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April 30, 2015

Ms. Carolyn Bury - LU-9J
U.S. EPA Region 5
Corrective Action Section
77 West Jackson Boulevard
Chicago, IL 60604-3507

VIA FEDEX

Re: Soil Vapor Extraction System
Operation Completion Report
Big Mo & Former Benzene Pipeline Treatment Areas
Solutia Inc., W. G. Krummrich Plant, Sauget, IL

Dear Ms. Bury:

Per our April 14 call and April 23 e-mails, enclosed please find two copies and two CDs of the subject report. Solutia Inc. (Solutia) thereby proposes to shut down, without implementing bioventing, the subject system, installed and operated pursuant to US EPA's "Final Decision" dated February 2008 and Solutia's "100% Soil Vapor Extraction System Design - Big Mo and Former Benzene Pipeline Areas" dated September 2011, including "Protocol for Completing Soil Vapor Extraction Operations and Potential Transitioning to Bioventing Mode" dated April 2011.

I will contact you in a few weeks, after US EPA and its consultant have begun, but not completed, review of this report, to discuss whether a conference call or meeting with Solutia and its consultant XDD would be beneficial. Meanwhile, if you have any questions or concerns, please contact me at (314) 674-3312 or gmrina@eastman.com.

Sincerely,

Gerald M. Rinaldi
Manager, Remediation Services

Enclosures

SOIL VAPOR EXTRACTION SYSTEM OPERATION COMPLETION REPORT BIG MO & FORMER BENZENE PIPELINE TREATMENT AREAS

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EXECUTIVE SUMMARY

Solutia Inc. (Solutia) has completed remediation of contaminants of concern (COCs), benzene and chlorobenzene, in unsaturated zone soil in the Big Mo and Former Benzene Pipeline treatment areas (**Figure ES-1**) at the W.G. Krummrich Facility in Sauget, Illinois, pursuant to the Final Decision issued by US EPA in February 2008 and as outlined in the *100% Soil Vapor Extraction System Design – Big Mo and Former Benzene Pipeline Areas* (XDD, September 2011). XDD, LLC (XDD) has prepared this *Soil Vapor Extraction System Operation Completion Report* (Completion Report) which presents system performance monitoring data, soil and soil vapor sampling data, based on which **Solutia recommends shutting down the soil vapor extraction (SVE) system without implementing bioventing.**

The SVE system operated from February 2012 through July 2014. The *Protocol for Completing Soil Vapor Extraction Operations and Potential Transitioning to Bioventing Mode* (Completion Protocol) (XDD, April 2011) (**Appendix A**) provides for shutdown of SVE operations and evaluation of potential transition to bioventing based on the following steps:

- Process vapor monitoring of mass removal rates and calculation of the cumulative mass removed.
- Identification of when asymptotic mass removal rate conditions are achieved.
- Soil sampling to assess reduction in soil concentrations and COC mass.
- Assessment of residual COC mass on soils and potential human health risks or impact to groundwater.

The following lines of evidence generated by the evaluation of performance monitoring and sampling data demonstrate that SVE treatment is complete:

- Mass removal rates have reached asymptotic conditions.
- Soil sampling indicates that more than 96% of the COC mass has been removed from target treatment intervals [the sandy fill/upper silty sand (shallow) and lower silty sand (deep) intervals], which correlates well with the estimated mass removed based on SVE system process monitoring.

- Leachate calculations indicate that residual COC concentrations in unsaturated soils will not adversely affect groundwater.
- Potential human health risks are controlled through groundwater and land use restrictions.

Although the Completion Protocol includes consideration of bioventing as a potential additional treatment measure, based on the data collection and evaluations conducted, asymptotic conditions have been achieved, the total soil COC mass has been reduced to 4% of the baseline estimate, and residual COC mass does not pose an unacceptable risk to groundwater or human health. Therefore, there would be no benefit from continued operation of the SVE system or a transition to bioventing. **Solutia recommends shutting down the SVE system without implementing bioventing.**

The system performance evaluation is summarized below.

Mass Removal Rates Have Reached Asymptotic Conditions (Section 3.0)

Per the Completion Protocol, the primary criterion for determining when SVE system operations are considered complete is the mass removal rates reaching asymptotic conditions. Asymptotic conditions are defined as SVE mass removal rates for the shallow [ground surface to approximately 10 feet below ground surface (ft bgs)] and deep (below the intermediate clay to 15 ft bgs) treatment intervals being reduced to 10% (or less) of the respective baseline rates for a period greater than seven consecutive calendar days. At the time of system startup, baseline mass removal rates were established for benzene independently for the shallow [140 pounds per hour (lbs/hr)] and deep (110 lbs/hr) treatment intervals (**Appendix D**). For purposes of this report, the baseline mass removal rates were recalculated to also include chlorobenzene for the shallow and deep treatment intervals (using data in **Appendix C**) and are 160 lbs/hr and 115 lbs/hr, respectively.

Performance monitoring to assess COC mass removal rates in the vapor phase was conducted frequently during SVE operations. The monitoring results were used to calculate mass removal rates, which were then compared to baseline values. As shown in **Table ES-1** below, asymptotic conditions were achieved during the last three months of system operation (May through July 2014) in both the shallow and deep treatment intervals.



Table ES-1: Summary of Mass Removal Rates

Treatment Interval	Baseline COC Mass Removal Rates (March – April 2012)	May – July 2014 COC Mass Removal Rates ^[1]	Percent of Baseline COC Mass Removal Rate
	<i>pounds per hour</i>		
Shallow	160	5	3%
Deep	115	5	4%

1. The final three months of operation were conducted in both shallow and deep treatment intervals and rates were continuously below 10% of baseline. Values provided in the table are an average of the last three months.

Evaluations of wellhead soil vapor concentrations were conducted during system optimization events. As the system approached asymptotic conditions, it was reconfigured to operate in the shallow and deep treatment intervals simultaneously. A subsequent optimization event conducted in May 2014 was unable to make the system achieve mass removal rates above the asymptotic criteria.

Furthermore, the SVE system operated as designed during the last three months of operation (May through July 2014) with groundwater levels consistently below the maximum well screen depth of 15 ft bgs. Therefore, decreased mass removal rates during that time were not a result of groundwater intercepting the SVE well screens and reducing system efficiency.

Substantial Mass Removal Has Been Achieved (Section 4.0)

Soil sampling was conducted in February 2013 and March 2014 during SVE operations to assess the reduction in soil COC concentrations and mass in the shallow and deep treatment intervals. Another sampling event was conducted in October 2014 after asymptotic COC mass removal rates were achieved. Per the Completion Protocol, that event included the shallow, intermediate clay (depth varies, generally between 5 and 12 ft bgs), and deep intervals.

The COC mass remaining was calculated for the shallow and deep treatment intervals following each soil sampling event and compared to the baseline mass estimate to determine the percent reduction. As shown in **Table ES-2** below, the overall COC mass reduction calculated for the



shallow and deep treatment intervals was 92% and 97%, respectively. The total overall reduction in the target treatment intervals (combined shallow and deep) is 96%.

Table ES-2: Summary of Baseline and Residual Soil COC Mass

Treatment Interval	Baseline (2009-2010)	February 2013	March 2014	October 2014	Overall Reduction (October 2014)
	pounds of COCs				
Shallow	89,000	NS	3,000	7,000	92%
Deep	298,000	23,000	20,000	9,000	97%
Total Target Treatment Interval	387,000	--	--	16,000	96%

NS = not sampled (because system operated only in deep treatment interval from startup until February 2013)

The soil COC mass reductions in **Table ES-2** correlate well with the estimated cumulative COC mass removed based on SVE system monitoring (**Figure ES-2**).

Based on the SVE pilot test conducted in 2009, the intermediate clay interval was not targeted for treatment by the SVE system because it has a low soil permeability that is not amenable to SVE technology. The target treatment intervals and soil permeability are discussed in the *Soil Vapor Extraction Pilot Test Report* (XDD, November 2010) and the *100% Soil Vapor Extraction System Design – Big Mo and Former Benzene Pipeline Areas* (XDD, September 2011). Per the Completion Protocol, COC concentrations in the intermediate clay interval from the October 2014 soil sampling event were compared to the baseline (2009-2010). US EPA's ProUCL software was used to run a Wilcoxon-Mann-Whitney (WMW) statistical analysis, which showed the sample sets to be statistically equivalent. This result confirms the SVE pilot test results.

Residual Mass Poses No Risk to Groundwater or Human Health (Section 5.0)

Residual COC concentrations in the unsaturated zone were evaluated for their potential to adversely impact groundwater or human health. Conservative soil leachate calculations indicate

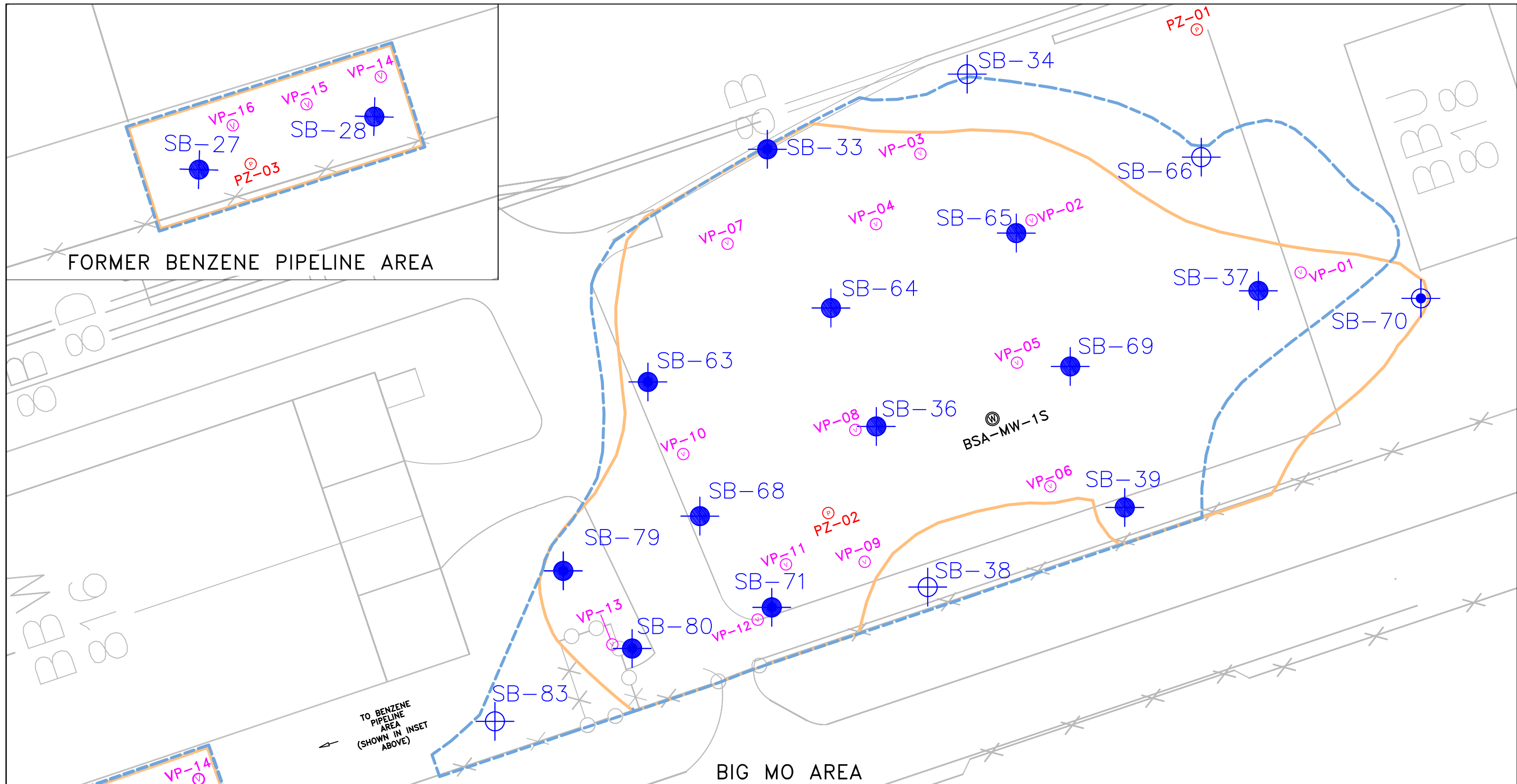
that residual soil COC concentrations will not adversely affect groundwater in the vicinity of the treatment areas above current conditions.

Potential human health risks from residual soil concentrations are addressed by environmental land use controls (ELUCs) at the site. The ELUCs (**Appendix I**) were recorded in the property's chain of title at the Office of the Recorder of Deeds for St. Clair County, Illinois, on April 30, 2009. The ELUCs place the following restrictions on the property:

- Site use is restricted for industrial purposes only.
- Groundwater underlying the site cannot be used or consumed for potable, industrial, agricultural, or other supply purposes.
- Excavation or construction work below ground surface on the site may only be performed under a permit program that mitigates potential exposures.

In addition to the ELUCs, an ordinance in the Village of Sauget prohibits the use or attempted use of groundwater from within the corporate limits of the Village (Ordinance No. 99-5, enacted October 12, 1999, and amended by Ordinance No. 05-03, enacted May 10, 2005) (**Appendix J**).





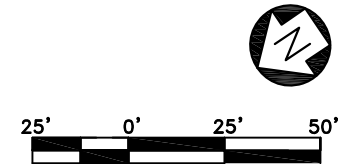
LEGEND:

- = APPROXIMATE EXTENT OF SHALLOW TARGET TREATMENT AREA
- = APPROXIMATE EXTENT OF DEEP TARGET TREATMENT AREA
- N = MONITORING WELL LOCATION
- ⊙ = PIEZOMETER LOCATION
- ⊙ = VAPOR PROBE LOCATION

- ⊙ SB-28 = SHALLOW AND DEEP SOIL BORING LOCATION
- ⊙ SB-70 = SHALLOW SOIL BORING LOCATION
- ⊙ SB-34 = DEEP SOIL BORING LOCATION

NOTE:

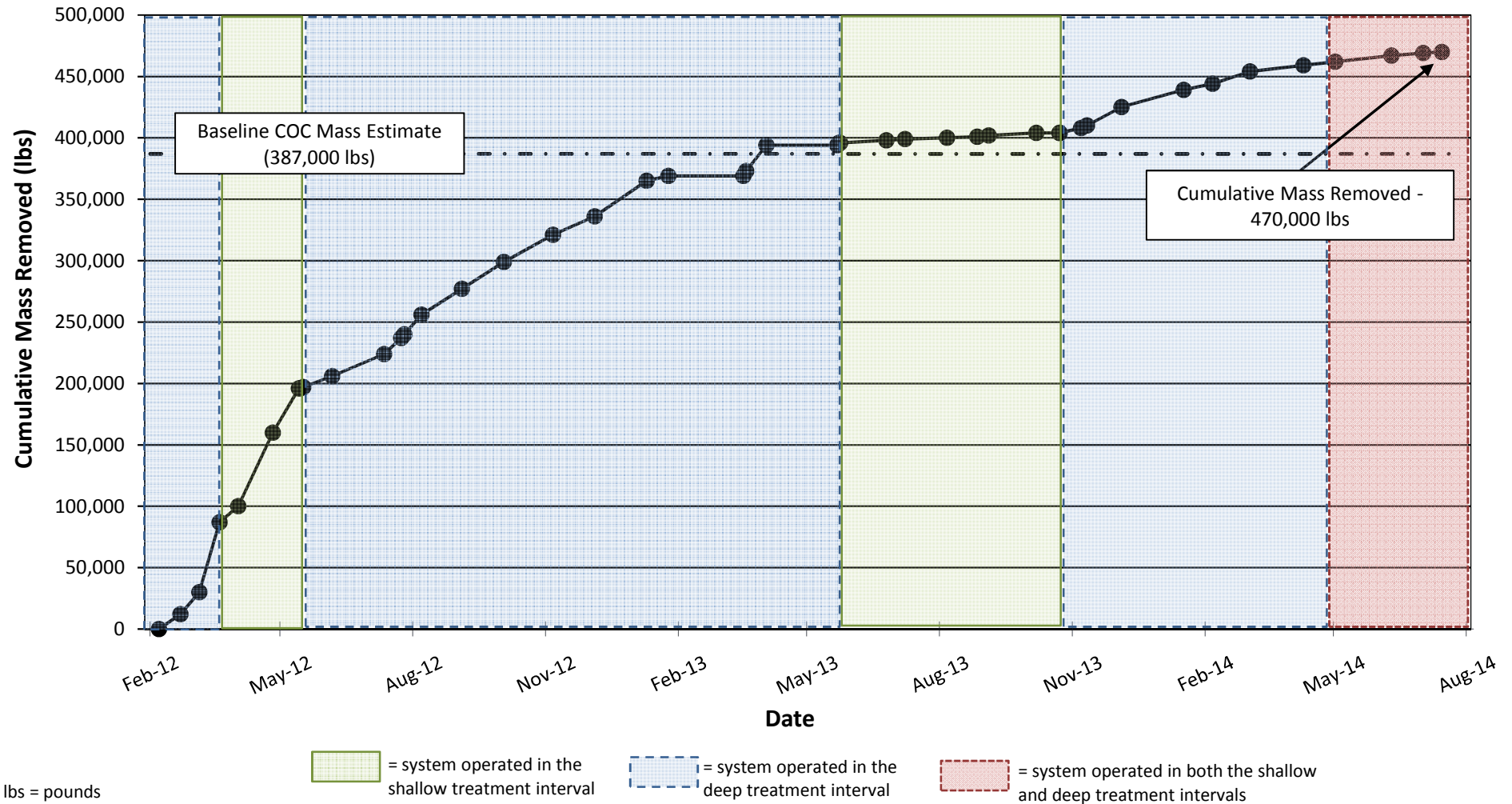
1. SOIL BORING, VAPOR PROBE, AND PIEZOMETER LOCATIONS ARE BASED ON A SITE SURVEY CONDUCTED BY ZAHNER & ASSOCIATES, INC. IN FEBRUARY 2013.



SCALE: AS SHOWN
DATE: APRIL 2015
PROJECT No.: 11003.12
CLIENT: SOLUTIA INC.
DRAWN BY: ELH
CHECKED BY: ELH
PROJ. MGMT. APPROVAL: DK

TITLE: SOIL AND SOIL VAPOR SAMPLING LOCATIONS	
BIG MO AND FORMER BENZENE PIPELINE TREATMENT AREAS	
SOLUTIA INC., W.G. KRUMMICH FACILITY, SAUGET, ILLINOIS	
DRAWING NO.:	REV:
FIGURE ES-1	1

Figure ES-2
Cumulative COC Mass Removed
 Big Mo and Former Benzene Pipeline Treatment Areas
 Solutia Inc., W.G. Krummrich Facility, Sauget, Illinois



Notes:

1. The SVE system operation started on February 7, 2012 and operated through July 15, 2014 when operation was suspended.
2. This chart presents the cumulative mass removed based on analysis of vapor samples by United States Environmental Protection Agency Method TO-14/15 (refer to **Appendix C**).

1.0 INTRODUCTION

Solutia Inc. (Solutia) has completed remediation of contaminants of concern (COCs), benzene and chlorobenzene, in the unsaturated zone soil associated with the Big Mo and Former Benzene Pipeline treatment areas (**Figure 1**) at W.G. Krummrich Facility in Sauget, Illinois, pursuant to the Final Decision issued by the United States Environmental Protection Agency (US EPA) in February 2008, and as outlined in the *100% Soil Vapor Extraction System Design – Big Mo and Former Benzene Pipeline Areas* (100% Design) (XDD, September 2011).

XDD, LLC (XDD) has prepared this *Soil Vapor Extraction System Operation Completion Report* (Completion Report) which presents several lines of evidence to justify shutting down the soil vapor extraction (SVE) system without implementing bioventing. Supporting performance monitoring, soil, and soil vapor analyses were conducted throughout the system operation from February 2012 through July 2014 and in accordance with the *Protocol for Completing Soil Vapor Extraction Operations and Potential Transitioning to Bioventing Mode* (Completion Protocol) (XDD, April 2011) (**Appendix A**) which was included as Appendix G in the 100% Design.

1.1 SUMMARY OF REMEDIATION DESIGN

The SVE pilot test operated in the Big Mo treatment area from November 2009 through July 2010 and was used to develop the design basis for implementation of the full-scale system. Details of the SVE pilot test are provided in the *Soil Vapor Extraction Pilot Test Report* (SVE Pilot Test Report) (XDD, November 2010). The primary objectives of the pilot test were to:

- Demonstrate COC mass reduction and estimate the COC mass removal rates achievable with SVE technology.
- Develop full-scale SVE design parameters, including well-to-well spacing, wellhead flow rates, and operating vacuum/pressures.

Details of the full-scale design are provided in the 100% Design. Full-scale SVE was designed and implemented within the unsaturated portion of the Big Mo and Former Benzene Pipeline Treatment Areas [approximately 0 to 15 feet below ground surface (ft bgs)] using a dual-level SVE and air injection (AI) well network. The target COCs were volatile organic compounds (VOCs), specifically benzene and chlorobenzene.



The geology in the treatment areas consist of three major soil units:

- Sandy fill/upper silty sand layer (extending from ground surface to approximately 10 ft bgs).
- Intermediate silty clay layer (encountered between 5 and 12 ft bgs). In some areas the intermediate clay layer was not detected.
- Lower silty sand layer (encountered below the intermediate clay layer to a depth of approximately 15 ft bgs).

As described in the SVE Pilot Test Report and 100% Design, the SVE system was designed to target COCs in the sandy fill/upper silty sand (shallow) unit and the lower silty sand (deep) unit above the water table. The intermediate silty clay (intermediate clay) layer was not targeted due to a low intrinsic permeability and, as demonstrated by the pilot test, that interval is not amenable to SVE technology.

The shallow and deep SVE/AI well grids were designed to cover the extent of COC impacts within the Big Mo and Former Benzene Pipeline treatment areas. The SVE well field consists of 75 shallow and 81 deep wells. Fifteen sets of shallow and deep nested vapor probes were installed to monitor soil vapor concentrations throughout the treatment area. **Figure 2** presents the as-built SVE well, vapor probe, and equipment layout. The complete system design, as installed, is described in detail in the *Soil Vapor Extraction – Construction Completion Report* (XDD, June 2012).

Groundwater levels in the treatment area typically range from 10 ft bgs to greater than 15 ft bgs and are directly influenced by the level of the Mississippi River (located approximately one mile west of the site). Due to river-induced fluctuations in groundwater levels, the SVE system targeted the deep treatment interval during periods when the depth to groundwater was greater than 15 ft bgs. Groundwater level monitoring was conducted at three sets of shallow and deep piezometers installed within the treatment areas and the previously installed monitoring well BSA-MW-1S (**Figure 2**).

