signature] — Month/Day/Year: 10/16/16

Transporter 2 Printed/Typed Name — Signature — Month/Day/Year:

DESIGNATED FACILITY

18. Discrepancy

18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

18b. Alternate Facility (or Generator) — U.S. EPA ID Number
Facility's Phone:

18c. Signature of Alternate Facility (or Generator) — Month/Day/Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

1.	2.	3.	4.
H141	H141		

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a

Printed/Typed Name: DARRYL ORTEGA — Signature: [signature] — Month/Day/Year: 10/16/16

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Clean Harbors has the appropriate permits for and will accept the waste the generator is shipping.

KJ TRdC

LT

DX 1600600385 SC PFW 1/27/2016

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST	1. Generator ID Number	2. Page 1 of	3. Emergency Response Phone	4. Manifest Tracking Number
	TXD000820266	1	(800)483-3715	009004982 FLE

GENERATOR

5. Generator's Name and Mailing Address
Union Pacific Railroad
4910 Liberty Road
Houston, TX 77026
Generator's Phone: (281)350-7197

Generator's Site Address (if different than mailing address)
SAME

6. Transporter 1 Company Name: Clean Harbors Environmental Service, Inc.
U.S. EPA ID Number: MAD039322250

7. Transporter 2 Company Name
U.S. EPA ID Number

8. Designated Facility Name and Site Address
Clean Harbors LaPorte, LLC
500 Independence Parkway South
La Porte, TX 77571
Facility's Phone: (281)884-5500
U.S. EPA ID Number: TXD982290140

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ, NA3082, HAZARDOUS WASTE, LIQUID, N.O.S., (CREOSOTE), 9, PG III	005	DM	2250	P	F034 0918219H
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1. CH1123184 ERG#171 5 X 55
TRK#5242

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: GEOFFREY REEDER
Signature: Geoffrey Reeder
Month: 02 Day: 29 Year: 16

INT'L

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

TRANSPORTER

17. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: JOE LACOUR
Signature: Joe LaCour
Month: 10 Day: 24 Year: 16

Transporter 2 Printed/Typed Name
Signature
Month: Day: Year:

DESIGNATED FACILITY

18. Discrepancy

18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

18b. Alternate Facility (or Generator)
U.S. EPA ID Number
Facility's Phone:

18c. Signature of Alternate Facility (or Generator)
Month: Day: Year:

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

1.	2.	3.	4.
H141			

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a

Printed/Typed Name: JOSIE TRUJILLO
Signature:
Month: 10 Day: 24 Year: 16

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Clean Harbors has the appropriate permits for and will accept the waste the generator is shipping.

K K TRdC

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) DX 1600392451 SC PPW 1/27/2016 Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number	2. Page 1 of	3. Emergency Response Phone	4. Manifest Tracking Number
TXD000820266	1	(800)483-3718	009007780 FLE

GENERATOR

5. Generator's Name and Mailing Address
Union Pacific Railroad
4910 Liberty Road
Houston, TX 77026
Generator's Phone: (281)350-7197

Generator's Site Address (if different than mailing address)
SAME

6. Transporter 1 Company Name
Clean Harbors Environmental Service, Inc.

U.S. EPA ID Number
MAD039322250

7. Transporter 2 Company Name

U.S. EPA ID Number

8. Designated Facility Name and Site Address
Clean Harbors Deer Park, LLC
2027 Independence Parkway South
La Porte, TX 77571
Facility's Phone: (281)930-2300

U.S. EPA ID Number
TXD055141378

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. NA3077, HAZARDOUS WASTE, SOLID, N.O.S., (PPE, PLASTIC, SOIL), 9, PG III	2	DM	2cc	P	F034 0717406H
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1. CH1130304 235004 ERG#171

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: GEOFFREY REEDER
Signature: GEOFFREY REEDER
Month: 2 Day: 11 Year: 16

INT'L

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

TRANSPORTER

17. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: La Travus Holmes
Signature:
Month: 2 Day: 11 Year: 16

Transporter 2 Printed/Typed Name
Signature
Month Day Year

DESIGNATED FACILITY

18. Discrepancy

18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

18b. Alternate Facility (or Generator)
U.S. EPA ID Number
Facility's Phone:

18c. Signature of Alternate Facility (or Generator)
Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

1.	2.	3.	4.
H040			

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a

Printed/Typed Name: Chelsea Gray
Signature:
Month: 02 Day: 23 Year: 16

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Clean Harbors has the appropriate permits for and will accept the waste the generator is shipping.