Extracted vapor-phase VOCs were treated using thermal oxidation (ThermOx) and discharged to the atmosphere per requirements of a permit granted under the Illinois Environmental Protection Agency (IEPA) Clean Air Act Permit Program (CAAPP).

1.2 BASELINE SOIL COC MASS ESTIMATE

At the Big Mo and Former Benzene Pipeline treatment areas, the COCs are benzene and chlorobenzene. The baseline soil COC mass estimate for the treatment areas was 517,000 pounds (lbs), which was developed using soil data collected in 2009 and 2010¹. The baseline mass estimates for the geologic layers are summarized below:

- Shallow treatment interval: 89,000 lbs.
- Intermediate clay layer: 130,000 lbs.
- Deep treatment interval: 298,000 lbs.

The baseline mass estimate was developed from grab samples selected for laboratory analysis from each target interval at depths exhibiting the highest total VOC vapor concentration [as measured using a field photoionization detector (PID)]. This approach for the baseline mass estimate is defined as Approach 1 and is described in detail in the *Sampling and Analysis Plan* (SAP) (XDD, June 2012).

1.3 COMPLETION PROTOCOL

The Completion Protocol outlines the criteria that must be met before the SVE system can be shut down. The Completion Protocol criteria are summarized below:

- Establish a baseline mass removal rate for the shallow and deep treatment intervals and identify when asymptotic mass removal rate conditions are achieved.
- Conduct performance monitoring of SVE operations to assess the COC mass removal rate and cumulative mass removed in the vapor phase.

¹ Refer to the *Soil Vapor Extraction Treatment Area Characterization Report* (URS Corporation, November 2010) for detailed soil sampling results and to the *Work Plan for Full-Scale Soil Vapor Extraction* (XDD, November 2010) for the detailed calculations of the baseline COC mass estimates.

- Conduct soil sampling annually and after asymptotic COC mass removal rates are achieved to assess reduction in soil concentrations and COC mass.
- Assess residual COC mass on soils and the potential for human health risks or impacts to groundwater.

The Completion Protocol indicates that bioventing could be used as an additional treatment measure if mass removal rates have reached asymptotic conditions, but the residual soil COC mass within the shallow and deep treatment intervals remains high and the mass flux of COCs from within the treatment area would have a negative impact on underlying groundwater or human health. Bioventing would consist of modifying the SVE system as necessary to inject ambient air into the target intervals to enhance the aerobic biodegradation of COCs.

The subsequent sections of this report present the performance monitoring and soil and soil vapor sampling and analyses conducted throughout the SVE system operation to support Solutia's recommendation to shut down the SVE system.

2.0 SYSTEM OPERATION AND OPTIMIZATION SUMMARY

Operation of the Big Mo and Former Benzene Pipeline SVE treatment system started on February 7, 2012, and continued through July 2014 when it was suspended. The following is a summary of the system operation and optimization timeline.

- February 2012 – System startup.
- February through March 2012 – Operation in the **deep** treatment interval to establish the baseline mass removal rate (**Section 3.2**).
- March through May 2012 – The SVE system was reconfigured on March 20, 2012, for operation in the **shallow** treatment interval to establish the baseline mass removal rate (**Section 3.2**).
- May 2012 – The SVE system was reconfigured on May 15, 2012, for operation in the **deep** treatment interval.
- June 2012 through January 2013 – Operation in the **deep** treatment interval continued with a system optimization to adjust the well field flow and start up the AI system in July 2012. The AI system was operated intermittently through January 2013. The optimization event included field screening for total VOCs at select wells for maximizing mass removal rates.
- January through March 2013 – The SVE system was shut down for wellhead repairs. The system was restarted in mid-March with continued operation in the **deep** treatment interval.
- February 2013 – The first annual soil sampling event occurred during the shutdown between January and March 2013. Soil samples were collected for laboratory analysis from the **deep** treatment interval, as minimal operational time was completed in the shallow interval (**Section 4.2**).
- April through May 2013 – The SVE system was shut down for piping repairs. Due to elevated groundwater levels, the system was reconfigured for operation in the **shallow** treatment interval when the repairs were complete and the system was restarted.

- June through October 2013 – The AI system was started in the **shallow** treatment interval and operated intermittently between the end of July and October 2013.
- October through November 2013 – Groundwater levels had dropped to greater than 15 ft bgs, exposing the **deep** treatment interval well screens. The system was reconfigured for SVE and AI operation in the **deep** treatment interval.
- December 2013 through April 2014 – The SVE system continued operating in the **deep** treatment interval without AI.
- March 2014 – Soil samples were collected for laboratory analysis from the **shallow and deep** treatment intervals for the second annual event (**Section 4.2**). The SVE system operated in the **shallow** and **deep** treatment intervals between February 2013 and February 2014 for approximately 6 and 7 months, respectively.

Soil vapor samples were collected for laboratory analysis from select SVE wells and vapor probes in the **deep** treatment interval because the system was only active in the deep zone at the time of sampling.

- May 2014 – An optimization event which included the addition of select **shallow** SVE wells to the existing **deep** interval configuration. The shallow SVE wells were selected from areas with remaining soil impacts as determined from the March 2014 soil sampling data. The AI system was run intermittently during the system optimization in an attempt to increase mass removal rates in the **deep** treatment interval.
- May through July 2014 – System monitoring continued. The system was adjusted based on performance data in an attempt to increase the mass removal rate during this operation period. However, the rates remained at less than 10% of the baseline established for the **shallow** and **deep** treatment intervals. The SVE system operation was suspended on July 15, 2014, to evaluate system operations relative to the Completion Protocol.
- October 2014 – Soil samples were collected from the **shallow, intermediate clay, and deep** intervals for laboratory analysis (**Section 4.3**).

3.0 EVALUATION OF ASYMPTOTIC CONDITIONS

Per the Completion Protocol, the primary criterion for determining when SVE system operations are complete is when COC mass removal rates reach asymptotic conditions. Asymptotic conditions are defined as mass removal rates for the shallow and deep treatment intervals being reduced to 10% (or less) of the respective baseline values for a period greater than seven consecutive calendar days.

Performance monitoring to assess COC mass removal rates in the vapor phase was conducted frequently during SVE operations. The monitoring results were used to calculate mass removal rates that were then compared to baseline values. Asymptotic conditions were achieved during the last three months of system operation (May through July 2014) in both the shallow and deep treatment intervals.

The steps needed to demonstrate that the mass removal rates are asymptotic relative to baseline are outlined in Sections 1 and 2 of the Completion Protocol. The steps taken during operation of the system are described in detail in **Sections 3.1 through 3.3** and summarized below.

- Process vapor monitoring was conducted throughout the SVE system operation to estimate COC mass removal rates and cumulative mass removed.
- As mass removal rates declined, system optimizations were conducted to focus the SVE system operation on areas with higher soil and/or soil vapor concentrations to maximize mass removal rates.
- Groundwater levels relative to the SVE well screens were evaluated.

3.1 PROCESS VAPOR MONITORING

In accordance with Section 1 of the Completion Protocol, process vapor monitoring was conducted throughout SVE system operation to evaluate system performance and estimate COC mass removal rates and the cumulative mass removed. A summary of the estimated monthly COC mass removal rate and cumulative mass removed for the shallow and deep treatment intervals is presented on **Table 1**.



The process vapor monitoring included:

- Measurement of total SVE system flowrates.
- Measurement of COC concentrations in the combined SVE system discharge.
- Calculation of the estimated COC mass removal rates and cumulative mass removed over the duration of system operation.

Process vapor samples were collected monthly and at a higher frequency during these specialized events:

- Initial startup.
- Baseline evaluations.
- Optimization events.

Vapor samples were collected in accordance with the SAP and analyzed for VOCs using US EPA Method TO-14A/15. Performance monitoring data were recorded at the time of sample collection, including the total well field flowrate, vacuum, and other operational parameters. The laboratory analytical reports are provided in **Appendix B** and the performance monitoring data for the shallow and deep treatment intervals is provided in **Appendix C**.

The estimated COC mass removal rates at each monitoring event were calculated using the laboratory vapor concentrations and the corresponding SVE system flowrate. The cumulative COC mass removed was calculated by taking an average of the two most recent mass removal rates and multiplying by the length of time that had elapsed (exceptions are noted in **Appendix C**). The mass removal rates for the shallow and deep treatment intervals are plotted on **Figures 3A and 3B**, respectively.

3.2 BASELINE MASS REMOVAL RATES

According to the Completion Protocol, a baseline mass removal rate was to be established based on the first month of operation in each treatment interval. For the purposes of establishing representative baselines, the SVE system was operated for approximately one month in the deep treatment interval and then switched to operate for one month in the shallow treatment interval.



SVE system discharge soil vapor samples were collected throughout the baseline evaluation for laboratory analysis of VOCs. The analytical results and performance monitoring data were used to calculate the baseline COC mass removal rates (**Appendix C**).

At the time of system startup, the baseline mass removal rates were estimated at 140 and 110 pounds per hour (lbs/hr) of benzene for the shallow and deep treatment intervals, respectively. The baseline evaluation was presented in detail in the *Baseline Mass Removal Rate Evaluation Memorandum* (XDD, June 2012) (**Appendix D**). The baseline mass removal rates recalculated for purposes of this report to also include chlorobenzene are 160 lbs/hr and 115 lbs/hr for the shallow and deep treatment intervals, respectively.

3.3 ASSESSMENT OF ASYMPTOTIC CONDITIONS

Asymptotic conditions are defined as COC mass removal rates for the shallow and deep treatment intervals being reduced to 10% of the respective baseline rates for a period greater than seven consecutive calendar days. Based on the revised baseline mass removal rates, 10% of the baseline for the shallow and deep treatment intervals is 16 lbs/hr and 12 lbs/hr, respectively. Performance monitoring conducted from May through July 2014 demonstrated that the SVE system had reached asymptotic mass removal rates in both the shallow and deep treatment intervals (**Figures 3A and 3B**).

3.3.1 MASS REMOVAL RATE TRENDS

As described in **Section 3.1**, process monitoring results were used to assess COC mass removal rates in the vapor phase. The calculated mass removal rates were compared to the baseline values and evaluated for asymptotic trends. By April 2014, mass removal rates below 10% of the baseline had been consistently demonstrated in the shallow (**Figure 3A**) and deep treatment intervals (**Figure 3B**).

Mass removal rates in the **shallow** treatment interval decreased significantly between the baseline evaluations and the next period of operation in May 2013 (**Figure 3A**). This decrease is consistent with the estimated amount of COC mass removed (as soil vapor) during the initial operation (109,000 lbs) when compared to the baseline soil COC mass estimate (89,000 lbs).

While mass removal rates in the **deep** treatment interval showed a downward trend, they were consistently above 10% of the baseline for most of SVE operations (**Figure 3B**). However, the COC mass removal rate decreased when the system restarted in the deep treatment interval in November 2013 and continued to decline through April 2014, achieving asymptotic conditions by March 2014. This decrease is consistent with the estimated amount of COC mass removed (as soil vapor) (337,000 lbs) when compared to the baseline soil COC mass estimate (298,000 lbs).

An optimization event was conducted in early May 2014 as the system was nearing asymptotic conditions. The SVE system was reconfigured to operate in both the shallow and deep treatment intervals simultaneously at well locations with the highest field-measured soil vapor concentrations. The system optimization was unable to achieve a combined shallow/deep mass removal rate above the asymptotic criteria of 16 and 12 lbs/hr from the shallow and deep treatment intervals, respectively. As shown on **Figures 3A and 3B**, COC mass removal rates increased to 9 lbs/hr following the system reconfiguration and decreased to 2 lbs/hr after approximately 9 weeks of continuous operation.

The discrepancy between the estimated baseline soil COC mass and the mass removed as soil vapor for the treatment intervals is likely associated with the heterogeneous distribution of COCs in the treatment area and assumptions used in calculations to determine the mass of COCs removed based on periodic soil vapor sampling.

3.3.2 CUMULATIVE MASS REMOVED

The cumulative COC mass removed from the shallow and deep treatment intervals via SVE is presented on **Figure 4**. By the end of the first year of operation (February 2013), approximately 370,000 lbs of COC mass was removed. By the end of the second year (February 2014), approximately 440,000 lbs had been removed. The estimated total cumulative COC mass removed when system operations were suspended in July 2014 was 470,000 lbs. The estimated COC mass removed exceeds the baseline mass estimate for the **shallow** and **deep** treatment intervals by approximately 80,000 lbs. The difference between the baseline soil mass estimate and COC mass removed as soil vapor is likely associated with the heterogeneous distribution of



soil impacts in the treatment areas and assumptions used in calculations to determine the cumulative mass removed.

3.3.3 WELLHEAD SOIL VAPOR CONCENTRATIONS

Evaluations of wellhead soil vapor concentrations were conducted during system optimization events, and the results are an additional line of evidence associated with declining mass removal trends discussed in **Section 3.3.1**. Wellhead soil vapor samples were collected under dynamic conditions and field-screened for total VOCs using a PID. A summary of the total VOC wellhead measurements organized per optimization event is presented on **Table 2**.

As the system approached asymptotic conditions, corresponding wellhead soil vapor concentrations had decreased significantly in the shallow and deep treatment intervals (**Table 2**). During the May 2013 optimization event, the soil vapor concentrations at the **shallow** SVE wellheads were below 1,000 parts per million by volume (ppmv). By the May 2014 optimization event, soil vapor concentrations at the SVE wellheads were generally below 100 ppmv in the shallow treatment interval. Based on the low wellhead VOC concentrations, startup of the shallow treatment interval in May 2014 had little impact on the mass removal rates, which did not surpass 10% of either the shallow or deep baseline mass removal rates (**Figures 3A and 3B**).

In March 2014, soil vapor samples were collected from select **deep** treatment interval SVE wells in one-liter Tedlar® bags for analysis of VOCs using US EPA Method TO-15. Laboratory analytical results are presented on **Table 3** and the laboratory analytical report is provided in **Appendix B**. The COC concentrations ranged from 1.7 to 1,090 ppmv for benzene and 1.9 to 146 ppmv for chlorobenzene. As shown on **Table 3**, the individual wellhead concentrations of benzene and chlorobenzene are generally below 100 ppmv by March 2014.

3.3.4 GROUNDWATER ELEVATION TRENDS

As described in the Completion Protocol, the mass removal rate is not considered asymptotic if decreasing mass removal rates are directly related to increased groundwater elevations intercepting the SVE wells screens and reducing removal efficiency. Groundwater levels were monitored periodically throughout SVE operation at monitoring well BSA-MW-1S (screened at approximately 20 to 25 ft bgs) and shallow and deep piezometers PZ-01 shallow/deep (S/D),



PZ-02S/D, and PZ-03S/D. The shallow piezometers are screened at approximately 4 to 9 ft bgs and the deep piezometers at 11 to 16 ft bgs (**Figure 1**). **Figure 5** presents groundwater elevations from May 2013 through July 2014 in reference to active treatment interval operation and the shallow and deep SVE well screen depths.

Groundwater levels remained below the bottom of the deep SVE wells screens from the system startup through May 2013. The groundwater level then increased above the deep SVE well screens, and the system was reconfigured to operate in the shallow treatment interval. Falling groundwater levels in October 2013 resulted in the SVE system being switched back to deep operation. After May 2013, mass removal rates in the shallow treatment interval did not exceed the baseline criterion of 16 lbs/hr for the remainder of system operation (**Figure 3A**).

In 2014, groundwater levels remained below 15 ft bgs so that the SVE system could be operated in both the shallow and deep treatment intervals up until suspension of operations in July. Rising groundwater levels during the month of July 2014 may have influenced the final estimated mass removal rate. However, as described in **Section 3.3.1**, mass removal rates had been asymptotic for several months prior to July 2014.

4.0 COC SOIL MASS REDUCTIONS

Soil sampling was conducted annually (February 2013 and March 2014) during SVE operations to assess reduction in COC mass in the shallow and deep treatment intervals. Another soil sampling event was conducted in October 2014 after asymptotic COC mass removal rates were achieved. Per the Completion Protocol, the October 2014 event included sampling of the shallow, intermediate clay, and deep intervals. COC mass remaining was calculated for the shallow and deep treatment intervals following each sampling event and compared to the baseline COC mass estimate to determine percent reduction.

The intermediate clay interval was not targeted for treatment because the low soil permeability significantly impairs the effectiveness of SVE. However, per the Completion Protocol, COC concentrations in the clay from the October 2014 soil sampling event were compared to baseline concentrations (2009-2010) to determine if SVE reduced COC impacts within this interval.

4.1 SOIL SAMPLING OVERVIEW

Soil sampling was conducted in 2009 and 2010 to establish a baseline COC mass estimate. That estimate was provided in Appendix C to the *Work Plan for Full-Scale Soil Vapor Extraction* (Full-Scale Work Plan) (XDD, November 2010) and in the 100% Design. For reference, the baseline soil sampling results and mass estimate tables are provided in **Appendix E**. The baseline COC mass estimate for the Big Mo and Former Benzene Pipeline treatment areas was 517,000 lbs. The baseline COC mass estimate for each soil interval is provided below:

- Shallow interval – 89,000 lbs.
- Intermediate clay interval – 130,000 lbs.
- Deep treatment interval – 298,000 lbs.

In accordance with the SAP and the Completion Protocol, soil sampling was conducted on an annual basis focusing on the treatment interval(s) in which the SVE system predominantly operated during the preceding year. The intermediate clay was included in the October 2014 soil sampling event conducted after July 2014 suspension of SVE operations.

The three soil sampling events completed were:



- February 2013 – **Deep** treatment interval only.
- March 2014 – **Shallow** and **deep** treatment intervals.
- October 2014 – Following suspension of SVE operations in July 2014, **shallow**, **intermediate clay**, and **deep** intervals.

Soil samples were collected in accordance with the SAP at borings co-located with the 2009-2010 sampling conducted by URS². Soil borings were advanced to 10 ft bgs (shallow locations only) or to 15 ft bgs using direct push drilling techniques.

Soil samples were field-screened for total VOCs at 6-inch intervals using a PID. Samples were collected for laboratory analysis at two-foot increments from within the shallow and deep intervals (as applicable). Additionally, one shallow and one deep sample were collected from the 6-inch interval with the highest PID reading. To be consistent with the sampling methodology used for the baseline soil sampling (2009 and 2010), only one intermediate clay sample was collected at each boring from the six-inch interval with the highest PID reading. Soil samples were submitted for laboratory analysis via US EPA Method 8260. The soil laboratory reports and a summary of the sampling results are provided in **Appendices F and G**, respectively.

The residual soil COC mass in the shallow and deep treatment intervals is calculated using the following steps:

- Within each soil boring, the analytical results were assigned a representative depth to which COC concentrations were applied.
- The combination of the vertical intervals associated with each sampling depth comprises the total thickness of the targeted treatment interval (either shallow or deep).
- Each boring was then assigned a specific subarea within the delineated boundary of the Big Mo and Former Benzene Pipeline areas using the Thiessen polygon methodology.

² Soil characterization and baseline sampling was conducted in 2009 and 2010. The results are presented in the *Soil Vapor Extraction Treatment Area Characterization Report* (URS Corporation, November 2010).

- The representative subarea for each boring location was applied to the depth intervals to calculate the COC mass at that interval. The total COC mass was then calculated for each of the soil borings and the Big Mo and Former Benzene Pipeline area as a whole.

4.2 FEBRUARY 2013 AND MARCH 2014 SOIL SAMPLING

The residual soil COC mass was calculated following each annual soil sampling event and compared to the baseline COC mass estimates to calculate the percent COC mass reduction. The residual COC mass calculations are provided in **Appendix G**. The results for the February 2013 and March 2014 sampling events are presented on **Table 4** and are summarized below:

- The following mass reduction was achieved after approximately one year of operation in the **deep** treatment interval (February 2012 through February 2013):
 - The estimated remaining mass of COCs was 23,000 lbs, a 92% reduction from the 298,000 lb deep treatment interval baseline estimate.
 - The mass reduction of 275,000 lbs in the deep treatment interval was consistent with the estimated 260,000 lbs of COCs removed as soil vapor.
- The following mass reduction was achieved after the second year of operation in the **shallow** and **deep** treatment intervals (February 2013 through March 2014):
 - The estimated remaining mass of COCs in the shallow and deep treatment intervals were 3,000 and 20,000 lbs, respectively. The mass reductions of 86,000 lbs and 278,000 lbs, respectively, in the shallow and deep treatment intervals were approximately 97% and 93%, relative to baseline estimates.
 - In the **shallow** treatment interval, the estimated mass of COCs removed as soil vapor was 117,000 lbs, which exceeded the corresponding baseline soil mass estimate of 89,000 lbs.
 - In the **deep** treatment interval, the estimated mass of COCs removed as soil vapor was 337,000 lbs, which exceeded the corresponding baseline soil mass estimate of 298,000 lbs.



As described in **Section 3.3.1**, the fact that COC mass removed as soil vapor was more than the baseline soil COC mass estimate is likely associated with the heterogeneous distribution of COCs in the treatment areas and assumptions used in calculations to determine the mass of COCs removed. Despite these discrepancies, the soil COC mass reductions observed in the shallow and deep treatment intervals as of March 2014, i.e., 86,000 lbs and 278,000 lbs, respectively, correlate well to the COC masses removed as soil vapor, i.e., 117,000 lbs and 337,000 lbs, respectively.

4.3 OCTOBER 2014 SOIL SAMPLING EVENT

As outlined in Section 3 of the Completion Protocol, a soil sampling event was conducted in October 2014 after asymptotic mass removal rates were measured. For that event, samples were only collected from the shallow and/or deep treatment intervals at soil boring locations with an estimated remaining mass greater than 100 lbs based on the March 2014 sampling. Following that approach, the shallow treatment interval was sampled at three locations and the deep treatment interval was sampled at seven locations. The intermediate clay interval was sampled at all soil boring locations. The soil boring locations are presented on **Figure 6** and the sampling results are provided in **Appendix G**.

4.3.1 *SHALLOW AND DEEP TREATMENT INTERVALS*

The October 2014 soil sampling results are presented on **Table 4** and indicated the following mass reductions for the shallow and deep treatment intervals:

- The remaining mass of COCs in the **shallow** and **deep** treatment intervals were estimated to be 7,000 and 9,000 lbs, respectively.
- The mass reductions in the **shallow** and **deep** treatment intervals were 82,000 lbs and 289,000 lbs, or approximately 92% and 97%, respectively, relative to baseline estimates. The overall total mass reduction in the target treatment intervals (shallow and deep) was approximately 96%.
- The COC masses removed as soil vapor of 117,000 lbs in the **shallow** interval and 353,000 lbs in the **deep** interval exceeded the corresponding baseline soil mass estimates



of 89,000 lbs and 298,000 lbs, respectively, differences likely associated with heterogeneous distribution of COCs in the subsurface and the calculation of the COC mass removed, as previously stated.

The soil mass calculation for COCs in both the shallow and deep intervals from the February 2013, March 2014, and October 2014 sampling results indicate significant reductions relative to baseline estimates. The total soil COC mass reductions corroborate the soil vapor asymptotic mass removal rates (**Section 3.3.1**) and cumulative mass removed (**Section 3.3.2**).

4.3.2 INTERMEDIATE CLAY INTERVAL

A single clay interval sample was collected for laboratory analysis at each boring location in October 2014 using the same sampling methodology as the baseline event. The intermediate clay results are presented in **Appendix G**.

The SVE system effectiveness, if any, within the intermediate clay layer was evaluated via statistical analysis. The analysis was to determine whether two sets of results, baseline and October 2014, were significantly different. The comparison of baseline and October 2014 sampling results is presented on **Table 5**.

The baseline and October 2014 COC concentrations were compared using the non-parametric Wilcoxon-Mann-Whitney (WMW) U-test using the US EPA software package ProUCL (version 5.0.00). The test concluded that the October 2014 benzene and chlorobenzene concentrations were statistically the same as baseline values.

The statistical analysis confirms the results of the SVE pilot testing in the intermediate clay. That is, limited, if any, airflow could be achieved within this interval, and therefore SVE was not anticipated to be an effective technology. Continued operation of the SVE system as such, or modified for bioventing is unlikely to achieve meaningful reduction of COCs within the intermediate clay interval.

4.4 SOIL VAPOR REBOUND MONITORING

As described in the Completion Protocol, rebound monitoring could be evaluated as asymptotic mass removal conditions are met. In practice, a rebound analysis is beneficial in determining



when to perform final soil sampling. In this case, the other lines of evidence (summarized below) were sufficiently definitive to eliminate the need for rebound analysis before conducting the final soil sampling in October 2014.

The rebound monitoring could also be used to determine if additional mass removal would be achieved by further SVE operation. Based on the performance monitoring and soil sampling results, rebound monitoring was not performed for the following reasons:

- Asymptotic mass removal rate conditions in both the shallow and deep treatment intervals have been achieved (**Section 3.3**).
- The mass of COCs removed as soil vapor has exceeded baseline estimates for shallow (**117,000 lbs** compared to 89,000 lbs) and deep (**353,000 lbs** compared to 298,000 lbs) treatment intervals (**Section 3.3.2** and **Table 1**);
- Minimal COC mass remains in the shallow (**8%**) and deep (**3%**) treatment intervals relative to the baseline evaluation (**Section 4.3**).

5.0 POTENTIAL IMPACTS OF RESIDUAL COC MASS

Per the Completion Protocol, residual COC concentrations in the unsaturated zone of the treatment areas were evaluated for the potential to impact underlying groundwater or cause human health risks not addressed by institutional controls. The results of the evaluation indicate that residual COC mass poses no additional risk to groundwater or human health.

- Potential groundwater impacts from leaching of the residual soil COC concentrations are calculated to be less than or comparable to current groundwater COC concentrations.
- Potential human health risks from residual soil concentrations are addressed by environmental land use controls (ELUCs) and Village of Sauget ordinance at the site.

5.1 EVALUATION OF POTENTIAL IMPACT TO GROUNDWATER

Soil sampling results were used in a soil-to-groundwater partitioning model to calculate a potential COC concentration in soil leachate (soil leachability) and the anticipated groundwater impact. The model calculations predict that residual COC soil concentrations will not adversely impact groundwater in the vicinity of the treatment areas.

The calculated leachate concentrations are likely overestimated because the model assumes complete contact with residual COC concentrations within the intermediate clay. As pilot testing indicated that the soil within the intermediate clay is relatively impermeable to air, water infiltration and therefore aqueous partitioning are likely overestimated by the model.

Additionally, the intermediate clay interval is expected to reduce the pathways available for vertical infiltration through the deep treatment interval and eventually into groundwater. The reduced number of available pathways likely exposes any infiltrating pore water to only a portion of the remaining COC mass within the deep treatment interval

The leachate model calculations are presented on **Table 6** and assumptions and supporting calculations for the dilution attenuation factor are provided in **Appendix H**. The model results are summarized below:



- The predicted impact from **benzene** leachate could be 510 milligrams per liter (mg/L), approximately 50% of the groundwater concentration (1,000 mg/L) measured at monitoring well BSA-MW-1S (**Figure 2**) in the fourth quarter 2014³.
- The predicted impact from **chlorobenzene** leachate could be 22 mg/L, compared to the fourth quarter 2014 groundwater concentration measured at BSA-MW-1S of less than the 10 mg/L reporting limit³. The chlorobenzene leachate model prediction highlights the conservative nature of the calculation relative to measured groundwater conditions.

The calculations used to predict the leachate concentrations potentially resulting from the residual COC mass in the treatment area soils are based on US EPA's guidance for calculating site specific leachate concentrations. The approach is summarized below.

1. An average soil concentration at each boring was calculated for benzene and chlorobenzene. The soil sampling results from the shallow, intermediate clay, and deep intervals were included for the average.
2. A simple linear equilibrium soil-to-water partition equation was used to estimate the leachate concentration at each boring based on the calculated average soil concentrations from Step 1.
3. To account for variability of the average soil concentrations across the site, a weighted leachate concentration was calculated. Thiessen polygons were used to determine the representative area associated with the leachate concentration at each soil boring location. The leachate concentrations were multiplied by the respective area to calculate a bulk soil leachate concentration for each boring. The leachate concentration-area values for each boring were then summed and divided by the total treatment area to determine a weighted leachate concentration for the entire Big Mo and Former Benzene Pipeline Area.
4. The calculation of the anticipated groundwater impact is based on the weighted leachate concentration and a calculated site-specific dilution factor (DF). The DF incorporates the

³ The comparative groundwater sampling results were provided to the US EPA in the *Long-Term Monitoring Program 4th Quarter 2014 Data Report* submittal dated January 13, 2015.

fate of the leachate once it intersects with the groundwater table, accounting for reductions as it disperses and mixes with the groundwater (**Appendix H**).

5.2 ENVIRONMENTAL LAND USE CONTROLS

Potential human health risks from residual soil concentrations are addressed by ELUCs currently in place at the site (**Appendix I**) and a Village of Sauget ordinance prohibiting groundwater use (**Appendix J**).

The ELUCs were recorded in the property's chain of title at the Office of the Recorder of Deeds for St. Clair County, Illinois, on April 30, 2009.

The ELUCs place the following restrictions on the property:

- Site use is restricted for industrial purposes only.
- Groundwater underlying the site cannot be used or consumed for potable, industrial, agricultural, or other supply purposes.
- Excavation or construction below ground surface on the site may only be performed under a permit program that mitigates potential exposures.

In addition to the ELUCs, an ordinance in the Village of Sauget prohibits the use or attempted use of groundwater from within the corporate limits of the Village (Ordinance No. 99-5, enacted October 12, 1999, and amended by Ordinance No. 05-03, enacted May 10, 2005).

6.0 CONCLUSIONS AND RECOMMENDATIONS

Based on performance monitoring, soil sampling, and soil vapor sampling throughout and subsequent to system operation (February 2012 through July 2014), SVE treatment is complete and transition to bioventing mode is not required. **Solutia recommends shutting down SVE treatment in the Big Mo and Former Benzene Pipeline areas** based on the following lines of evidence:

- Mass removal rates have reached asymptotic conditions in both the shallow and deep treatment intervals (**Figures 3A and 3B**).
 - The final optimization event in May 2014 had little effect on the system mass removal rate, which remained below 10% of the baseline values through suspension of system operation in July 2014.
 - By May 2014, wellhead soil vapor concentrations were generally less than 100 ppm in **shallow** SVE wells and had decreased to less than 10% of the May 2012 measurements in the **deep** SVE wells (**Table 2**).
 - Asymptotic mass removal rates were not negatively influenced by groundwater levels (**Figure 5**) or other site characteristics.
- Soil sampling indicates significant COC mass reduction and less than 4% of the baseline soil COC mass remaining.
 - Based on soil sampling data, 92% reduction (82,000 lbs) of COC mass has been achieved in the **shallow** treatment interval and 97% reduction (289,000 lbs) has been achieved in the **deep** treatment interval, corresponding to 96% reduction overall (**Table 4**).
 - The cumulative mass removed based on soil vapor monitoring exceeds the baseline soil COC mass estimate (470,000 lbs compared to 387,000 lbs) (**Figure 4**).
- Soil leachate calculations predicted that residual COC soil concentrations will not adversely impact groundwater in the vicinity of the treatment areas (**Table 6**).



- Potential human health risks associated with the treatment areas and the site as a whole are controlled through ELUCs (**Appendix I**). Additionally, an ordinance in the Village of Sauget prohibits the use or attempted use of groundwater from within the corporate limits of the Village (**Appendix J**).

In addition, **Solutia does not recommend transitioning to bioventing** because it would provide little, if any, additional benefit associated with site soil COC concentrations or potential impacts to groundwater based upon the following:

- The total soil COC mass in the shallow and deep treatment intervals has been significantly reduced to approximately 4% of the baseline mass estimate (**Sections 3.3.1 and 4.3.1**).
- Operation of the SVE system did not have a significant effect on COC concentrations within the intermediate clay interval (**Section 4.3.2**). Bioventing is a passive treatment, which is significantly less aggressive than SVE, and it is unlikely to provide any additional treatment to the intermediate clay interval.
- A conservative leachate calculation has demonstrated that residual COCs within the shallow, intermediate clay, and deep intervals of unsaturated soils will not adversely affect groundwater (**Section 5.1**).
- Potential human health risks from residual COCs are addressed by the ELUCs and ordinance in place at the site (**Section 5.2**).

TABLES

Table 1
Monthly COC Mass Removal Rate and Cumulative Mass Removed
 Big Mo and Former Benzene Pipeline Treatment Areas
 Solutia Inc., W.G. Krummrich Facility, Sauget, Illinois

Date	Shallow Treatment Interval			Deep Treatment Interval			
	COC Mass Removal Rate	Cumulative COC Mass Removed	Notes	COC Mass Removal Rate	Cumulative COC Mass Removed	Notes	
	(lbs/hr)	(lbs)		(lbs/hr)	(lbs)		
February 7, 2012	System Startup						
February 2012	--	--	Operation in the deep treatment interval.	66	12,000	Baseline mass removal rate evaluation.	
March 2012	--	--		164	87,000		
April 2, 2012	209	13,000	Baseline mass removal rate evaluation.			Operation in the shallow treatment interval.	
April 26, 2012	76	73,000		--	--		
May 2012	197	109,000		16	88,000	Switched to deep treatment interval.	
June 2012	--	--	Operation in the deep treatment interval.	25	97,000		
July 2012	--	--		47	131,000		
August 2012	--	--		65	147,000		
September 2012	--	--		58	168,000		
October 2012	--	--		27	190,000		
November 2012	--	--		57	212,000		
December 2012	--	--		46	227,000		
January 2013	--	--		46	260,000		
February 2013	--	--		--	--	System shutdown for maintenance.	
March 2013	--	--		74	264,000		
April 2013	--	--		56	285,000		
May 2013	--	--		4	287,000		
June 2013	7	111,000			--	--	Operation in the shallow treatment interval.
July 2013	1	112,000			--	--	
August 2013	3	114,000			--	--	
September 2013	3	115,000			--	--	
October 2013	2	117,000			--	--	
November 2013	--	--		Operation in the deep treatment interval.	35	293,000	
December 2013	--	--	18		308,000		
January 2014	--	--	9		322,000		
February 2014	--	--	24		327,000		
March 2014	--	--	7		337,000		
April 2014	--	--	6		342,000		
May 2014	--	--	Operation in the shallow and deep treatment intervals ^[2] .	9	345,000	Operation in the shallow and deep treatment intervals ^[2] .	
June 2014	--	--		5	350,000		
July 2014	--	--		2	353,000		
July 15, 2014	System Operation Suspended - Total COC Mass Removed = 470,000 lbs						

COC = contaminant of concern (benzene and chlorobenzene)

lbs = pounds

hr = hour

-- = not applicable

= indicates combined operation of the shallow and deep treatment intervals

Notes:

1. The comprehensive mass removal rate and cumulative mass removed calculations are presented in **Appendix C**.
2. The SVE system well field was reconfigured on April 28, 2014 for combined operation of the shallow and deep treatment intervals. The result of the cumulative COC mass removed calculations are incorporated into the deep treatment interval.

Table 2
Field Screening of Wellhead Vapor Concentrations
 Big Mo and Former Benzene Pipeline Treatment Areas
 Solutia Inc., W.G. Krummrich Facility, Sauget, Illinois

Sample Location	Deep Treatment Interval ^[1]				Shallow Treatment Interval ^[1]	
	May 2012	July 2012	October 2013	May 2014	May 2013	May 2014
	Total VOCs (ppmv)					
Former Benzene Pipeline Area						
SVE-78	NM	3,980	79	14	2	--
SVE-79	AI	AI	836	1,622	309	--
SVE-80	NM	4,367	1,486	938	381	--
SVE-81	NM	1,400	2,465	10	97	--
SVE-82	NM	4,367	2,586	2,091	397	--
SVE-83	NM	AI	1,549	AI	13	--
SVE-84	AI	240	665	21	NM	--
SVE-85	NM	1,900	2,275	73	15	--
Big Mo Area						
SVE-01	90	600	262	10	Deep treatment interval only.	
SVE-02	117	460	92	13	5	--
SVE-03	Shallow treatment interval only.				9	--
SVE-04	Shallow treatment interval only.				154	--
SVE-05	AI	AI	89	AI	16	--
SVE-07	0	550	49	NM ^[2]	Deep treatment interval only.	
SVE-08	NM	> 4,368	1,405	NM ^[2]	Deep treatment interval only.	
SVE-09	> 4,374	> 4,368	31	NM ^[2]	NM	--
SVE-10	> 4,374	> 4,368	1,608	1,569	1	--
SVE-11	3,420	390	43	81	120	--
SVE-12	> 4,374	240	190	19	10	--
SVE-13	Shallow treatment interval only.				< 1	17
SVE-14	AI	AI	91	AI	< 1	21
SVE-15	NM	4,100	933	AI	< 1	28
SVE-16	AI	AI	2,396	AI	76	12
SVE-17	NM	2,730	2,511	AI	1	--
SVE-18	AI	AI	975	AI	157	37
SVE-19	> 4,374	> 4,368	2,463	641	6	1
SVE-20	NM	3,450	2,491	51	20	27
SVE-21	NM	3,680	1,134	25	2	81
SVE-22	4,185	> 4,368	1,505	3	5	6
SVE-23	> 4,374	> 4,368	520	5	< 1	5
SVE-24	NM	> 4,368	1,001	821	97	162
SVE-25	AI	AI	308	AI	< 1	--
SVE-26	NM	> 4,368	1,289	AI	1	9
SVE-27	AI	AI	626	AI	< 1	5
SVE-28	NM	> 4,368	1,855	AI	< 1	30
SVE-29	AI	AI	2,240	AI	< 1	29
SVE-30	NM	> 4,368	703	AI	< 1	7
SVE-31	AI	AI	228	64	< 1	--
SVE-32	NM	980	238	12	4	--
SVE-33	NM	705	1,295	--	< 1	--
SVE-34	> 4,374	2,500	2,235	--	< 1	--
SVE-35	NM	> 4,368	2,310	2,319	< 1	80
SVE-36	NM	2,800	1,360	2	< 1	43
SVE-37	NM	> 4,368	1,490	485	13	42
SVE-38	NM	1,440	302	NM ^[2]	Deep treatment interval only.	
SVE-39	AI	AI	82	AI	896	--
SVE-40	NM	220	529	AI	665	--
SVE-41	AI	AI	1,022	AI	4	--
SVE-42	NM	2,450	69	AI	8	31
SVE-43	AI	AI	878	AI	1	38
SVE-44	NM	> 4,368	2,068	965	< 1	--
SVE-45	NM	370	106	14	NM	--

Table 2
Field Screening of Wellhead Vapor Concentrations
 Big Mo and Former Benzene Pipeline Treatment Areas
 Solutia Inc., W.G. Krummrich Facility, Sauget, Illinois

Sample Location	Deep Treatment Interval ^[1]				Shallow Treatment Interval ^[1]	
	May 2012	July 2012	October 2013	May 2014	May 2013	May 2014
	Total VOCs (ppmv)					
Big Mo Area (continued)						
SVE-46	NM	> 4,368	92	3	< 1	--
SVE-47	NM	> 4,368	2,356	2	7	365
SVE-48	NM	3,000	1,534	4	620	19
SVE-49	> 4,374	> 4,368	2,437	--	2,070	320
SVE-50	NM	2,801	1,622	3	20	--
SVE-51	> 4,374	> 4,368	2,110	--	Deep treatment interval only.	
SVE-52	AI	AI	408	AI	54	--
SVE-53	NM	3,843	2,357	AI	720	--
SVE-54	AI	AI	1,730	AI	5	--
SVE-55	> 4,374	4,250	1,620	AI	21	--
SVE-56	AI	AI	270	AI	3	--
SVE-57	NM	1,630	1,466	5	3	--
SVE-58	NM	> 4,368	913	17	NM	--
SVE-59	NM	1,160	99	--	579	--
SVE-60	NM	AI	89	NM ^[2]	1,431	--
SVE-61	NM	2,775	2,327	NM ^[2]	75	--
SVE-62	NM	2,050	682	NM ^[2]	274	--
SVE-63	NM	1,100	187	NM ^[2]	10	--
SVE-64	NM	1,720	58	NM ^[2]	44	--
SVE-65	NM	367	758	NM ^[2]	7	--
SVE-66	Not applicable (see note 3).				417	--
SVE-67	NM	4,367	34	NM ^[2]	8	--
SVE-68	AI	AI	55	--	18	--
SVE-69	NM	230	38	NM ^[2]	8	--
SVE-70	NM	375	8	--	257	--
SVE-71	AI	AI	30	NM ^[2]	21	--
SVE-72	NM	400	16	NM ^[2]	3	--
SVE-73	NM	770	24	NM ^[2]	5	--
SVE-74	NM	420	15	--	Deep treatment interval only.	
SVE-75	NM	1,266	14	NM ^[2]	Deep treatment interval only.	
SVE-76	AI	AI	14	499	Deep treatment interval only.	
SVE-77	NM	3,420	60	8	Deep treatment interval only.	

VOCs = volatile organic compounds
 ppmv = parts per million by volume
 -- = well not operating
 AI = well configured for air injection

< 1 = result is less than 1 ppmv
 NM = not measured
 > = result is greater than the upper limit of the field instrument

Notes:

1. Soil vapor samples were screened in the field for total VOCs using a photoionization detector (PID). SVE wells configured for air injection were not field screened.
2. The indicated wellheads were not screened for total VOCs during the May 2014 optimization event due to water surging in the well.
3. SVE-66D was not operated in the deep treatment interval.

Table 3
Soil Vapor Sampling Results - March 2014
 Big Mo and Former Benzene Pipeline Treatment Areas
 Solutia Inc., W.G. Krummrich Facility, Sauget, Illinois

Sample Location	Sample ID ^[1]	Benzene ^[2,3] (ppmv)	Chlorobenzene ^[2,3] (ppmv)
Former Benzene Pipeline Area			
SVE-81D	WGK-BIGMO-032714-SVE-81D-A	94.1 1e,E	16.9 1e,E
SVE-82D	WGK-BIGMO-032714-SVE-82D-A	833 1e,E	107 1e,E
VP-15D	WGK-BIGMO-032714-VP-15D-A	138 1e,E	53.2 1e,E
	<i>WGK-BIGMO-032714-FD-01-A</i>	<i>148 1e,E</i>	<i>146 1e,E</i>
Big Mo Area			
SVE-10D	WGK-BIGMO-032714-SVE-10D-A	127 1e,E	3.68 1e,E
SVE-21D	WGK-BIGMO-032714-SVE-21D-A	1,090 1e,E	6.94 1e,E
SVE-26D	WGK-BIGMO-032714-SVE-26D-A	7.64 1e	11.5 1e
	<i>WGK-BIGMO-032714-FD-02-A</i>	<i>1.72 1e</i>	<i>2.89 1e</i>
SVE-43D	WGK-BIGMO-032714-SVE-43D-A	18.2 1e,E	9.42 1e,E
SVE-53D	WGK-BIGMO-032714-SVE-53D-A	24.6 1e	13.8 1e
SVE-55D	WGK-BIGMO-032714-SVE-55D-A	1.91 1e	3.3 1e
SVE-58D	WGK-BIGMO-032714-SVE-58D-A	16.4 1e,E	32.4 1e,E
SVE-69D	WGK-BIGMO-032714-SVE-69D-A	41.7 1e,E	38.6 1e,E
VP-01D	WGK-BIGMO-032714-VP-01D-A	32.4 1e,E	1.9 1e,E
VP-05D	WGK-BIGMO-032714-VP-05D-A	9.66 1e	5.96 1e

VOCs = volatile organic compounds

ppmv = parts per million by volume

SVE = soil vapor extraction

VP = vapor probe

Notes:

- Field duplicate samples are presented in *italic* font.
- Soil vapor samples were collected on March 27, 2014 from the deep treatment interval. The SVE system was active during sampling. Vapor samples were collected in tedlar bags and submitted to Pace Analytical Services, Inc. (Minneapolis, MN) for analysis of VOCs by United States Environmental Protection Agency Method TO-15. The laboratory analytical reports are provided in **Appendix B**.
- Laboratory qualifiers:
 - 1e = re-analysis for dilution conducted in excess of 48-hour method holding time for tedlar bags. Reported results confirm the results of the original analysis performed within hold time.
 - E = concentration exceeds the calibration range. Result is estimated.

Table 4
COC Mass Reduction Summary
 Big Mo and Former Benzene Pipeline Treatment Areas
 Solutia Inc., W.G. Krummrich Facility, Sauget, Illinois

Target Treatment Interval	Baseline ^[1] (2009-2010)	February 2013 ^[2]	March 2014 ^[2]	October 2014 ^[2]	Overall Percent Reduction ^[3]
	Estimated COC Mass Remaining (pounds)				
Shallow Treatment Interval	89,000	NS	3,000	7,000	92%
Deep Treatment Interval	298,000	23,000	20,000	9,000	97%
Total Target Treatment Intervals (Shallow and Deep)	387,000	--	--	16,000	96%

COC = contaminants of concern (benzene and chlorobenzene)

NS = not sampled

Notes:

1. The baseline mass estimate calculation is presented in the *Work Plan for Full-Scale Soil Vapor Extraction* (Full-Scale Work Plan) (XDD, November 2010) and in **Appendix E** for reference.
2. The comprehensive soil sampling results and COC mass estimates are provided in **Appendix G**.
3. The overall percent reduction is calculated between the baseline and October 2014 sampling events.