K||K||TRaC

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) DX 1600392461 SC PPW 1/27/2016 Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST	1. Generator ID Number	2. Page 1 of	3. Emergency Response Phone	4. Manifest Tracking Number
	TXD000820266	1	(800)483-9718	009007781 FLE

GENERATOR

5. Generator's Name and Mailing Address
Union Pacific Railroad
4910 Liberty Road
Houston, TX 77026
Generator's Phone: (281)350-7197

Generator's Site Address (if different than mailing address)
SAME

6. Transporter 1 Company Name
Clean Harbors Environmental Service, Inc.

U.S. EPA ID Number
MAD039322250

7. Transporter 2 Company Name

U.S. EPA ID Number

8. Designated Facility Name and Site Address
Clean Harbors LaPorte, LLC
800 Independence Parkway South
La Porte, TX 77571
Facility's Phone: (281)884-8500

U.S. EPA ID Number
TXD982280140

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ, NA9082, HAZARDOUS WASTE, LIQUID, N.O.S., (CREOSOTE), 9, PG III	1	DM	400	P	F034
X	2. RQ, NA9082, HAZARDOUS WASTE, LIQUID, N.O.S., (CREOSOTE), 9, PG III					F034
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1. CH1123184 11550M ERG#171
2. CH1123184 ~~ERG#171~~

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: GEOFFREY REEDER
Signature: Geoffrey Reeder
Month: 2 Day: 11 Year: 16

INT'L

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

TRANSPORTER

17. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name	Signature	Month	Day	Year
La Travis Holmes		2	11	16
Transporter 2 Printed/Typed Name	Signature	Month	Day	Year

DESIGNATED FACILITY

18. Discrepancy

18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

18b. Alternate Facility (or Generator)

U.S. EPA ID Number

Facility's Phone:

18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

1.	2.	3.	4.
H141	H141		

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a

Printed/Typed Name	Signature	Month	Day	Year
Lynda O'Brien		2	11	16

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Clean Harbors has the appropriate permits for and will accept the waste the generator is shipping.

K||K||TRaC

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) DX 1601678834 SC PPW 2/24/2015 Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST	1. Generator ID Number	2. Page 1 of	3. Emergency Response Phone	4. Manifest Tracking Number
	TXD000820266	1	(800)483-3718	009549679 FLE

GENERATOR

5. Generator's Name and Mailing Address
Union Pacific Liberty Road
4910 Liberty Road
Houston, TX 77026
Generator's Phone: (281)350-7197

Generator's Site Address (if different than mailing address)
SAME

6. Transporter 1 Company Name: Clean Harbors Environmental Service, Inc.
U.S. EPA ID Number: MAD039322250

7. Transporter 2 Company Name
U.S. EPA ID Number

8. Designated Facility Name and Site Address
Clean Harbors Deer Park, LLC
2027 Independence Parkway South
La Porte, TX 77571
Facility's Phone: (281)930-2300
U.S. EPA ID Number: TXD055141378

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. NA3077, HAZARDOUS WASTE, SOLID, N.O.S., (SOIL, CREOSOTE), 9, PG III	001	DM	600	P	F034 0912489H
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1.CH1184606 ERG#171 1x55 (DM)

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Frank H. Lerch
Signature: Frank H Lerch
Month: 5 Day: 27 Year: 16

INT'L

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

TRANSPORTER

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Ronnie Kuhn
Signature: R Kuhn
Month: 05 Day: 27 Year: 16
Transporter 2 Printed/Typed Name
Signature
Month Day Year

DESIGNATED FACILITY

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:

18b. Alternate Facility (or Generator)
U.S. EPA ID Number
Facility's Phone:

18c. Signature of Alternate Facility (or Generator)
Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

1.	2.	3.	4.
H040			

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Sandy Beach
Signature: Sandy Beach
Month: 6 Day: 2 Year: 16

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)
Clean Harbors has the appropriate permits for and will accept the waste the generator is shipping.