Table 5
Intermediate Clay Non-Parametric Statistical Analysis
 Big Mo and Former Benzene Pipeline Treatment Areas
 Solutia Inc., W.G. Krummrich Facility, Sauget, Illinois

Soil Boring	Benzene		Chlorobenzene	
	Baseline ^[1] (2009-2010)	October 2014 ^[2]	Baseline ^[1] (2009-2010)	October 2014 ^[2]
	(mg/Kg)		(mg/Kg)	
Former Benzene Pipeline Area				
SB-27	990	3,890	2,000	1,730
Big Mo Area				
SB-33	190	0.0049 U	12 U	0.0049 U
SB-36	1,100	2,310	53 U	2.74 U
SB-37	400	1.69	31 U	0.0033 J
SB-38	3.2	24.7	0.52 U	0.635 U
SB-39	30	0.45	1.2 U	0.269 U
SB-64	390	649	28 U	3.82 U
SB-65	29,000	6,000	6,000 U	304 U
SB-66	0.011	0.0033 J	0.51 E	0.0065 U
SB-68	3,900	3.85	49	0.336
SB-70	16	4.38	2.1	2.41
SB-71	330	0.007	11 U	0.0062 U
SB-83	0.086 J	0.297 U	2.6	0.0054 U
Wilcoxon-Mann-Whitney Test P-Value ^[3,4,5]	0.2		0.5	
Conclusion ^[6]	Do not Reject Null Hypothesis Baseline = October 2014		Do not Reject Null Hypothesis Baseline = October 2014	

ft bgs = feet below ground surface

mg/Kg = milligrams per kilogram

Notes:

1. The comprehensive baseline soil sampling results are presented in the *Work Plan for Full-Scale Soil Vapor Extraction* (Full-Scale Work Plan) (XDD, November 2010) and included as **Appendix E** for reference.
2. The October 2014 soil sampling results are presented in **Appendix F**.
3. The Wilcoxon-Mann-Whitney (WMW) U-test is developed using the United States Environmental Protection Agency software package ProUCL (version 5.0.00).
4. Soil samples with contaminant of concern concentrations flagged "U" are included in the ProUCL model as "0".
5. The selected null hypothesis tested using the WMW U-test is: the Sample 1 mean/median is equal to the Sample 2 mean/median (two-sided test). Sample 1 is defined as the baseline soil sampling results and Sample 2 is defined as the October 2014 soil sampling results.
6. The alpha value is 0.05. If the result of the WMW test p-value is greater than the alpha value, null hypothesis not rejected. The null hypothesis is defined as: baseline data set is equal to the October 2014 data set.
6. Laboratory qualifiers:
 U = compound not detected above the indicated laboratory reporting limit (RL).
 J = compound detected above the laboratory method detection limit but below the RL. Result is estimated.

Table 6
Estimated Soil Leachate Concentrations and Anticipated Impact to Groundwater
Big Mo and Former Benzene Pipeline Treatment Areas
Solutia Inc., W.G. Krummrich Facility, Sauget, Illinois

Soil Boring	Average Boring Concentrations ^[1,2]			Soil Leachate Calculation ^[3,4]		Bulk Soil Leachate Concentration ^[5]	
	Benzene	Chlorobenzene	Polygon Area	Benzene	Chlorobenzene	Benzene	Chlorobenzene
	(mg/Kg)	(mg/Kg)	(ft ²)	(mg/L)		(mg-ft ² /L)	
Former Benzene Pipeline Area							
SB-27	509	230	4,544	1,027	160	4,667,864	724,816
SB-28	6	875	3,912	12	472	47,510	1,846,464
Big Mo Area							
SB-33	0.047	0.025	5,874	0.09	0.02	551	101
SB-34	0.002	0.0017	4,068	0	0	14	5
SB-36	1,198	1.80	7,720	1,750	1.2	13,510,000	9,612
SB-37	76	1.63	8,842	152	1.1	1,347,604	9,993
SB-38	4.97	0.068	5,250	10	0.05	52,633	248
SB-39	1,281	0.880	6,129	1,750	0.6	10,725,750	3,740
SB-63	7	2.837	6,346	14.2	2.0	90,312	12,481
SB-64	838	1.318	7,860	1,690	0.9	13,285,242	7,180
SB-65	871	21.988	8,485	1,750	15	14,848,750	129,347
SB-66	0.03	0.006	6,295	0.1	0	366	28
SB-68	1.59	0.227	6,141	3.2	0.2	19,717	964
SB-69	555	18.3	8,316	1,119	13	9,302,465	105,470
SB-70	47	60	2,493	94	41	234,592	103,320
SB-71	14	0.479	5,664	29	0.3	164,142	1,882
SB-79	0.60	0.028	3,409	1.2	0.02	4,133	67
SB-80	0.05	0.98	4,737	0.1	0.7	432	3,217
SB-83	0.01	0.002	2,611	0.01	0	29	3
Total Area (ft ²)			108,696	Weighted Average Leachate Concentration ^[5] (mg/L)		628	27
				Anticipated Groundwater Impact from Leachate ^[6] (mg/L)		510	22
			Underlying Groundwater Concentration ^[7] (mg/L)			1,000	< 10

mg/Kg = milligrams per kilogram

< = less than indicated reporting limit

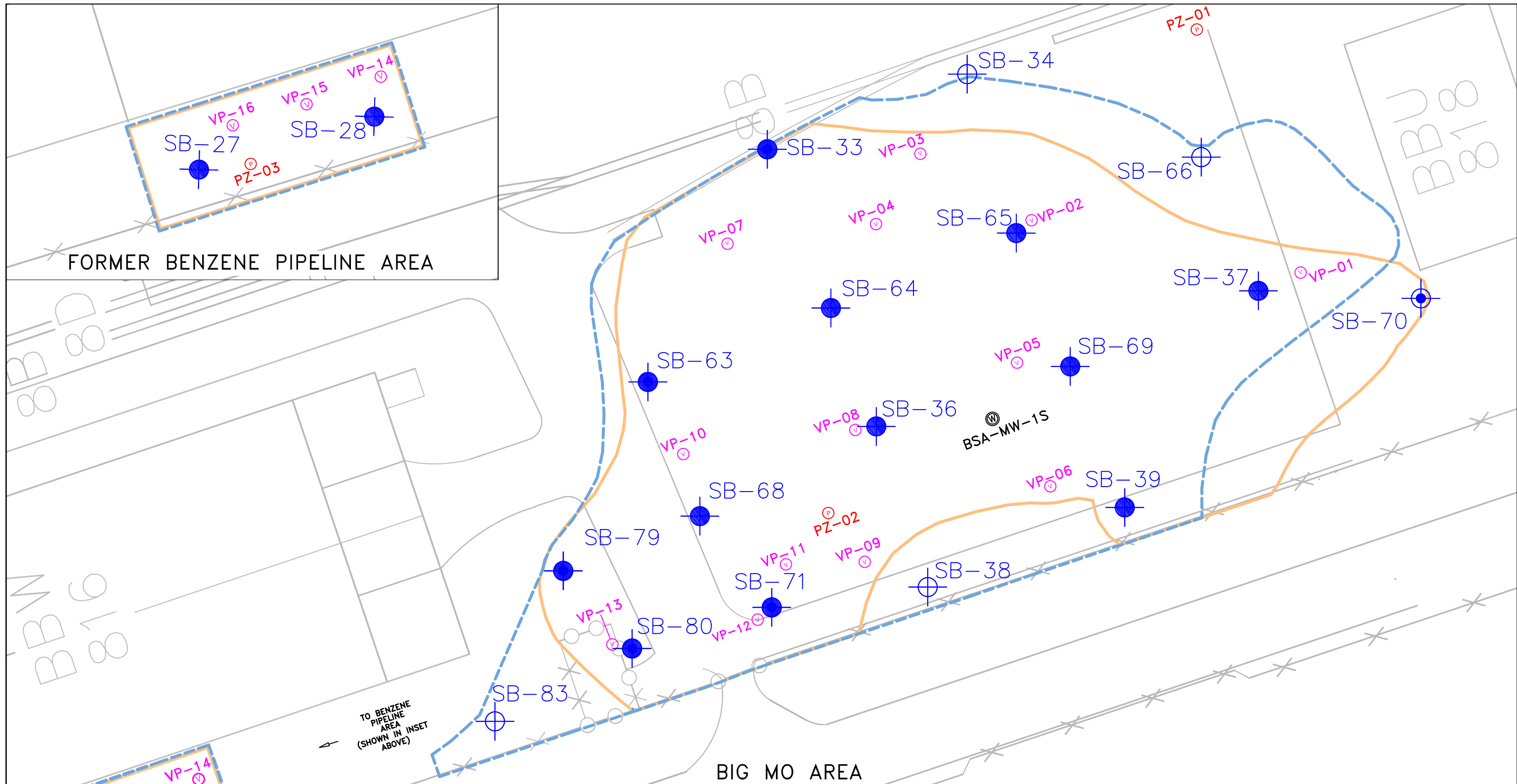
ft² = square feet

mg/L = milligrams per liter

Notes:

1. An average soil concentration for each boring is calculated based on a combination of the March 2014 and October 2014 soil sampling results (to account for locations not sampled in the shallow and/or deep treatment intervals in October 2014). The average concentration includes all three soil layers (shallow, intermediate clay, and deep).
2. The soil boring subareas are calculated using Thiessen polygons developed using Aquaveo, LLC (Provo, UT) GMS - groundwater modeling software.
3. The soil-to-groundwater leachate concentrations were developed in accordance with the United States Environmental Protection Agency [Supplemental Guidance for Developing Soil Screening Levels for Superfund Sites](#) December 2002. The calculation for the leachate concentrations of each soil boring is based on the following formula and the variables are defined in **Appendix H**:
$$\text{Leachate Concentration} = \text{Average } C_{\text{soil}} * (1 / (K_d + ((\theta_w + (\theta_a * H')) / \rho_b)))$$
4. If the calculated leachate concentration exceeds the solubility limit of the indicated compound, the solubility concentration replaces the calculated leachate concentration. Soil borings with leachate concentrations that exceed the applicable solubility limit are indicated by **bold** font.
5. The bulk soil leachate concentration is the product of the leachate concentration multiplied by the polygon area for each soil boring. The leachate concentration-area values are summed and then divided by the treatment area to calculate the weighted average leachate concentration.
6. The anticipated groundwater impact from soil leachate is calculated by dividing the weighted average leachate concentration by the site-specific dilution factor (refer to **Appendix H**).
7. The underlying groundwater concentrations are based on the 4th Quarter 2014 groundwater sampling results for monitoring well BSA-MW-1S (refer to **Figure 1**).

FIGURES



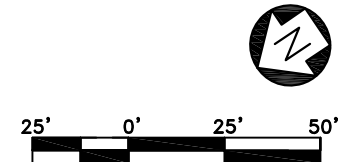
LEGEND:

- = APPROXIMATE EXTENT OF SHALLOW TARGET TREATMENT AREA
- - - = APPROXIMATE EXTENT OF DEEP TARGET TREATMENT AREA
- N = MONITORING WELL LOCATION
- P = PIEZOMETER LOCATION
- V = VAPOR PROBE LOCATION

- SB-28 = SHALLOW AND DEEP SOIL BORING LOCATION
- ⊙ SB-70 = SHALLOW SOIL BORING LOCATION
- ⊕ SB-34 = DEEP SOIL BORING LOCATION

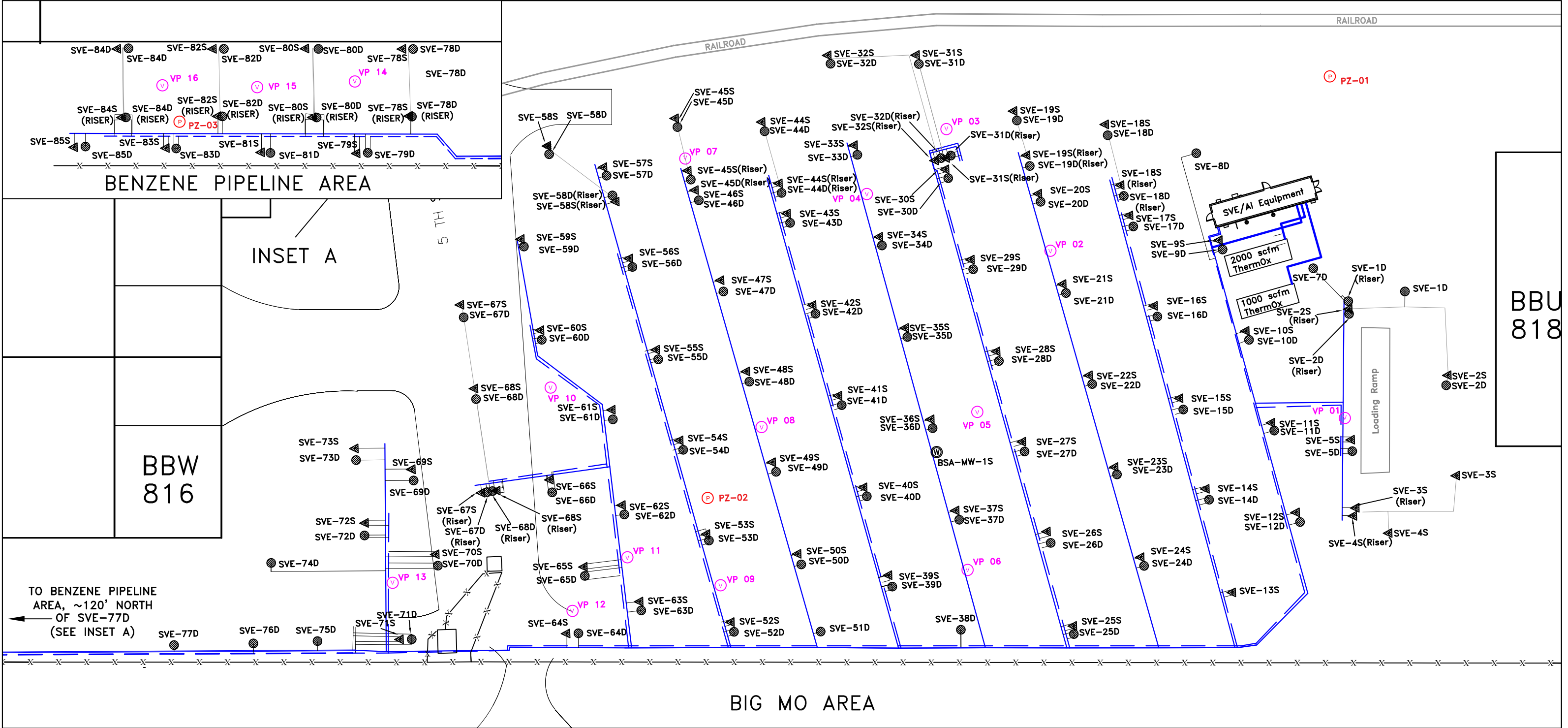
NOTE:

1. SOIL BORING, VAPOR PROBE, AND PIEZOMETER LOCATIONS ARE BASED ON A SITE SURVEY CONDUCTED BY ZAHNER & ASSOCIATES, INC. IN FEBRUARY 2013.



SCALE: AS SHOWN
DATE: APRIL 2015
PROJECT No.: 11003.12
CLIENT: SOLUTIA INC.
DRAWN BY: ELH
CHECKED BY: ELH
PROJ. MGMT. APPROVAL: DK

TITLE: SOIL AND SOIL VAPOR SAMPLING LOCATIONS	
BIG MO AND FORMER BENZENE PIPELINE TREATMENT AREAS SOLUTIA INC., W.G. KRUMMICH FACILITY, SAUGET, ILLINOIS	
DRAWING NO.:	REV:
FIGURE 1	1



LEGEND

- = DEEP SVE WELL
- ▲ = SHALLOW SVE WELL
- ⊙ = MONITORING WELL
- ⊖ = VAPOR PROBE
- x— = FENCELINE
- = ABOVE GRADE SVE PIPING
- - - = ABOVE GRADE AI PIPING
- = BELOW GRADE SVE PIPING
- ⊕ = PIEZOMETER LOCATION

NOTE

1. SVE = SOIL VAPOR EXTRACTION
AI = AIR INJECTION

SCALE: AS SHOWN
DATE: APRIL 2015
PROJECT NO.: 11003.12
CLIENT: SOLUTIA INC.
DRAWN BY: ELH
CHECKED BY: DK
PROJ. MGMT. APPROVAL: DK

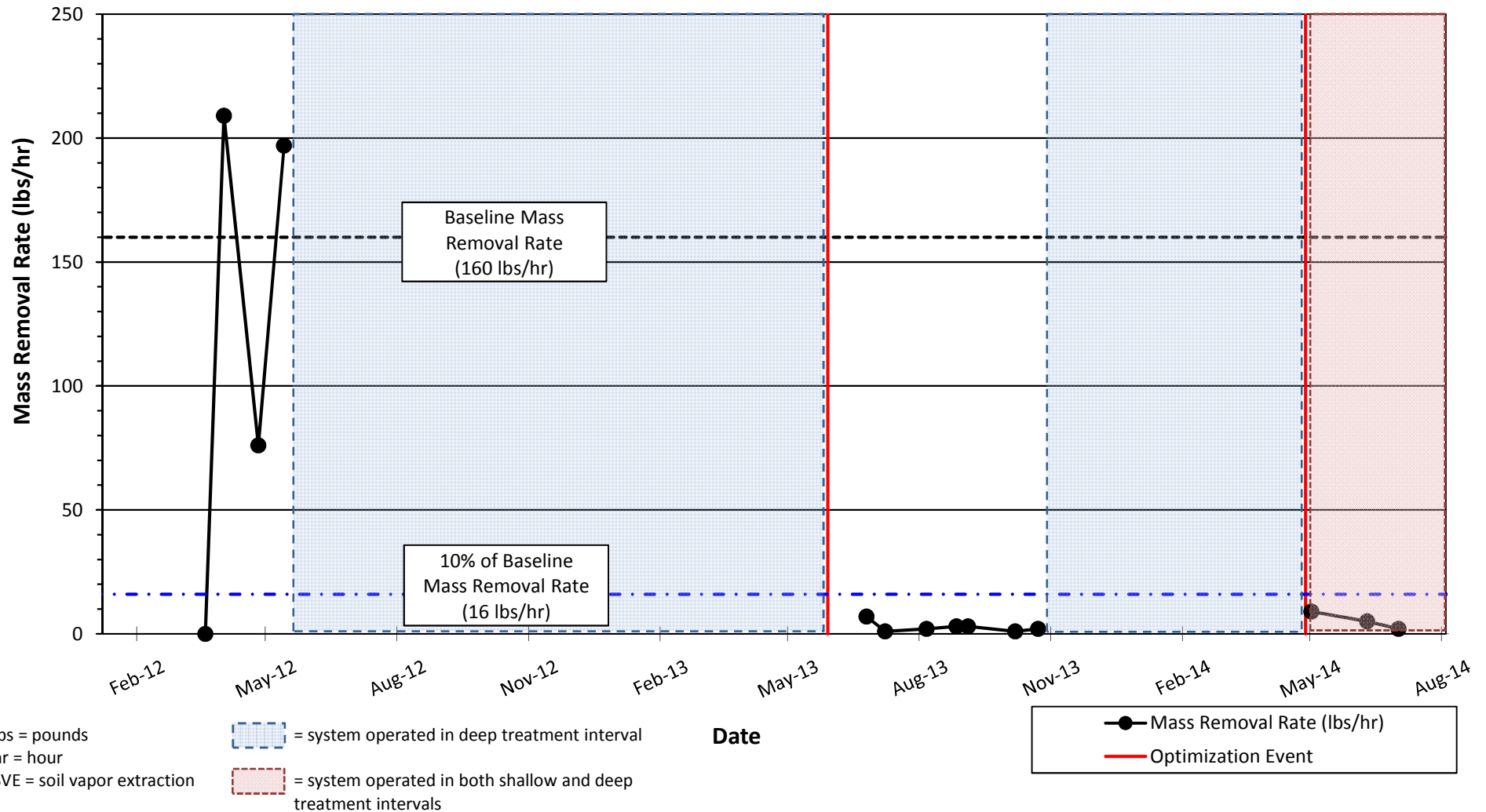
TITLE:
AS-BUILT SITE PLAN
BIG MO AND FORMER BENZENE PIPELINE TREATMENT AREAS
SOLUTIA INC., W.G. KRUMMRICH FACILITY, SAUGET, ILLINOIS

DRAWING NO.:
FIGURE 2

REV:
2

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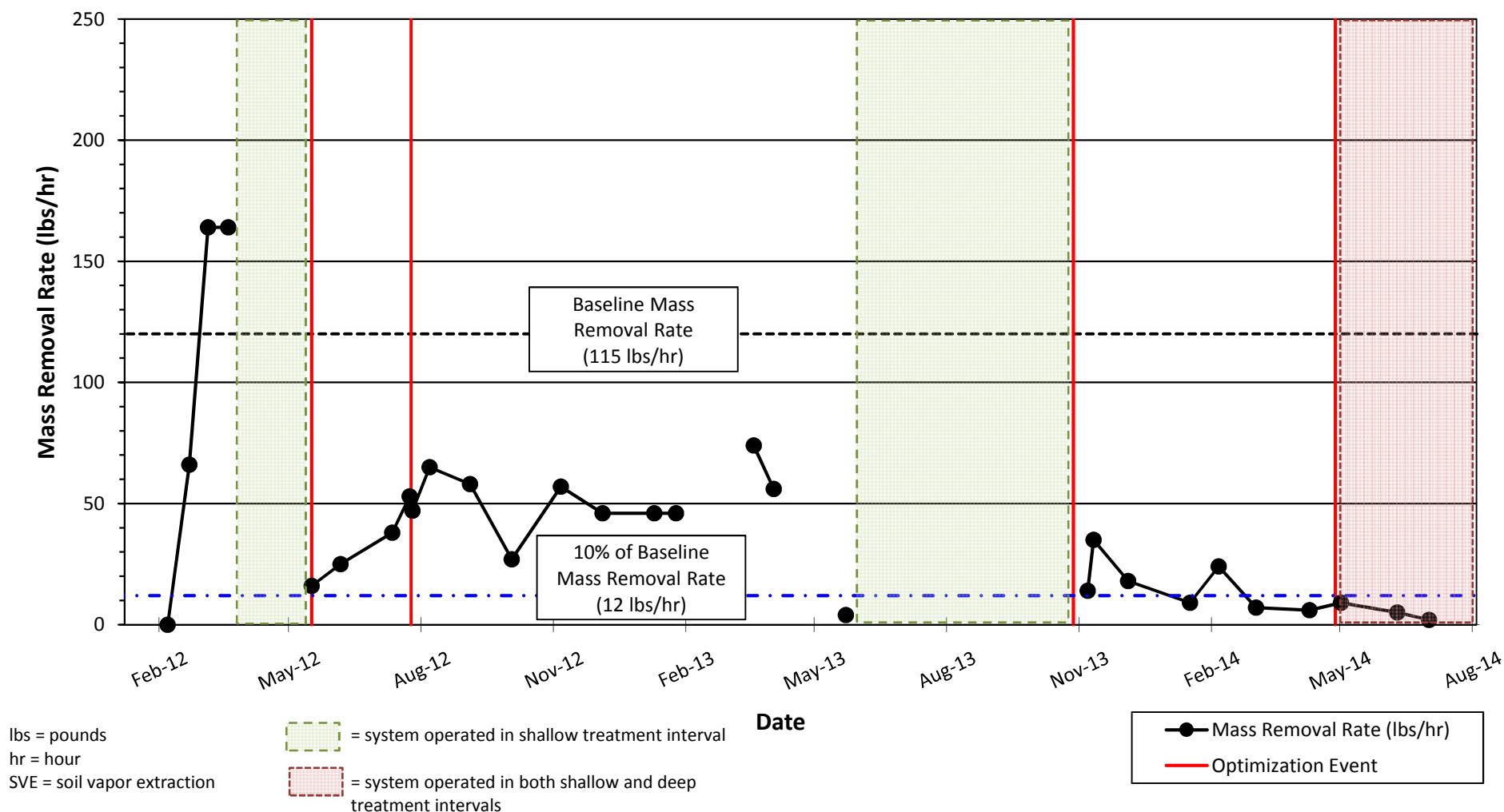
Figure 3A
SVE System Mass Removal Rates - Shallow Treatment Interval
 Big Mo and Former Benzene Pipeline Treatment Areas
 Solutia Inc., W.G. Krummrich Facility, Sauget, Illinois



Notes:

1. The SVE system operation started on February 7, 2012 in the deep treatment interval. Operation in the shallow treatment interval started on March 20, 2012. This chart presents the shallow treatment interval mass removal rate based on analytical data (refer **Appendix C**).
2. SVE system shutdowns or periods when the SVE system operated in the deep treatment interval are shown as breaks in the mass removal rate data.
3. The SVE system well field was reconfigured on April 28, 2014 for combined operation of the shallow and deep treatment intervals. The mass removal rate presented for May, June, and July 2014 is based on the combined system performance monitoring samples.

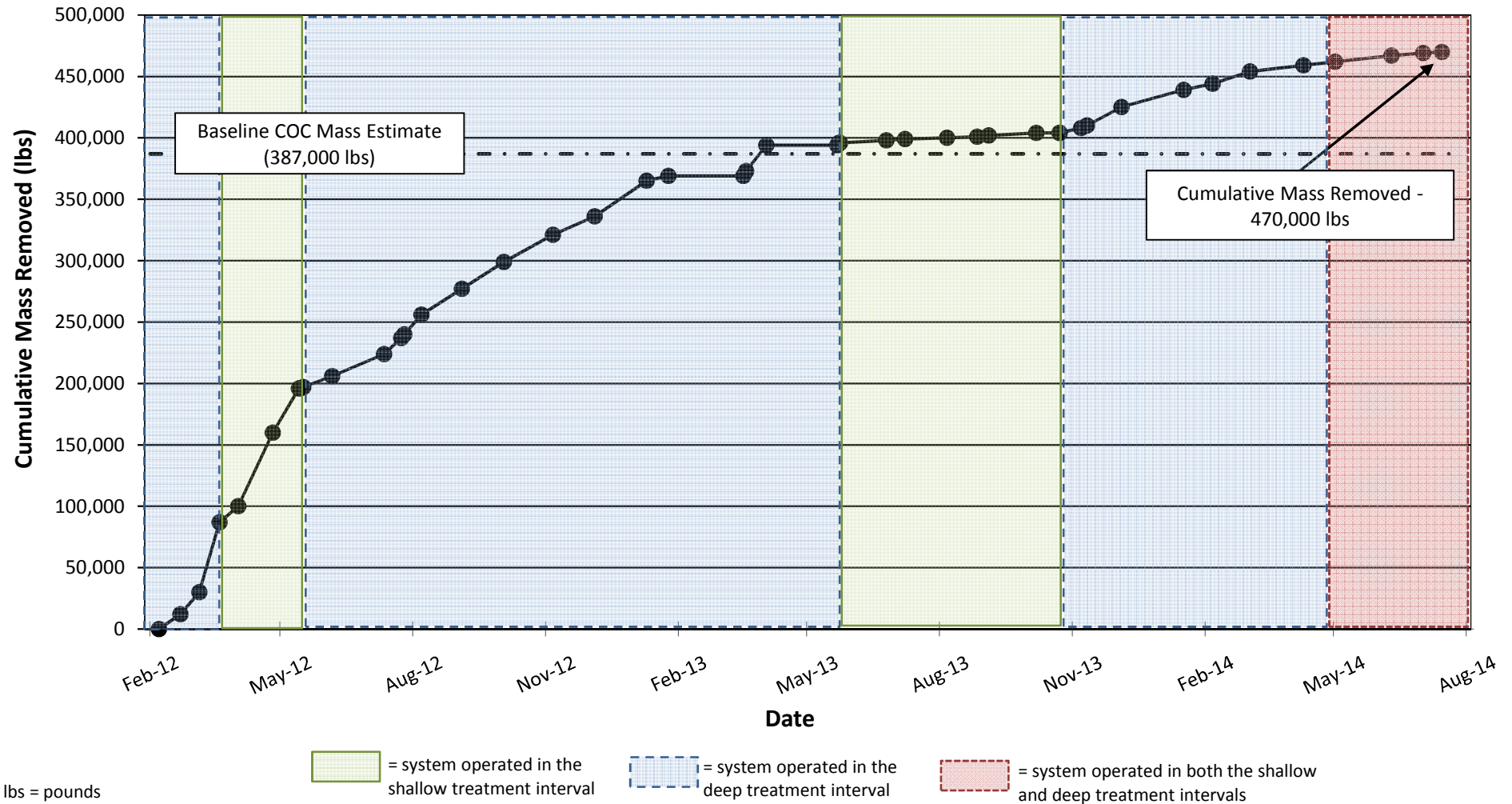
Figure 3B
SVE System Mass Removal Rates - Deep Treatment Interval
 Big Mo and Former Benzene Pipeline Treatment Areas
 Solutia Inc., W.G. Krummrich Facility, Sauget, Illinois



Notes:

1. The SVE system operation started on February 7, 2012 in the deep treatment interval. This chart presents the deep treatment interval mass removal rate based on analytical data (refer to Appendix C).
2. SVE system shutdowns or periods when the SVE system operated in the shallow treatment interval are shown as breaks in the mass removal rate data.
3. The SVE system well field was reconfigured on April 28, 2014 for combined operation of the shallow and deep treatment intervals. The mass removal rate presented for May, June, and July 2014 is based on the combined system performance monitoring samples.

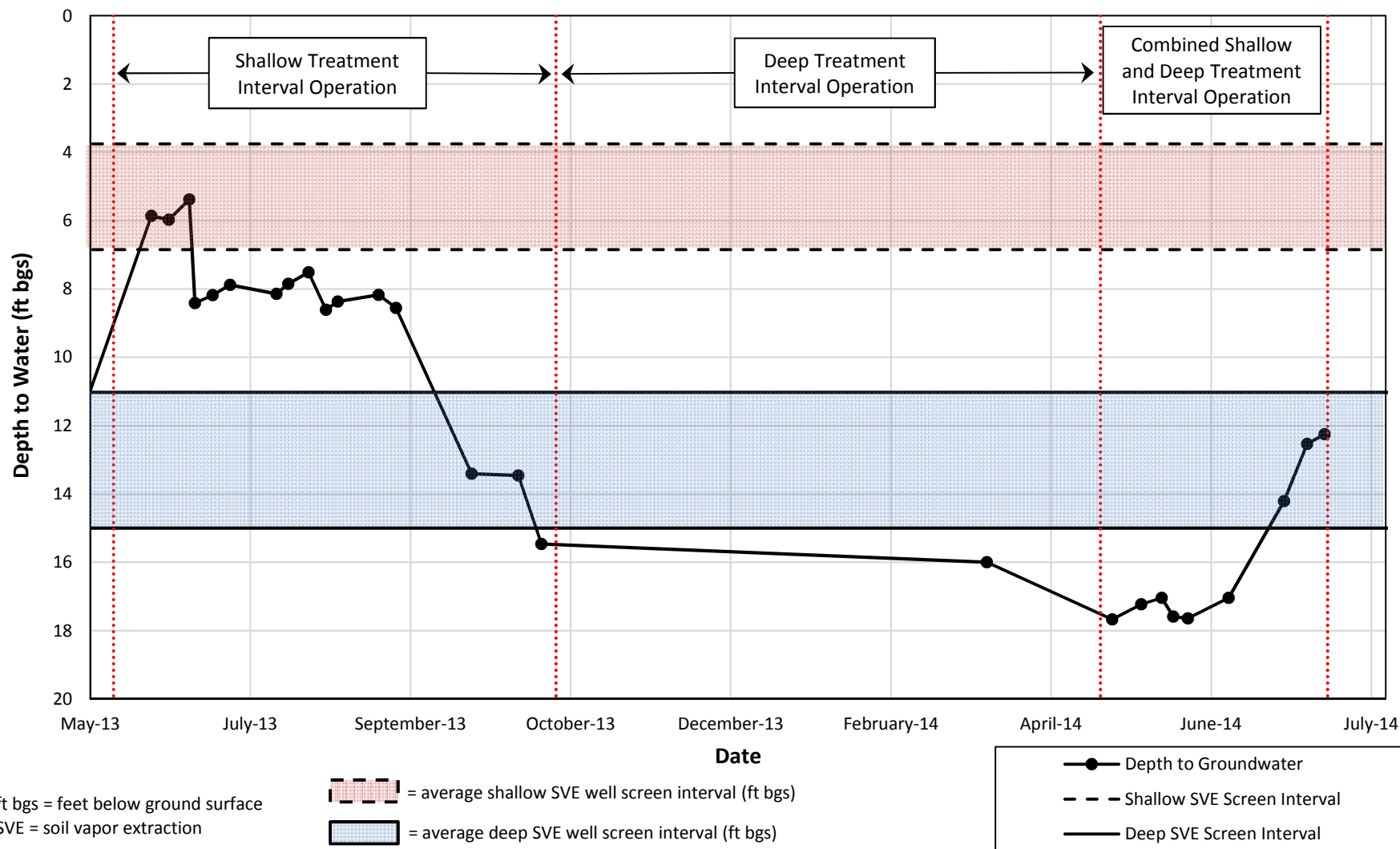
Figure 4
Cumulative COC Mass Removed
 Big Mo and Former Benzene Pipeline Treatment Areas
 Solutia Inc., W.G. Krummrich Facility, Sauget, Illinois



Notes:

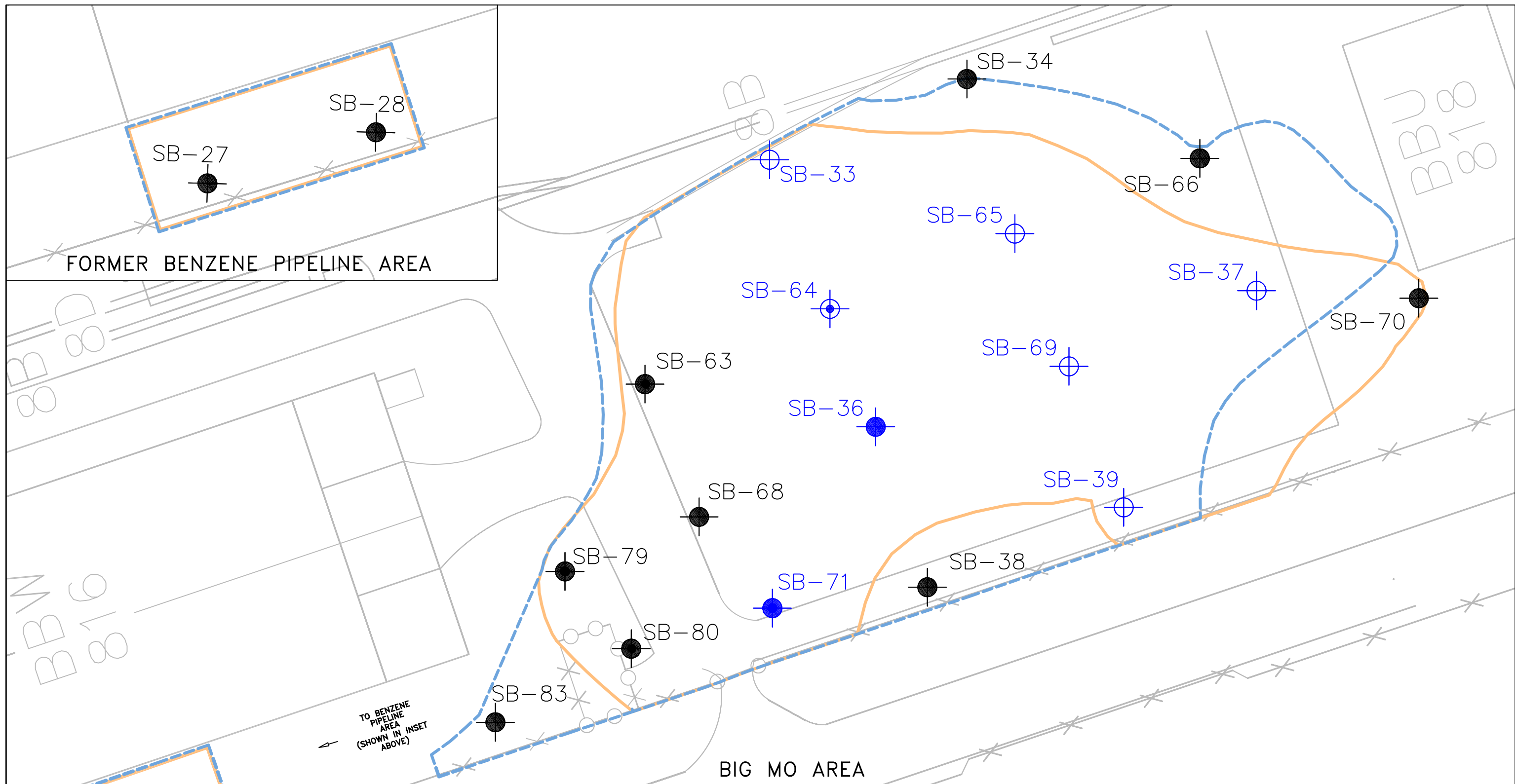
1. The SVE system operation started on February 7, 2012 and operated through July 15, 2014 when operation was suspended.
2. This chart presents the cumulative mass removed based on analysis of vapor samples by United States Environmental Protection Agency Method TO-14/15 (refer to **Appendix C**).

Figure 5
Groundwater Level
 Big Mo and Former Benzene Pipeline Treatment Areas
 Solutia Inc., W.G. Krummrich Facility, Sauget, Illinois



Notes:

- Groundwater levels presented are based on data collected at monitoring well BSA-MW-1S or the average groundwater level based on data collected from piezometers PZ-01, PZ-02, and PZ-03. Piezometers were not monitored between October 2013 and March 2014 due to the consistently low Mississippi River stage.
- SVE screen intervals are averages of all installed SVE wells in the shallow and deep intervals.

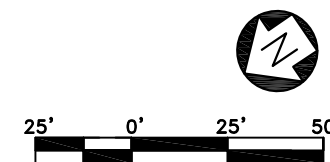


LEGEND:

- = APPROXIMATE EXTENT OF SHALLOW TARGET TREATMENT AREA
- = APPROXIMATE EXTENT OF DEEP TARGET TREATMENT AREA
- = SHALLOW, DEEP, AND CLAY SOIL SAMPLING LOCATION
- = SHALLOW AND CLAY SOIL SAMPLING LOCATION
- = DEEP AND CLAY SOIL SAMPLING LOCATION
- = CLAY SOIL SAMPLING LOCATION

NOTES:

1. SOIL BORING LOCATIONS ARE BASED ON THE TREATMENT AREA CHARACTERIZATION STUDY CONDUCTED BY URS CORPORATION IN 2009 AND 2010 AND PRESENTED IN THE "SOIL VAPOR EXTRACTION TREATMENT AREA CHARACTERIZATION REPORT", SUBMITTED TO THE USEPA IN NOVEMBER 2010.
2. SOIL SAMPLES WERE COLLECTED FROM THE CLAY INTERVAL AT ALL SOIL BORING LOCATIONS (19 TOTAL) AND FROM THE SHALLOW AND DEEP TREATMENT INTERVALS AT SOIL BORINGS WITH GREATER THAN 100 LBS BENZENE MASS REMAINING CALCULATED USING THE MARCH 2014 SOIL SAMPLING RESULTS.



SCALE: AS SHOWN
DATE: APRIL 2015
PROJECT No.: 11003.12
CLIENT: SOLUTIA INC.
DRAWN BY: ELH
CHECKED BY: ELH
PROJ. MGMT. APPROVAL: DK



TITLE: OCTOBER 2014 SOIL SAMPLING LOCATIONS BIG MO AND FORMER BENZENE PIPELINE TREATMENT AREAS SOLUTIA INC., W.G. KRUMMICH FACILITY, SAUGET, ILLINOIS	
DRAWING NO.:	REV:
FIGURE 6	1

APPENDIX A

COMPLETION PROTOCOL

To:	Bill Johnson (Solutia)	Date:	April 14, 2011
From:	Scott Crawford (XDD)	Cc:	Jerry Rinaldi (Solutia) Mike Marley (XDD) XDD File (10022)
RE:	Protocol for Completing Soil Vapor Extraction Operations and Potential Transitioning to Bioventing Mode Solutia Inc., W.G. Krummrich Facility, Sauget, Illinois		

Dear Mr. Johnson,

XDD, LLC (XDD) has prepared this protocol to determine when it is appropriate to cease Soil Vapor Extraction (SVE) operations in each treatment area at the Solutia Inc. (Solutia) W.G. Krummrich facility. The objective will be to assess whether it is necessary to address any residual impacts remaining within silty sand and intermediate silty clay units at the completion of the SVE operations.

The steps in this protocol will provide the basis for making the recommendation, which will be approved by the United States Environmental Protection Agency (U.S. EPA), for shutdown of SVE or making the transition to bioventing (BV). SVE operations will continue in each treatment area until U.S. EPA approval of the corresponding recommendation to shut down or transition to BV.

It was originally proposed in Section 1.2 of the *Work Plan for Full-Scale SVE* (November 2010) that SVE operations would be considered complete when the mass removal rate of the SVE system reaches an asymptotic condition. Asymptotic conditions would be based upon the observation that the contaminant of concern (COC) vapor mass removal rate is less than 10% of the observed baseline rate for at least seven consecutive calendar days.

The decision to shut down SVE operations and potentially transition to the BV mode is now recommended to be based upon the following steps:

1. **Process Vapor Monitoring** - Conduct performance monitoring of SVE operations to assess the COC mass removal rate and cumulative COC mass removal in the vapor phase. This includes:
 - a. Measurement of COC concentrations in the SVE well field vapor stream.
 - b. Measurement of the total SVE well field flowrate.
 - c. The COC mass removal rates for each monitoring event will be calculated based upon the COC vapor concentration and the SVE flowrate.

MEMORANDUM

April 14, 2011

Protocol for Completing SVE Operations and Potential Transitioning to BV Mode



- d. The cumulative COC mass removed will be calculated based upon the average COC mass removal rate and the length of time elapsed between each monitoring event.
 - e. Process vapor monitoring would be conducted initially on a weekly basis, and this frequency would be reduced as vapor concentrations and mass removal rates stabilize.
 - f. The cumulative COC mass removed as vapor will be plotted and provided to U.S. EPA in quarterly status updates.
2. **Assess Asymptotic Conditions** - Identify when asymptotic mass removal rate conditions are achieved:
- a. The initial peak COC vapor concentrations observed at start-up of the SVE system will be associated with the flushing of “static-equilibrium” soil gas concentrations. These initial peak level concentrations tend to decline rapidly after start-up as the initial pore volumes of soil gas are removed.
 - b. For the purposes of establishing a representative baseline mass removal rate for the SVE system, an average mass removal rate will be calculated based on the first month of SVE operation.
 - c. As previously discussed, SVE operations will be considered to have achieved asymptotic conditions when mass removal rates have been reduced to 10% of the baseline mass removal rates and remain at this level for a period greater than seven consecutive calendar days.
 - d. The mass removal rate will not be considered to be “asymptotic” if the reason for the decrease in mass removal rates appears to be related to groundwater table elevations rising and blocking the SVE well screen.
 - e. In addition, “rebound” monitoring of COC concentrations in soil vapor under “static” conditions (i.e., SVE system temporarily turned off for a period of two to four weeks) will be evaluated periodically for system optimization as “asymptotic” mass removal conditions are achieved within portions of the wellfield. Monitoring results will be evaluated to determine if significant additional mass removal can be achieved by further SVE operation (either in continuous or “pulsed” mode). The potential mass removal that can be achieved with continued operation of SVE will be compared to that associated with a transition to BV mode to determine the most effective strategy.
3. **Soil Sampling** - Conduct soil sampling to assess reductions in soil concentrations and soil COC mass during SVE operations:
- a. Soil sampling is to be conducted on an annual basis (except within the intermediate silty clay which is proposed to be conducted once near the completion of SVE operations). The final soil sampling event would be conducted after asymptotic COC mass removal rates are achieved (see Step #2 above).

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April 14, 2011

Protocol for Completing SVE Operations and Potential Transitioning to BV Mode



- b. Initial COC mass estimates based on baseline soil data have been developed for each target area (refer to Table 2¹ of the *Work Plan for Full-Scale SVE*). The initial estimated mass of benzene and/or chlorobenzene is 490,000 pounds at the Big Mo Area, 27,000 pounds at the Former Benzene Pipeline Area, 250,000 pounds at the North Tank Farm Area, and 25,000 pounds at the Near Little Mo Area.
 - c. Soil COC mass remaining will be calculated following each annual soil sampling event and compared to the initial mass estimates to estimate percent mass reduction.
 - d. The COC mass reduction on the soils will also be compared to the cumulative COC mass removed based on vapor concentration data (see Step #1 above).
- 4. **Assess COC Mass Remaining on Soils** – Upon reaching an asymptotic condition, evaluate the impact, if any, of residual COC mass remaining on soils :
 - a. Modeling will be conducted to evaluate potential impact to groundwater posed by the remaining COC mass in the unsaturated zone.
 - b. Residual soil concentrations will also be evaluated to determine if there are any potential human health risks and if these are addressed by institutional controls.
 - c. If a. or b. above suggest the need for further action, an evaluation to determine if BV will address the residual soil concentrations will be conducted.
- 5. **Recommendation for Shutdown or Transition to BV** – Prepare a report for U.S. EPA to recommend whether to shut down or transition from SVE to BV:
 - a. Based on the data collection and evaluations conducted in Step #1 through #4, prepare a report for U.S. EPA to confirm that asymptotic conditions have been achieved and residual COC mass remaining does not pose unacceptable risk to groundwater or human health.
 - b. Upon U.S. EPA's agreement, the SVE system would be either shut down or transitioned into the BV phase of operations (Step #6 below). Note that it will be appropriate to recommend shutdown of portions of the SVE system in a phased manner as sub-areas and/or specific depth intervals meet the performance criteria. This will be evaluated during regular system optimization events.
- 6. **Transition to BV Operations** – In accordance with Step #5 above, after shutdown of SVE operations, BV may be conducted to address COC mass flux from the intermediate silty clay unit. If so, BV will provide some additional reduction of the residual COC mass remaining within the upper and lower silty sand units. Annual sampling will be conducted within the intermediate silty clay unit to assess COC mass reduction (as compared to “baseline” soil concentrations at the completion of the SVE phase of operations).

¹ Table 2 of the Work Plan for Soil Vapor Extraction (SVE) was most recently updated on April 4, 2011, to include the results of four additional soil borings that were conducted in the North Tank Farm area on January 19, 2011.

MEMORANDUM

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Protocol for Completing SVE Operations and Potential Transitioning to BV Mode



7. **Completion of BV Operations** - Based on the performance of BV within the intermediate silty clay unit, a recommendation will be made to U.S. EPA regarding shutdown of BV operations.
- a. BV is not expected to yield appreciable results after one year. If, after two years of BV, no significant reduction in COC mass has occurred within the intermediate silty clay, it will be recommended to shut down the BV operations.
 - b. COC mass reduction in the intermediate silty clay unit will be assessed annually using the soil sampling data. An assessment will be made regarding the benefit, if any, of ongoing BV operation.
 - c. Prior to shutdown of BV operations, the impact, if any, of residual COC mass will be assessed:
 - i. Modeling will be conducted to evaluate potential impact to groundwater posed by the remaining COC mass in the intermediate silty clay zone.
 - ii. Residual soil concentrations will also be evaluated to determine if there are any potential human health risks and if these are addressed by institutional controls.
 - d. If either c.i. or c.ii. above suggests the need, an evaluation will be conducted to determine additional actions to address the remaining residual risks. Additional actions may include monitored natural attenuation (MNA) or additional institutional controls.
 - e. Upon approval by U.S. EPA, the BV operations will be shut down. Note that it will be appropriate to recommend shutdown of portions of the BV system in a phased manner as sub-areas and/or specific depth intervals meet the performance criteria.

APPENDIX B

SOIL VAPOR LABORATORY REPORTS

(Not printed – Included on CD)

2012 Soil Vapor Laboratory Reports

March 06, 2012

Erin Stanisewski
XDD, LLC
22 Marin Way #3
Stratham, NH 03885

RE: Project: SVE SYSTEM
Pace Project No.: 60115853

Dear Erin Stanisewski:

Enclosed are the analytical results for sample(s) received by the laboratory on February 23, 2012. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Jamie Church

jamie.church@pacelabs.com
Project Manager

Enclosures

cc: William Johnson, Solutia, Inc.



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: SVE SYSTEM

Pace Project No.: 60115853

Minnesota Certification IDs

1700 Elm Street SE Suite 200, Minneapolis, MN 55414

A2LA Certification #: 2926.01

Alaska Certification #: UST-078

Alaska Certification #MN00064

Arizona Certification #: AZ-0014

Arkansas Certification #: 88-0680

California Certification #: 01155CA

EPA Region 8 Certification #: Pace

Florida/NELAP Certification #: E87605

Georgia Certification #: 959

Idaho Certification #: MN00064

Illinois Certification #: 200011

Iowa Certification #: 368

Kansas Certification #: E-10167

Louisiana Certification #: 03086

Louisiana Certification #: LA080009

Maine Certification #: 2007029

Maryland Certification #: 322

Michigan DEQ Certification #: 9909

Minnesota Certification #: 027-053-137

Mississippi Certification #: Pace

Montana Certification #: MT CERT0092

Nebraska Certification #: Pace

Nevada Certification #: MN_00064

New Jersey Certification #: MN-002

New Mexico Certification #: Pace

New York Certification #: 11647

North Carolina Certification #: 530

North Dakota Certification #: R-036

North Dakota Certification #: R-036A

Ohio VAP Certification #: CL101

Oklahoma Certification #: D9921

Oklahoma Certification #: 9507

Oregon Certification #: MN200001

Pennsylvania Certification #: 68-00563

Puerto Rico Certification

Tennessee Certification #: 02818

Texas Certification #: T104704192

Washington Certification #: C754

Wisconsin Certification #: 999407970

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: SVE SYSTEM

Pace Project No.: 60115853

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60115853001	WGKBIGMO98STACK022212	Air	02/22/12 14:20	02/23/12 10:05
60115853002	WGKBIGMO99STACK022212	Air	02/22/12 14:15	02/23/12 10:05
60115853003	WGKBIGMOTOXINF022212	Air	02/22/12 14:25	02/23/12 10:05

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: SVE SYSTEM

Pace Project No.: 60115853

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60115853001	WGKBIGMO98STACK022212	TO-14 Ambient Air	CJR, SK4	7	PASI-M
60115853002	WGKBIGMO99STACK022212	TO-14 Ambient Air	CJR, SK4	7	PASI-M
60115853003	WGKBIGMOTOXINF022212	TO-14 Ambient Air	CJR, SK4	7	PASI-M

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: SVE SYSTEM

Pace Project No.: 60115853

Method: TO-14 Ambient Air

Description: TO14 MSV AIR - Ambient

Client: XDD, LLC

Date: March 06, 2012

General Information:

3 samples were analyzed for TO-14 Ambient Air. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

A4: Sample was transferred from a sampling bag into a Summa Canister within 48 hours of collection.

- WGKBIGMO98STACK022212 (Lab ID: 60115853001)
- WGKBIGMO99STACK022212 (Lab ID: 60115853002)
- WGKBIGMOTOXINF022212 (Lab ID: 60115853003)

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

QC Batch: AIR/14347

IS: The internal standard recovery associated with this result exceeds the lower control limit. The reported result should be considered an estimated value.

- WGKBIGMOTOXINF022212 (Lab ID: 60115853003)
- Toluene

Surrogates:

All surrogates were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

REPORT OF LABORATORY ANALYSIS

Page 5 of 12

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PROJECT NARRATIVE

Project: SVE SYSTEM

Pace Project No.: 60115853

Method: TO-14 Ambient Air

Description: TO14 MSV AIR - Ambient

Client: XDD, LLC

Date: March 06, 2012

Analyte Comments:

QC Batch: AIR/14347

A3: The sample was analyzed by serial dilution.

- WGKBIGMO98STACK022212 (Lab ID: 60115853001)
 - Benzene
- WGKBIGMO99STACK022212 (Lab ID: 60115853002)
 - Benzene
- WGKBIGMOTOXINF022212 (Lab ID: 60115853003)
 - Benzene
 - Chlorobenzene

C0: Result confirmed by second analysis.

- WGKBIGMOTOXINF022212 (Lab ID: 60115853003)
 - Toluene

E: Analyte concentration exceeded the calibration range. The reported result is estimated.

- WGKBIGMOTOXINF022212 (Lab ID: 60115853003)
 - Benzene

This data package has been reviewed for quality and completeness and is approved for release.

REPORT OF LABORATORY ANALYSIS

Page 6 of 12

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ANALYTICAL RESULTS

Project: SVE SYSTEM

Pace Project No.: 60115853

Sample: WGKBIGMO98STACK0222 **Lab ID:** 60115853001 Collected: 02/22/12 14:20 Received: 02/23/12 10:05 Matrix: Air
12

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
TO14 MSV AIR - Ambient									
Analytical Method: TO-14 Ambient Air									
Benzene	2570	ppbv	67.2	33.6	134.4		03/01/12 10:47	71-43-2	A3
Chlorobenzene	68.6	ppbv	16.8	8.4	33.6		02/29/12 10:56	108-90-7	
1,4-Dichlorobenzene	ND	ppbv	16.8	8.4	33.6		02/29/12 10:56	106-46-7	
Ethylbenzene	ND	ppbv	16.8	8.4	33.6		02/29/12 10:56	100-41-4	
Toluene	ND	ppbv	16.8	8.4	33.6		02/29/12 10:56	108-88-3	A4
m&p-Xylene	ND	ppbv	33.6	16.8	33.6		02/29/12 10:56	179601-23-1	
o-Xylene	ND	ppbv	16.8	8.4	33.6		02/29/12 10:56	95-47-6	

ANALYTICAL RESULTS

Project: SVE SYSTEM

Pace Project No.: 60115853

Sample: WGKBIGMO99STACK0222 **Lab ID:** 60115853002 Collected: 02/22/12 14:15 Received: 02/23/12 10:05 Matrix: Air
12

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
TO14 MSV AIR - Ambient									
Analytical Method: TO-14 Ambient Air									
Benzene	7530	ppbv	269	134	537.6		03/01/12 11:45	71-43-2	A3
Chlorobenzene	210	ppbv	16.8	8.4	33.6		02/29/12 01:54	108-90-7	
1,4-Dichlorobenzene	ND	ppbv	16.8	8.4	33.6		02/29/12 01:54	106-46-7	
Ethylbenzene	ND	ppbv	16.8	8.4	33.6		02/29/12 01:54	100-41-4	
Toluene	ND	ppbv	16.8	8.4	33.6		02/29/12 01:54	108-88-3	A4
m&p-Xylene	ND	ppbv	33.6	16.8	33.6		02/29/12 01:54	179601-23-1	
o-Xylene	ND	ppbv	16.8	8.4	33.6		02/29/12 01:54	95-47-6	

ANALYTICAL RESULTS

Project: SVE SYSTEM

Pace Project No.: 60115853

Sample: WGKBIGMOTOXINF022212 **Lab ID:** 60115853003 Collected: 02/22/12 14:25 Received: 02/23/12 10:05 Matrix: Air

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
TO14 MSV AIR - Ambient		Analytical Method: TO-14 Ambient Air							
Benzene	2580000	ppbv	4300	2150	8601.6		03/01/12 11:16	71-43-2	A3,E
Chlorobenzene	109000	ppbv	4300	2150	8601.6		03/01/12 11:16	108-90-7	A3
1,4-Dichlorobenzene	ND	ppbv	16.8	8.4	33.6		02/29/12 11:26	106-46-7	
Ethylbenzene	9.0J	ppbv	16.8	8.4	33.6		02/29/12 11:26	100-41-4	
Toluene	65.4	ppbv	16.8	8.4	33.6		02/29/12 11:26	108-88-3	A4,C0, IS
m&p-Xylene	20.6J	ppbv	33.6	16.8	33.6		02/29/12 11:26	179601-23-1	
o-Xylene	ND	ppbv	16.8	8.4	33.6		02/29/12 11:26	95-47-6	

QUALITY CONTROL DATA

Project: SVE SYSTEM

Pace Project No.: 60115853

QC Batch:	AIR/14347	Analysis Method:	TO-14 Ambient Air
QC Batch Method:	TO-14 Ambient Air	Analysis Description:	TO14 MSV AIR - AMBIENT
Associated Lab Samples:	60115853001, 60115853002, 60115853003		

METHOD BLANK: 1146490 Matrix: Air

Associated Lab Samples: 60115853001, 60115853002, 60115853003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,4-Dichlorobenzene	ppbv	ND	0.50	02/28/12 19:00	
Benzene	ppbv	ND	0.50	02/28/12 19:00	
Chlorobenzene	ppbv	ND	0.50	02/28/12 19:00	
Ethylbenzene	ppbv	ND	0.50	02/28/12 19:00	
m&p-Xylene	ppbv	ND	1.0	02/28/12 19:00	
o-Xylene	ppbv	ND	0.50	02/28/12 19:00	
Toluene	ppbv	ND	0.50	02/28/12 19:00	

LABORATORY CONTROL SAMPLE: 1146491

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,4-Dichlorobenzene	ppbv	10	10.6	106	72-131	
Benzene	ppbv	10	11.6	116	69-134	
Chlorobenzene	ppbv	10	10.5	105	75-128	
Ethylbenzene	ppbv	10	10.5	105	69-139	
m&p-Xylene	ppbv	20	20.7	104	66-137	
o-Xylene	ppbv	10	10.3	103	69-138	
Toluene	ppbv	10	10.8	108	71-132	

QUALIFIERS

Project: SVE SYSTEM
Pace Project No.: 60115853

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

LABORATORIES

PASI-M Pace Analytical Services - Minneapolis

ANALYTE QUALIFIERS

A3 The sample was analyzed by serial dilution.

A4 Sample was transferred from a sampling bag into a Summa Canister within 48 hours of collection.

C0 Result confirmed by second analysis.

E Analyte concentration exceeded the calibration range. The reported result is estimated.

IS The internal standard recovery associated with this result exceeds the lower control limit. The reported result should be considered an estimated value.

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: SVE SYSTEM

Pace Project No.: 60115853

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60115853001	WGKBIGMO98STACK022212	TO-14 Ambient Air	AIR/14347		
60115853002	WGKBIGMO99STACK022212	TO-14 Ambient Air	AIR/14347		
60115853003	WGKBIGMOTOXINF022212	TO-14 Ambient Air	AIR/14347		

May 04, 2012

Erin Stanisewski
XDD, LLC
22 Marin Way #3
Stratham, NH 03885

RE: Project: SVE SYSTEM
Pace Project No.: 60116606 REVISION, REV-1 5/4/12, A4 qualifer added to 60116606 002.

Dear Erin Stanisewski:

Enclosed are the analytical results for sample(s) received by the laboratory on March 07, 2012. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Jamie Church

jamie.church@pacelabs.com
Project Manager

Enclosures

cc: William Johnson, Solutia, Inc.



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: SVE SYSTEM

Pace Project No.: 60116606

Minnesota Certification IDs

1700 Elm Street SE Suite 200, Minneapolis, MN 55414

A2LA Certification #: 2926.01

Alaska Certification #: UST-078

Alaska Certification #MN00064

Arizona Certification #: AZ-0014

Arkansas Certification #: 88-0680

California Certification #: 01155CA

EPA Region 8 Certification #: Pace

Florida/NELAP Certification #: E87605

Georgia Certification #: 959

Idaho Certification #: MN00064

Illinois Certification #: 200011

Iowa Certification #: 368

Kansas Certification #: E-10167

Louisiana Certification #: 03086

Louisiana Certification #: LA080009

Maine Certification #: 2007029

Maryland Certification #: 322

Michigan DEQ Certification #: 9909

Minnesota Certification #: 027-053-137

Mississippi Certification #: Pace

Montana Certification #: MT CERT0092

Nebraska Certification #: Pace

Nevada Certification #: MN_00064

New Jersey Certification #: MN-002

New Mexico Certification #: Pace

New York Certification #: 11647

North Carolina Certification #: 530

North Dakota Certification #: R-036

North Dakota Certification #: R-036A

Ohio VAP Certification #: CL101

Oklahoma Certification #: D9921

Oklahoma Certification #: 9507

Oregon Certification #: MN200001

Pennsylvania Certification #: 68-00563

Puerto Rico Certification

Tennessee Certification #: 02818

Texas Certification #: T104704192

Washington Certification #: C754

Wisconsin Certification #: 999407970

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: SVE SYSTEM

Pace Project No.: 60116606

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60116606001	WGKBIGMO98STACK030612	Air	03/06/12 08:00	03/07/12 10:00
60116606002	WGKBIGMO99STACK030612	Air	03/06/12 08:00	03/07/12 10:00
60116606003	WGKBIGMOTOXINF030612	Air	03/06/12 08:00	03/07/12 10:00

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: SVE SYSTEM

Pace Project No.: 60116606

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60116606001	WGKBIGMO98STACK030612	TO-14 Ambient Air	DR1	7	PASI-M
60116606002	WGKBIGMO99STACK030612	TO-14 Ambient Air	CJR, DR1	7	PASI-M
60116606003	WGKBIGMOTOXINF030612	TO-14 Ambient Air	DR1	7	PASI-M

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: SVE SYSTEM

Pace Project No.: 60116606

Method: TO-14 Ambient Air

Description: TO14 MSV AIR - Ambient

Client: XDD, LLC

Date: May 04, 2012

General Information:

3 samples were analyzed for TO-14 Ambient Air. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

A4: Sample was transferred from a sampling bag into a Summa Canister within 48 hours of collection.

- WGKBIGMO98STACK030612 (Lab ID: 60116606001)
- WGKBIGMO99STACK030612 (Lab ID: 60116606002)
- WGKBIGMOTOXINF030612 (Lab ID: 60116606003)

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

Surrogates:

All surrogates were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

Sample Comments:

A3: The sample was analyzed by serial dilution.

- WGKBIGMO98STACK030612 (Lab ID: 60116606001)
- WGKBIGMOTOXINF030612 (Lab ID: 60116606003)

REPORT OF LABORATORY ANALYSIS

Page 5 of 13

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PROJECT NARRATIVE

Project: SVE SYSTEM

Pace Project No.: 60116606

Method: TO-14 Ambient Air

Description: TO14 MSV AIR - Ambient

Client: XDD, LLC

Date: May 04, 2012

Analyte Comments:

QC Batch: AIR/14410

A3: The sample was analyzed by serial dilution.

- WGKBIGMO99STACK030612 (Lab ID: 60116606002)
- Benzene

QC Batch: AIR/14425

E: Analyte concentration exceeded the calibration range. The reported result is estimated.

- WGKBIGMOTOXINF030612 (Lab ID: 60116606003)
- Benzene

This data package has been reviewed for quality and completeness and is approved for release.

REPORT OF LABORATORY ANALYSIS

Page 6 of 13

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ANALYTICAL RESULTS

Project: SVE SYSTEM

Pace Project No.: 60116606

Sample: WGKBIGMO98STACK0306 **Lab ID:** 60116606001 Collected: 03/06/12 08:00 Received: 03/07/12 10:00 Matrix: Air
12

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
TO14 MSV AIR - Ambient									
Analytical Method: TO-14 Ambient Air									
Benzene	3390	ppbv	269	134	537.6		03/10/12 02:07	71-43-2	A4
Chlorobenzene	149J	ppbv	269	134	537.6		03/10/12 02:07	108-90-7	
1,4-Dichlorobenzene	ND	ppbv	269	134	537.6		03/10/12 02:07	106-46-7	
Ethylbenzene	ND	ppbv	269	134	537.6		03/10/12 02:07	100-41-4	
Toluene	ND	ppbv	269	134	537.6		03/10/12 02:07	108-88-3	
m&p-Xylene	ND	ppbv	538	269	537.6		03/10/12 02:07	179601-23-1	
o-Xylene	ND	ppbv	269	134	537.6		03/10/12 02:07	95-47-6	

ANALYTICAL RESULTS

Project: SVE SYSTEM

Pace Project No.: 60116606

Sample: WGKBIGMO99STACK0306 **Lab ID:** 60116606002 Collected: 03/06/12 08:00 Received: 03/07/12 10:00 Matrix: Air
12

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
TO14 MSV AIR - Ambient									
Analytical Method: TO-14 Ambient Air									
Benzene	2340	ppbv	134	67.2	268.8		03/13/12 03:23	71-43-2	A3
Chlorobenzene	48.8	ppbv	16.8	8.4	33.6		03/08/12 20:39	108-90-7	
1,4-Dichlorobenzene	ND	ppbv	16.8	8.4	33.6		03/08/12 20:39	106-46-7	
Ethylbenzene	ND	ppbv	16.8	8.4	33.6		03/08/12 20:39	100-41-4	
Toluene	ND	ppbv	16.8	8.4	33.6		03/08/12 20:39	108-88-3	A4
m&p-Xylene	ND	ppbv	33.6	16.8	33.6		03/08/12 20:39	179601-23-1	
o-Xylene	ND	ppbv	16.8	8.4	33.6		03/08/12 20:39	95-47-6	

ANALYTICAL RESULTS

Project: SVE SYSTEM

Pace Project No.: 60116606

Sample: WGKBIGMOTOXINF030612 **Lab ID:** 60116606003 Collected: 03/06/12 08:00 Received: 03/07/12 10:00 Matrix: Air

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
TO14 MSV AIR - Ambient									
Analytical Method: TO-14 Ambient Air									
Benzene	6800000	ppbv	8600	4300	17203.		03/10/12 02:36	71-43-2	A4,E
Chlorobenzene	91200	ppbv	8600	4300	17203.		03/10/12 02:36	108-90-7	
1,4-Dichlorobenzene	ND	ppbv	8600	4300	17203.		03/10/12 02:36	106-46-7	
Ethylbenzene	ND	ppbv	8600	4300	17203.		03/10/12 02:36	100-41-4	
Toluene	ND	ppbv	8600	4300	17203.		03/10/12 02:36	108-88-3	
m&p-Xylene	ND	ppbv	17200	8600	17203.		03/10/12 02:36	179601-23-1	
o-Xylene	ND	ppbv	8600	4300	17203.		03/10/12 02:36	95-47-6	

QUALITY CONTROL DATA

Project: SVE SYSTEM

Pace Project No.: 60116606

QC Batch:	AIR/14410	Analysis Method:	TO-14 Ambient Air
QC Batch Method:	TO-14 Ambient Air	Analysis Description:	TO14 MSV AIR - AMBIENT
Associated Lab Samples:	60116606002		

METHOD BLANK: 1151086 Matrix: Air

Associated Lab Samples: 60116606002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,4-Dichlorobenzene	ppbv	ND	0.50	03/08/12 13:56	
Benzene	ppbv	ND	0.50	03/08/12 13:56	
Chlorobenzene	ppbv	ND	0.50	03/08/12 13:56	
Ethylbenzene	ppbv	ND	0.50	03/08/12 13:56	
m&p-Xylene	ppbv	ND	1.0	03/08/12 13:56	
o-Xylene	ppbv	ND	0.50	03/08/12 13:56	
Toluene	ppbv	ND	0.50	03/08/12 13:56	

LABORATORY CONTROL SAMPLE: 1151087

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,4-Dichlorobenzene	ppbv	10	8.2	82	72-131	
Benzene	ppbv	10	8.9	89	69-134	
Chlorobenzene	ppbv	10	9.2	92	75-128	
Ethylbenzene	ppbv	10	9.3	93	69-139	
m&p-Xylene	ppbv	20	19.8	99	66-137	
o-Xylene	ppbv	10	9.6	96	69-138	
Toluene	ppbv	10	9.2	92	71-132	

QUALITY CONTROL DATA

Project: SVE SYSTEM

Pace Project No.: 60116606

QC Batch:	AIR/14425	Analysis Method:	TO-14 Ambient Air
QC Batch Method:	TO-14 Ambient Air	Analysis Description:	TO14 MSV AIR - AMBIENT
Associated Lab Samples:	60116606001, 60116606003		

METHOD BLANK: 1152774 Matrix: Air

Associated Lab Samples: 60116606001, 60116606003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,4-Dichlorobenzene	ppbv	ND	0.50	03/09/12 16:31	
Benzene	ppbv	ND	0.50	03/09/12 16:31	
Chlorobenzene	ppbv	ND	0.50	03/09/12 16:31	
Ethylbenzene	ppbv	ND	0.50	03/09/12 16:31	
m&p-Xylene	ppbv	ND	1.0	03/09/12 16:31	
o-Xylene	ppbv	ND	0.50	03/09/12 16:31	
Toluene	ppbv	ND	0.50	03/09/12 16:31	

LABORATORY CONTROL SAMPLE: 1152775

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,4-Dichlorobenzene	ppbv	10	9.2	92	72-131	
Benzene	ppbv	10	9.4	94	69-134	
Chlorobenzene	ppbv	10	9.2	92	75-128	
Ethylbenzene	ppbv	10	9.1	91	69-139	
m&p-Xylene	ppbv	20	17.8	89	66-137	
o-Xylene	ppbv	10	9.1	91	69-138	
Toluene	ppbv	10	9.8	98	71-132	

QUALIFIERS

Project: SVE SYSTEM

Pace Project No.: 60116606

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

LABORATORIES

PASI-M Pace Analytical Services - Minneapolis

SAMPLE QUALIFIERS

Sample: 60116606001

[1] The sample was analyzed by serial dilution.

Sample: 60116606003

[1] The sample was analyzed by serial dilution.

ANALYTE QUALIFIERS

A3 The sample was analyzed by serial dilution.

A4 Sample was transferred from a sampling bag into a Summa Canister within 48 hours of collection.

E Analyte concentration exceeded the calibration range. The reported result is estimated.

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: SVE SYSTEM

Pace Project No.: 60116606

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60116606001	WGKBIGMO98STACK030612	TO-14 Ambient Air	AIR/14425		
60116606002	WGKBIGMO99STACK030612	TO-14 Ambient Air	AIR/14410		
60116606003	WGKBIGMOTOXINF030612	TO-14 Ambient Air	AIR/14425		

April 19, 2012

Erin Stanisewski
XDD, LLC
22 Marin Way #3
Stratham, NH 03885

RE: Project: SVE SYSTEM
Pace Project No.: 60118674

Dear Erin Stanisewski:

Enclosed are the analytical results for sample(s) received by the laboratory on April 04, 2012. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Jamie Church

jamie.church@pacelabs.com
Project Manager

Enclosures

cc: William Johnson, Solutia, Inc.



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: SVE SYSTEM

Pace Project No.: 60118674

Minnesota Certification IDs

1700 Elm Street SE Suite 200, Minneapolis, MN 55414

A2LA Certification #: 2926.01

Alaska Certification #: UST-078

Alaska Certification #MN00064

Arizona Certification #: AZ-0014

Arkansas Certification #: 88-0680

California Certification #: 01155CA

EPA Region 8 Certification #: Pace

Florida/NELAP Certification #: E87605

Georgia Certification #: 959

Idaho Certification #: MN00064

Illinois Certification #: 200011

Iowa Certification #: 368

Kansas Certification #: E-10167

Louisiana Certification #: 03086

Louisiana Certification #: LA080009

Maine Certification #: 2007029

Maryland Certification #: 322

Michigan DEQ Certification #: 9909

Minnesota Certification #: 027-053-137

Mississippi Certification #: Pace

Montana Certification #: MT CERT0092

Nebraska Certification #: Pace

Nevada Certification #: MN_00064

New Jersey Certification #: MN-002

New Mexico Certification #: Pace

New York Certification #: 11647

North Carolina Certification #: 530

North Dakota Certification #: R-036

North Dakota Certification #: R-036A

Ohio VAP Certification #: CL101

Oklahoma Certification #: D9921

Oklahoma Certification #: 9507

Oregon Certification #: MN200001

Pennsylvania Certification #: 68-00563

Puerto Rico Certification

Tennessee Certification #: 02818

Texas Certification #: T104704192

Washington Certification #: C754

Wisconsin Certification #: 999407970

REPORT OF LABORATORY ANALYSIS

Page 2 of 10

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SAMPLE SUMMARY

Project: SVE SYSTEM

Pace Project No.: 60118674

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60118674001	WGKBIGMOSPA01040212	Air	04/02/12 11:00	04/04/12 10:01

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: SVE SYSTEM

Pace Project No.: 60118674

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60118674001	WGKBIGMOSPA01040212	TO-14 Ambient Air	DR1	7	PASI-M

REPORT OF LABORATORY ANALYSIS

Page 4 of 10

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PROJECT NARRATIVE

Project: SVE SYSTEM
Pace Project No.: 60118674

Method: TO-14 Ambient Air
Description: TO14 MSV AIR - Ambient
Client: XDD, LLC
Date: April 19, 2012

General Information:

1 sample was analyzed for TO-14 Ambient Air. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

- A4: Sample was transferred from a sampling bag into a Summa Canister within 48 hours of collection.
- WGKBIGMOSPA01040212 (Lab ID: 60118674001)

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

Surrogates:

All surrogates were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

Sample Comments:

- A3: The sample was analyzed by serial dilution.
- WGKBIGMOSPA01040212 (Lab ID: 60118674001)

Analyte Comments:

QC Batch: AIR/14703

- E: Analyte concentration exceeded the calibration range. The reported result is estimated.
- WGKBIGMOSPA01040212 (Lab ID: 60118674001)
 - Benzene

REPORT OF LABORATORY ANALYSIS

Page 5 of 10

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PROJECT NARRATIVE

Project: SVE SYSTEM

Pace Project No.: 60118674

Method: TO-14 Ambient Air

Description: TO14 MSV AIR - Ambient

Client: XDD, LLC

Date: April 19, 2012

This data package has been reviewed for quality and completeness and is approved for release.

REPORT OF LABORATORY ANALYSIS

Page 6 of 10

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ANALYTICAL RESULTS

Project: SVE SYSTEM

Pace Project No.: 60118674

Sample: WGKBIGMOSPA01040212 Lab ID: 60118674001 Collected: 04/02/12 11:00 Received: 04/04/12 10:01 Matrix: Air									
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
TO14 MSV AIR - Ambient Analytical Method: TO-14 Ambient Air									
Benzene	9480000	ppbv	22400	11200	44851.		04/17/12 23:31	71-43-2	A4,E
Chlorobenzene	45400	ppbv	22400	11200	44851.		04/17/12 23:31	108-90-7	
1,4-Dichlorobenzene	ND	ppbv	22400	11200	44851.		04/17/12 23:31	106-46-7	
Ethylbenzene	ND	ppbv	22400	11200	44851.		04/17/12 23:31	100-41-4	
Toluene	26600	ppbv	22400	11200	44851.		04/17/12 23:31	108-88-3	
m&p-Xylene	ND	ppbv	44900	22400	44851.		04/17/12 23:31	179601-23-1	
o-Xylene	ND	ppbv	22400	11200	44851.		04/17/12 23:31	95-47-6	

QUALITY CONTROL DATA

Project: SVE SYSTEM

Pace Project No.: 60118674

QC Batch:	AIR/14703	Analysis Method:	TO-14 Ambient Air
QC Batch Method:	TO-14 Ambient Air	Analysis Description:	TO14 MSV AIR - AMBIENT
Associated Lab Samples:	60118674001		

METHOD BLANK: 1175425 Matrix: Air

Associated Lab Samples: 60118674001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,4-Dichlorobenzene	ppbv	ND	0.50	04/17/12 18:22	
Benzene	ppbv	ND	0.50	04/17/12 18:22	
Chlorobenzene	ppbv	ND	0.50	04/17/12 18:22	
Ethylbenzene	ppbv	ND	0.50	04/17/12 18:22	
m&p-Xylene	ppbv	ND	1.0	04/17/12 18:22	
o-Xylene	ppbv	ND	0.50	04/17/12 18:22	
Toluene	ppbv	ND	0.50	04/17/12 18:22	

LABORATORY CONTROL SAMPLE: 1175426

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,4-Dichlorobenzene	ppbv	10	10	100	72-131	
Benzene	ppbv	10	10.8	108	69-134	
Chlorobenzene	ppbv	10	10.3	103	75-128	
Ethylbenzene	ppbv	10	11.5	115	69-139	
m&p-Xylene	ppbv	20	21.7	109	66-137	
o-Xylene	ppbv	10	10.6	106	69-138	
Toluene	ppbv	10	10.5	105	71-132	

QUALIFIERS

Project: SVE SYSTEM
Pace Project No.: 60118674

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

LABORATORIES

PASI-M Pace Analytical Services - Minneapolis

SAMPLE QUALIFIERS

Sample: 60118674001

[1] The sample was analyzed by serial dilution.

ANALYTE QUALIFIERS

A4 Sample was transferred from a sampling bag into a Summa Canister within 48 hours of collection.

E Analyte concentration exceeded the calibration range. The reported result is estimated.

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: SVE SYSTEM

Pace Project No.: 60118674

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60118674001	WGKBIGMOSPA01040212	TO-14 Ambient Air	AIR/14703		

May 14, 2012

Erin Stanisewski
XDD, LLC
22 Marin Way #3
Stratham, NH 03885

RE: Project: BIG MO SVE
Pace Project No.: 60120193

Dear Erin Stanisewski:

Enclosed are the analytical results for sample(s) received by the laboratory on April 27, 2012. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Jamie Church

jamie.church@pacelabs.com
Project Manager

Enclosures

cc: William Johnson, Solutia, Inc.



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: BIG MO SVE

Pace Project No.: 60120193

Minnesota Certification IDs

1700 Elm Street SE Suite 200, Minneapolis, MN 55414

A2LA Certification #: 2926.01

Alaska Certification #: UST-078

Alaska Certification #MN00064

Arizona Certification #: AZ-0014

Arkansas Certification #: 88-0680

California Certification #: 01155CA

EPA Region 8 Certification #: Pace

Florida/NELAP Certification #: E87605

Georgia Certification #: 959

Idaho Certification #: MN00064

Illinois Certification #: 200011

Iowa Certification #: 368

Kansas Certification #: E-10167

Louisiana Certification #: 03086

Louisiana Certification #: LA080009

Maine Certification #: 2007029

Maryland Certification #: 322

Michigan DEQ Certification #: 9909

Minnesota Certification #: 027-053-137

Mississippi Certification #: Pace

Montana Certification #: MT CERT0092

Nebraska Certification #: Pace

Nevada Certification #: MN_00064

New Jersey Certification #: MN-002

New Mexico Certification #: Pace

New York Certification #: 11647

North Carolina Certification #: 530

North Dakota Certification #: R-036

North Dakota Certification #: R-036A

Ohio VAP Certification #: CL101

Oklahoma Certification #: D9921

Oklahoma Certification #: 9507

Oregon Certification #: MN200001

Pennsylvania Certification #: 68-00563

Puerto Rico Certification

Tennessee Certification #: 02818

Texas Certification #: T104704192

Washington Certification #: C754

Wisconsin Certification #: 999407970

REPORT OF LABORATORY ANALYSIS

Page 2 of 13

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SAMPLE SUMMARY

Project: BIG MO SVE

Pace Project No.: 60120193

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60120193001	WGKUBIGMO98STACK04262	Air	04/26/12 14:30	04/27/12 10:14
60120193002	WGKUBIGMO99STACK04262	Air	04/26/12 14:30	04/27/12 10:14
60120193003	WGKUBIGMOTOXINF04262	Air	04/26/12 14:30	04/27/12 10:14

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: BIG MO SVE

Pace Project No.: 60120193

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60120193001	WGKUBIGMO98STACK04262	TO-14 Ambient Air	CJR	7	PASI-M
60120193002	WGKUBIGMO99STACK04262	TO-14 Ambient Air	DR1	7	PASI-M
60120193003	WGKUBIGMOTOXINF04262	TO-14 Ambient Air	DR1	7	PASI-M

REPORT OF LABORATORY ANALYSIS

Page 4 of 13

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PROJECT NARRATIVE

Project: BIG MO SVE

Pace Project No.: 60120193

Method: TO-14 Ambient Air

Description: TO14 MSV AIR - Ambient

Client: XDD, LLC

Date: May 14, 2012

General Information:

3 samples were analyzed for TO-14 Ambient Air. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

A4: Sample was transferred from a sampling bag into a Summa Canister within 48 hours of collection.

- WGKUBIGMO98STACK04262 (Lab ID: 60120193001)
- WGKUBIGMO99STACK04262 (Lab ID: 60120193002)
- WGKUBIGMOTOXINF04262 (Lab ID: 60120193003)

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

Surrogates:

All surrogates were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

Sample Comments:

A3: The sample was analyzed by serial dilution.

- WGKUBIGMO98STACK04262 (Lab ID: 60120193001)
- WGKUBIGMO99STACK04262 (Lab ID: 60120193002)
- WGKUBIGMOTOXINF04262 (Lab ID: 60120193003)

REPORT OF LABORATORY ANALYSIS

Page 5 of 13

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PROJECT NARRATIVE

Project: BIG MO SVE

Pace Project No.: 60120193

Method: TO-14 Ambient Air

Description: TO14 MSV AIR - Ambient

Client: XDD, LLC

Date: May 14, 2012

Analyte Comments:

QC Batch: AIR/14846

E: Analyte concentration exceeded the calibration range. The reported result is estimated.

- WGKUBIGMOTOXINF04262 (Lab ID: 60120193003)
- Benzene

This data package has been reviewed for quality and completeness and is approved for release.

REPORT OF LABORATORY ANALYSIS

Page 6 of 13

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ANALYTICAL RESULTS

Project: BIG MO SVE

Pace Project No.: 60120193

Sample: **WGKUBIGMO98STACK042** Lab ID: **60120193001** Collected: 04/26/12 14:30 Received: 04/27/12 10:14 Matrix: Air
62

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
TO14 MSV AIR - Ambient									
Analytical Method: TO-14 Ambient Air									
Benzene	617	ppbv	27.8	13.9	55.68		05/10/12 20:52	71-43-2	A4
Chlorobenzene	75.4	ppbv	27.8	13.9	55.68		05/10/12 20:52	108-90-7	
1,4-Dichlorobenzene	ND	ppbv	27.8	13.9	55.68		05/10/12 20:52	106-46-7	
Ethylbenzene	ND	ppbv	27.8	13.9	55.68		05/10/12 20:52	100-41-4	
Toluene	142	ppbv	27.8	13.9	55.68		05/10/12 20:52	108-88-3	
m&p-Xylene	35.3J	ppbv	55.7	27.8	55.68		05/10/12 20:52	179601-23-1	
o-Xylene	ND	ppbv	27.8	13.9	55.68		05/10/12 20:52	95-47-6	

ANALYTICAL RESULTS

Project: BIG MO SVE

Pace Project No.: 60120193

Sample: WGKUBIGMO99STACK042 **Lab ID:** 60120193002 Collected: 04/26/12 14:30 Received: 04/27/12 10:14 Matrix: Air
62

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
TO14 MSV AIR - Ambient									
Analytical Method: TO-14 Ambient Air									
Benzene	2480	ppbv	69.6	34.8	139.2		05/09/12 02:11	71-43-2	A4
Chlorobenzene	164	ppbv	69.6	34.8	139.2		05/09/12 02:11	108-90-7	
1,4-Dichlorobenzene	ND	ppbv	69.6	34.8	139.2		05/09/12 02:11	106-46-7	
Ethylbenzene	51.4J	ppbv	69.6	34.8	139.2		05/09/12 02:11	100-41-4	
Toluene	377	ppbv	69.6	34.8	139.2		05/09/12 02:11	108-88-3	
m&p-Xylene	74.4J	ppbv	139	69.6	139.2		05/09/12 02:11	179601-23-1	
o-Xylene	46.2J	ppbv	69.6	34.8	139.2		05/09/12 02:11	95-47-6	

ANALYTICAL RESULTS

Project: BIG MO SVE

Pace Project No.: 60120193

Sample: WGKUBIGMOTOXINF0426 **Lab ID:** 60120193003 Collected: 04/26/12 14:30 Received: 04/27/12 10:14 Matrix: Air
2

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
TO14 MSV AIR - Ambient									
Analytical Method: TO-14 Ambient Air									
Benzene	2610000	ppbv	10300	5170	20684.		05/09/12 02:41	71-43-2	A4,E
Chlorobenzene	161000	ppbv	10300	5170	20684.		05/09/12 02:41	108-90-7	
1,4-Dichlorobenzene	ND	ppbv	10300	5170	20684.		05/09/12 02:41	106-46-7	
Ethylbenzene	ND	ppbv	10300	5170	20684.		05/09/12 02:41	100-41-4	
Toluene	18000	ppbv	10300	5170	20684.		05/09/12 02:41	108-88-3	
m&p-Xylene	ND	ppbv	20700	10300	20684.		05/09/12 02:41	179601-23-1	
o-Xylene	ND	ppbv	10300	5170	20684.		05/09/12 02:41	95-47-6	

QUALITY CONTROL DATA

Project: BIG MO SVE

Pace Project No.: 60120193

QC Batch:	AIR/14846	Analysis Method:	TO-14 Ambient Air
QC Batch Method:	TO-14 Ambient Air	Analysis Description:	TO14 MSV AIR - AMBIENT
Associated Lab Samples:	60120193002, 60120193003		

METHOD BLANK: 1192326 Matrix: Air

Associated Lab Samples: 60120193002, 60120193003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,4-Dichlorobenzene	ppbv	ND	0.50	05/08/12 12:59	
Benzene	ppbv	ND	0.50	05/08/12 12:59	
Chlorobenzene	ppbv	ND	0.50	05/08/12 12:59	
Ethylbenzene	ppbv	ND	0.50	05/08/12 12:59	
m&p-Xylene	ppbv	ND	1.0	05/08/12 12:59	
o-Xylene	ppbv	ND	0.50	05/08/12 12:59	
Toluene	ppbv	ND	0.50	05/08/12 12:59	

LABORATORY CONTROL SAMPLE: 1192327

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,4-Dichlorobenzene	ppbv	10	10.4	104	72-131	
Benzene	ppbv	10	10	100	69-134	
Chlorobenzene	ppbv	10	10.1	101	75-128	
Ethylbenzene	ppbv	10	10.6	106	69-139	
m&p-Xylene	ppbv	20	22.9	115	66-137	
o-Xylene	ppbv	10	10.8	108	69-138	
Toluene	ppbv	10	10.4	104	71-132	

QUALITY CONTROL DATA

Project: BIG MO SVE

Pace Project No.: 60120193

QC Batch:	AIR/14862	Analysis Method:	TO-14 Ambient Air
QC Batch Method:	TO-14 Ambient Air	Analysis Description:	TO14 MSV AIR - AMBIENT
Associated Lab Samples:	60120193001		

METHOD BLANK: 1194263 Matrix: Air

Associated Lab Samples: 60120193001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,4-Dichlorobenzene	ppbv	ND	0.50	05/10/12 20:22	
Benzene	ppbv	ND	0.50	05/10/12 20:22	
Chlorobenzene	ppbv	ND	0.50	05/10/12 20:22	
Ethylbenzene	ppbv	ND	0.50	05/10/12 20:22	
m&p-Xylene	ppbv	ND	1.0	05/10/12 20:22	
o-Xylene	ppbv	ND	0.50	05/10/12 20:22	
Toluene	ppbv	ND	0.50	05/10/12 20:22	

LABORATORY CONTROL SAMPLE: 1194264

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,4-Dichlorobenzene	ppbv	10	11.2	112	72-131	
Benzene	ppbv	10	10.4	104	69-134	
Chlorobenzene	ppbv	10	10.2	102	75-128	
Ethylbenzene	ppbv	10	11.6	116	69-139	
m&p-Xylene	ppbv	20	22.3	111	66-137	
o-Xylene	ppbv	10	11.6	116	69-138	
Toluene	ppbv	10	10.3	103	71-132	

SAMPLE DUPLICATE: 1195161

Parameter	Units	10191290001 Result	Dup Result	RPD	Max RPD	Qualifiers
1,4-Dichlorobenzene	ppbv	ND	ND		30	
Benzene	ppbv	ND	ND		30	
Chlorobenzene	ppbv	ND	ND		30	
Ethylbenzene	ppbv	ND	ND		30	
m&p-Xylene	ppbv	ND	ND		30	
o-Xylene	ppbv	ND	ND		30	
Toluene	ppbv	ND	ND		30	

QUALIFIERS

Project: BIG MO SVE
Pace Project No.: 60120193

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

LABORATORIES

PASI-M Pace Analytical Services - Minneapolis

SAMPLE QUALIFIERS

Sample: 60120193001

[1] The sample was analyzed by serial dilution.

Sample: 60120193002

[1] The sample was analyzed by serial dilution.

Sample: 60120193003

[1] The sample was analyzed by serial dilution.

ANALYTE QUALIFIERS

A4 Sample was transferred from a sampling bag into a Summa Canister within 48 hours of collection.

E Analyte concentration exceeded the calibration range. The reported result is estimated.

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: BIG MO SVE

Pace Project No.: 60120193

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60120193001	WGKUBIGMO98STACK04262	TO-14 Ambient Air	AIR/14862		
60120193002	WGKUBIGMO99STACK04262	TO-14 Ambient Air	AIR/14846		
60120193003	WGKUBIGMOTOXINF04262	TO-14 Ambient Air	AIR/14846		

May 22, 2012

Erin Stanisewski
XDD, LLC
22 Marin Way #3
Stratham, NH 03885

RE: Project: BIG MO SVE SYSTEM
Pace Project No.: 60121366

Dear Erin Stanisewski:

Enclosed are the analytical results for sample(s) received by the laboratory on May 15, 2012. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Jamie Church

jamie.church@pacelabs.com
Project Manager

Enclosures

cc: William Johnson, Solutia, Inc.



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: BIG MO SVE SYSTEM

Pace Project No.: 60121366

Minnesota Certification IDs

1700 Elm Street SE Suite 200, Minneapolis, MN 55414

A2LA Certification #: 2926.01

Alaska Certification #: UST-078

Alaska Certification #MN00064

Arizona Certification #: AZ-0014

Arkansas Certification #: 88-0680

California Certification #: 01155CA

EPA Region 8 Certification #: Pace

Florida/NELAP Certification #: E87605

Georgia Certification #: 959

Idaho Certification #: MN00064

Illinois Certification #: 200011

Iowa Certification #: 368

Kansas Certification #: E-10167

Louisiana Certification #: 03086

Louisiana Certification #: LA080009

Maine Certification #: 2007029

Maryland Certification #: 322

Michigan DEQ Certification #: 9909

Minnesota Certification #: 027-053-137

Mississippi Certification #: Pace

Montana Certification #: MT CERT0092

Nebraska Certification #: Pace

Nevada Certification #: MN_00064

New Jersey Certification #: MN-002

New Mexico Certification #: Pace

New York Certification #: 11647

North Carolina Certification #: 530

North Dakota Certification #: R-036

North Dakota Certification #: R-036A

Ohio VAP Certification #: CL101

Oklahoma Certification #: D9921

Oklahoma Certification #: 9507

Oregon Certification #: MN200001

Pennsylvania Certification #: 68-00563

Puerto Rico Certification

Tennessee Certification #: 02818

Texas Certification #: T104704192

Washington Certification #: C754

Wisconsin Certification #: 999407970

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: BIG MO SVE SYSTEM

Pace Project No.: 60121366

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60121366003	WGK-BIGMO-TOXINF-051412	Air	05/14/12 15:15	05/15/12 10:17

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: BIG MO SVE SYSTEM

Pace Project No.: 60121366

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60121366003	WGK-BIGMO-TOXINF-051412	TO-14 Ambient Air	CJR	6	PASI-M

REPORT OF LABORATORY ANALYSIS

Page 4 of 10

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PROJECT NARRATIVE

Project: BIG MO SVE SYSTEM

Pace Project No.: 60121366

Method: TO-14 Ambient Air

Description: TO14 MSV AIR - Ambient

Client: XDD, LLC

Date: May 22, 2012

General Information:

1 sample was analyzed for TO-14 Ambient Air. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

A4: Sample was transferred from a sampling bag into a Summa Canister within 48 hours of collection.

- WGK-BIGMO-TOXINF-051412 (Lab ID: 60121366003)

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

QC Batch: AIR/14932

IS: The internal standard recovery associated with this result exceeds the lower control limit. The reported result should be considered an estimated value.

- WGK-BIGMO-TOXINF-051412 (Lab ID: 60121366003)
- Chlorobenzene

Surrogates:

All surrogates were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

Sample Comments:

A3: The sample was analyzed by serial dilution.

- WGK-BIGMO-TOXINF-051412 (Lab ID: 60121366003)

REPORT OF LABORATORY ANALYSIS

Page 5 of 10

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PROJECT NARRATIVE

Project: BIG MO SVE SYSTEM

Pace Project No.: 60121366

Method: TO-14 Ambient Air

Description: TO14 MSV AIR - Ambient

Client: XDD, LLC

Date: May 22, 2012

Analyte Comments:

QC Batch: AIR/14932

C0: Result confirmed by second analysis.

- WGK-BIGMO-TOXINF-051412 (Lab ID: 60121366003)

- Benzene

- Chlorobenzene

E: Analyte concentration exceeded the calibration range. The reported result is estimated.

- WGK-BIGMO-TOXINF-051412 (Lab ID: 60121366003)

- Benzene

This data package has been reviewed for quality and completeness and is approved for release.

REPORT OF LABORATORY ANALYSIS

Page 6 of 10

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ANALYTICAL RESULTS

Project: BIG MO SVE SYSTEM

Pace Project No.: 60121366

Sample: WGK-BIGMO-TOXINF-051412 **Lab ID:** 60121366003 Collected: 05/14/12 15:15 Received: 05/15/12 10:17 Matrix: Air

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
TO14 MSV AIR - Ambient									
Analytical Method: TO-14 Ambient Air									
Benzene	8850000	ppbv	34400	17200	68812.		05/22/12 11:40	71-43-2	C0,E
Chlorobenzene	1090000	ppbv	34400	17200	68812.		05/22/12 11:40	108-90-7	C0,IS
1,2-Dichlorobenzene	1460	ppbv	1080	538	2150.4		05/22/12 04:10	95-50-1	
1,3-Dichlorobenzene	ND	ppbv	1080	538	2150.4		05/22/12 04:10	541-73-1	A4
1,4-Dichlorobenzene	5540	ppbv	1080	538	2150.4		05/22/12 04:10	106-46-7	
1,2,4-Trichlorobenzene	ND	ppbv	1080	538	2150.4		05/22/12 04:10	120-82-1	

QUALITY CONTROL DATA

Project: BIG MO SVE SYSTEM
Pace Project No.: 60121366

QC Batch:	AIR/14932	Analysis Method:	TO-14 Ambient Air
QC Batch Method:	TO-14 Ambient Air	Analysis Description:	TO14 MSV AIR - AMBIENT
Associated Lab Samples:	60121366003		

METHOD BLANK: 1200763 Matrix: Air
Associated Lab Samples: 60121366003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2,4-Trichlorobenzene	ppbv	ND	0.50	05/21/12 14:30	
1,2-Dichlorobenzene	ppbv	ND	0.50	05/21/12 14:30	
1,3-Dichlorobenzene	ppbv	ND	0.50	05/21/12 14:30	
1,4-Dichlorobenzene	ppbv	ND	0.50	05/21/12 14:30	
Benzene	ppbv	ND	0.50	05/21/12 14:30	
Chlorobenzene	ppbv	ND	0.50	05/21/12 14:30	

LABORATORY CONTROL SAMPLE: 1200764

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ppbv	10	12.8	128	48-150	
1,2-Dichlorobenzene	ppbv	10	10.9	109	71-132	
1,3-Dichlorobenzene	ppbv	10	10.6	106	71-128	
1,4-Dichlorobenzene	ppbv	10	10.3	103	72-131	
Benzene	ppbv	10	9.3	93	69-134	
Chlorobenzene	ppbv	10	10	100	75-128	

SAMPLE DUPLICATE: 1201676

Parameter	Units	10191599001 Result	Dup Result	RPD	Max RPD	Qualifiers
1,2,4-Trichlorobenzene	ppbv	ND	ND		30	
1,2-Dichlorobenzene	ppbv	ND	ND		30	
1,3-Dichlorobenzene	ppbv	ND	ND		30	
1,4-Dichlorobenzene	ppbv	ND	ND		30	
Benzene	ppbv	ND	ND		30	
Chlorobenzene	ppbv	ND	ND		30	

QUALIFIERS

Project: BIG MO SVE SYSTEM

Pace Project No.: 60121366

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

LABORATORIES

PASI-M Pace Analytical Services - Minneapolis

SAMPLE QUALIFIERS

Sample: 60121366003

[1] The sample was analyzed by serial dilution.

ANALYTE QUALIFIERS

A4 Sample was transferred from a sampling bag into a Summa Canister within 48 hours of collection.

C0 Result confirmed by second analysis.

E Analyte concentration exceeded the calibration range. The reported result is estimated.

IS The internal standard recovery associated with this result exceeds the lower control limit. The reported result should be considered an estimated value.

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: BIG MO SVE SYSTEM

Pace Project No.: 60121366

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60121366003	WGK-BIGMO-TOXINF-051412	TO-14 Ambient Air	AIR/14932		

June 26, 2012

Erin Stanisewski
XDD, LLC
22 Marin Way #3
Stratham, NH 03885

RE: Project: Final
Pace Project No.: 60121683

Dear Erin Stanisewski:

Enclosed are the analytical results for sample(s) received by the laboratory on May 18, 2012. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Andy Brownfield for
Jamie Church
jamie.church@pacelabs.com
Project Manager

Enclosures

cc: William Johnson, Solutia, Inc.



REPORT OF LABORATORY ANALYSIS

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PacePackage P. 1 of 15

CERTIFICATIONS

Project: Final
Pace Project No.: 60121683

Minnesota Certification IDs

1700 Elm Street SE Suite 200, Minneapolis, MN 55414
A2LA Certification #: 2926.01
Alaska Certification #: UST-078
Alaska Certification #MN00064
Arizona Certification #: AZ-0014
Arkansas Certification #: 88-0680
California Certification #: 01155CA
EPA Region 8 Certification #: Pace
Florida/NELAP Certification #: E87605
Georgia Certification #: 959
Idaho Certification #: MN00064
Illinois Certification #: 200011
Iowa Certification #: 368
Kansas Certification #: E-10167
Louisiana Certification #: 03086
Louisiana Certification #: LA080009
Maine Certification #: 2007029
Maryland Certification #: 322
Michigan DEQ Certification #: 9909
Minnesota Certification #: 027-053-137

Mississippi Certification #: Pace
Montana Certification #: MT CERT0092
Nevada Certification #: MN_00064
Nebraska Certification #: Pace
New Jersey Certification #: MN-002
New Mexico Certification #: Pace
New York Certification #: 11647
North Carolina Certification #: 530
North Dakota Certification #: R-036
North Dakota Certification #: R-036A
Ohio VAP Certification #: CL101
Oklahoma Certification #: D9921
Oklahoma Certification #: 9507
Oregon Certification #: MN200001
Pennsylvania Certification #: 68-00563
Puerto Rico Certification
Tennessee Certification #: 02818
Texas Certification #: T104704192
Washington Certification #: C754
Wisconsin Certification #: 999407970

REPORT OF LABORATORY ANALYSIS

Page 2 of 13

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SAMPLE SUMMARY

Project: Final
Pace Project No.: 60121683

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60121683001	WGKBIGMO98STACK051712	Air	05/17/12 11:00	05/18/12 10:10
60121683002	WGKBIGMO99STACK051712	Air	05/17/12 11:00	05/18/12 10:10
60121683003	WGKBIGMOTOXINF051712	Air	05/17/12 11:25	05/18/12 10:10

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: Final
Pace Project No.: 60121683

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60121683001	WGKBIGMO98STACK051712	TO-14M Ambient Air	DR1	7	PASI-M
60121683002	WGKBIGMO99STACK051712	TO-14M Ambient Air	DR1	7	PASI-M
60121683003	WGKBIGMOTOXINF051712	TO-14M Ambient Air	DR1	7	PASI-M

REPORT OF LABORATORY ANALYSIS

Page 4 of 13

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PROJECT NARRATIVE

Project: Final
Pace Project No.: 60121683

Method: TO-14M Ambient Air
Description: TO-14M MSV AIR - Ambient
Client: XDD, LLC
Date: June 26, 2012

General Information:

3 samples were analyzed for TO-14M Ambient Air. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

A4: Sample was transferred from a sampling bag into a Summa Canister within 48 hours of collection.

- WGKBIGMO98STACK051712 (Lab ID: 60121683001)
- WGKBIGMO99STACK051712 (Lab ID: 60121683002)
- WGKBIGMOTOXINF051712 (Lab ID: 60121683003)

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

Surrogates:

All surrogates were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

Sample Comments:

A3: The sample was analyzed by serial dilution.

- WGKBIGMO99STACK051712 (Lab ID: 60121683002)
- WGKBIGMOTOXINF051712 (Lab ID: 60121683003)

REPORT OF LABORATORY ANALYSIS

Page 5 of 13

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PROJECT NARRATIVE

Project: Final
Pace Project No.: 60121683

Method: TO-14M Ambient Air
Description: TO-14M MSV AIR - Ambient
Client: XDD, LLC
Date: June 26, 2012

Analyte Comments:

QC Batch: AIR/14965

E: Analyte concentration exceeded the calibration range. The reported result is estimated.

- WGKBIGMOTOXINF051712 (Lab ID: 60121683003)
- Benzene

This data package has been reviewed for quality and completeness and is approved for release.

REPORT OF LABORATORY ANALYSIS

Page 6 of 13

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ANALYTICAL RESULTS

Project: Final
Pace Project No.: 60121683

Sample: WGKBIGMO98STACK0517 **Lab ID:** 60121683001 Collected: 05/17/12 11:00 Received: 05/18/12 10:10 Matrix: Air
12

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
TO-14M MSV AIR - Ambient									
Analytical Method: TO-14M Ambient Air									
Benzene	76.0	ppbv	22.9	11.4	45.8		05/24/12 23:27	71-43-2	A4
Chlorobenzene	14.7J	ppbv	22.9	11.4	45.8		05/24/12 23:27	108-90-7	
1,4-Dichlorobenzene	ND	ppbv	22.9	11.4	45.8		05/24/12 23:27	106-46-7	
Ethylbenzene	ND	ppbv	22.9	11.4	45.8		05/24/12 23:27	100-41-4	
Toluene	ND	ppbv	22.9	11.4	45.8		05/24/12 23:27	108-88-3	
m&p-Xylene	ND	ppbv	45.8	22.9	45.8		05/24/12 23:27	179601-23-1	
o-Xylene	ND	ppbv	22.9	11.4	45.8		05/24/12 23:27	95-47-6	

ANALYTICAL RESULTS

Project: Final
Pace Project No.: 60121683

Sample: WGKBIGMO99STACK0517 **Lab ID:** 60121683002 Collected: 05/17/12 11:00 Received: 05/18/12 10:10 Matrix: Air
12

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
TO-14M MSV AIR - Ambient									
Analytical Method: TO-14M Ambient Air									
Benzene	137	ppbv	16.8	8.4	33.6		05/25/12 23:09	71-43-2	A4
Chlorobenzene	37.5	ppbv	16.8	8.4	33.6		05/25/12 23:09	108-90-7	
1,4-Dichlorobenzene	ND	ppbv	16.8	8.4	33.6		05/25/12 23:09	106-46-7	
Ethylbenzene	ND	ppbv	16.8	8.4	33.6		05/25/12 23:09	100-41-4	
Toluene	ND	ppbv	16.8	8.4	33.6		05/25/12 23:09	108-88-3	
m&p-Xylene	ND	ppbv	33.6	16.8	33.6		05/25/12 23:09	179601-23-1	
o-Xylene	ND	ppbv	16.8	8.4	33.6		05/25/12 23:09	95-47-6	

ANALYTICAL RESULTS

Project: Final
Pace Project No.: 60121683

Sample: WGKBIGMOTOXINF051712 **Lab ID: 60121683003** Collected: 05/17/12 11:25 Received: 05/18/12 10:10 Matrix: Air

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
TO-14M MSV AIR - Ambient		Analytical Method: TO-14M Ambient Air							
Benzene	796000	ppbv	4300	2150	8601.6		05/25/12 00:55	71-43-2	A4,E
Chlorobenzene	ND	ppbv	4300	2150	8601.6		05/25/12 00:55	108-90-7	
1,4-Dichlorobenzene	ND	ppbv	4300	2150	8601.6		05/25/12 00:55	106-46-7	
Ethylbenzene	ND	ppbv	4300	2150	8601.6		05/25/12 00:55	100-41-4	
Toluene	ND	ppbv	4300	2150	8601.6		05/25/12 00:55	108-88-3	
m&p-Xylene	ND	ppbv	8600	4300	8601.6		05/25/12 00:55	179601-23-1	
o-Xylene	ND	ppbv	4300	2150	8601.6		05/25/12 00:55	95-47-6	

QUALITY CONTROL DATA

Project: Final
Pace Project No.: 60121683

QC Batch: AIR/14965 Analysis Method: TO-14M Ambient Air
QC Batch Method: TO-14M Ambient Air Analysis Description: TO14 MSV AIR - AMBIENT
Associated Lab Samples: 60121683001, 60121683003

METHOD BLANK: 1204108 Matrix: Air
Associated Lab Samples: 60121683001, 60121683003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,4-Dichlorobenzene	ppbv	ND	0.50	05/24/12 12:32	
Benzene	ppbv	ND	0.50	05/24/12 12:32	
Chlorobenzene	ppbv	ND	0.50	05/24/12 12:32	
Ethylbenzene	ppbv	ND	0.50	05/24/12 12:32	
m&p-Xylene	ppbv	ND	1.0	05/24/12 12:32	
o-Xylene	ppbv	ND	0.50	05/24/12 12:32	
Toluene	ppbv	ND	0.50	05/24/12 12:32	

LABORATORY CONTROL SAMPLE: 1204109

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,4-Dichlorobenzene	ppbv	10	9.2	92	72-131	
Benzene	ppbv	10	10.1	101	69-134	
Chlorobenzene	ppbv	10	8.8	88	75-128	
Ethylbenzene	ppbv	10	10.4	104	69-139	
m&p-Xylene	ppbv	20	22.3	112	66-137	
o-Xylene	ppbv	10	10.1	101	69-138	
Toluene	ppbv	10	9.4	94	71-132	

QUALITY CONTROL DATA

Project: Final
Pace Project No.: 60121683

QC Batch:	AIR/14975	Analysis Method:	TO-14M Ambient Air
QC Batch Method:	TO-14M Ambient Air	Analysis Description:	TO14 MSV AIR - AMBIENT
Associated Lab Samples:	60121683002		

METHOD BLANK:	1205099	Matrix:	Air
Associated Lab Samples:	60121683002		

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,4-Dichlorobenzene	ppbv	ND	0.50	05/25/12 12:58	
Benzene	ppbv	ND	0.50	05/25/12 12:58	
Chlorobenzene	ppbv	ND	0.50	05/25/12 12:58	
Ethylbenzene	ppbv	ND	0.50	05/25/12 12:58	
m&p-Xylene	ppbv	ND	1.0	05/25/12 12:58	
o-Xylene	ppbv	ND	0.50	05/25/12 12:58	
Toluene	ppbv	ND	0.50	05/25/12 12:58	

LABORATORY CONTROL SAMPLE: 1205100

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,4-Dichlorobenzene	ppbv	10	9.3	93	72-131	
Benzene	ppbv	10	10.5	105	69-134	
Chlorobenzene	ppbv	10	8.8	88	75-128	
Ethylbenzene	ppbv	10	10.6	106	69-139	
m&p-Xylene	ppbv	20	22.6	113	66-137	
o-Xylene	ppbv	10	10.3	103	69-138	
Toluene	ppbv	10	9.8	98	71-132	

QUALIFIERS

Project: Final
Pace Project No.: 60121683

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PRL - Pace Reporting Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

LABORATORIES

PASI-M Pace Analytical Services - Minneapolis

SAMPLE QUALIFIERS

Sample: 60121683002

[1] The sample was analyzed by serial dilution.

Sample: 60121683003

[1] The sample was analyzed by serial dilution.

ANALYTE QUALIFIERS

A4 Sample was transferred from a sampling bag into a Summa Canister within 48 hours of collection.

E Analyte concentration exceeded the calibration range. The reported result is estimated.

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Final
Pace Project No.: 60121683

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60121683001	WGKBIGMO98STACK051712	TO-14M Ambient Air	AIR/14965		
60121683002	WGKBIGMO99STACK051712	TO-14M Ambient Air	AIR/14975		
60121683003	WGKBIGMOTOXINF051712	TO-14M Ambient Air	AIR/14965		

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Section C
Invoice Information:

[illegible]

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
Report to Both Erin & Bill	<i>[Signature]</i>	5/17	11:30	Feb 2012	5/17/12	1700							
Report to Level IV	<i>[Signature]</i>			<i>[Signature]</i>	5/18/12	1700							
SAMPLER NAME AND SIGNATURE PRINT Name of SAMPLER: SIGNATURE of SAMPLER: CURT FAHNESTOCK <i>[Signature]</i> DATE Signed (MM/DD/YYYY) 5/17/12													

Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.

AIR Sample Condition Upon Receipt

Client Name: XDD, LLC

Project # 6012683

Courier: ☒ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☐ Pace Other

Custody Seal on Cooler/Box Present: ☐ yes ☒ no Seals intact ☐ yes ☐ no

Packing Material: ☐ Bubble Wrap ☐ Bubble Bags ☐ Foam ☒ None ☐ Other

Temperature (TO17 and TO13 samples only): _____

Temp should be above freezing to 6°C

Tracking #: 8762 5584 3530

Comments:

Date and Initials of person examining contents: 5-18-12 JF

[illegible]

Client Notification/ Resolution:

Field Data Required?

Y / N

Person Contacted: _____ Date/Time: _____

Comments/ Resolution:

Project Manager Review:

Date: _____

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)

June 25, 2012

Erin Stanisewski
XDD, LLC
22 Marin Way #3
Stratham, NH 03885

RE: Project: BIG MO SVE
Pace Project No.: 60122770

Dear Erin Stanisewski:

Enclosed are the analytical results for sample(s) received by the laboratory on June 07, 2012. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Andy Brownfield for
Jamie Church
jamie.church@pacelabs.com
Project Manager

Enclosures

cc: William Johnson, Solutia, Inc.



REPORT OF LABORATORY ANALYSIS

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Page 1 of 13

PacePackage P. 1 of 15

CERTIFICATIONS

Project: BIG MO SVE

Pace Project No.: 60122770

Minnesota Certification IDs

1700 Elm Street SE Suite 200, Minneapolis, MN 55414

A2LA Certification #: 2926.01

Alaska Certification #: UST-078

Alaska Certification #MN00064

Arizona Certification #: AZ-0014

Arkansas Certification #: 88-0680

California Certification #: 01155CA

EPA Region 8 Certification #: Pace

Florida/NELAP Certification #: E87605

Georgia Certification #: 959

Idaho Certification #: MN00064

Illinois Certification #: 200011

Iowa Certification #: 368

Kansas Certification #: E-10167

Louisiana Certification #: 03086

Louisiana Certification #: LA080009

Maine Certification #: 2007029

Maryland Certification #: 322

Michigan DEQ Certification #: 9909

Minnesota Certification #: 027-053-137

Mississippi Certification #: Pace

Montana Certification #: MT CERT0092

Nebraska Certification #: Pace

Nevada Certification #: MN_00064

New Jersey Certification #: MN-002

New Mexico Certification #: Pace

New York Certification #: 11647

North Carolina Certification #: 530

North Dakota Certification #: R-036

North Dakota Certification #: R-036A

Ohio VAP Certification #: CL101

Oklahoma Certification #: D9921

Oklahoma Certification #: 9507

Oregon Certification #: MN200001

Pennsylvania Certification #: 68-00563

Puerto Rico Certification

Tennessee Certification #: 02818

Texas Certification #: T104704192

Washington Certification #: C754

Wisconsin Certification #: 999407970

REPORT OF LABORATORY ANALYSIS

Page 2 of 13

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SAMPLE SUMMARY

Project: BIG MO SVE

Pace Project No.: 60122770

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60122770001	WGKBIGMO98STACK060612	Air	06/06/12 09:00	06/07/12 10:10
60122770002	WGKBIGMO99STACK060612	Air	06/06/12 09:05	06/07/12 10:10
60122770003	WGKBIGMOTOXINF060612	Air	06/06/12 09:10	06/07/12 10:10

REPORT OF LABORATORY ANALYSIS

Page 3 of 13

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SAMPLE ANALYTE COUNT

Project: BIG MO SVE

Pace Project No.: 60122770

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60122770001	WGKBIGMO98STACK060612	TO-14M Ambient Air	CJR	7	PASI-M
60122770002	WGKBIGMO99STACK060612	TO-14M Ambient Air	CJR	7	PASI-M
60122770003	WGKBIGMOTOXINF060612	TO-14M Ambient Air	CJR, DR1	7	PASI-M

REPORT OF LABORATORY ANALYSIS

Page 4 of 13

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PROJECT NARRATIVE

Project: BIG MO SVE

Pace Project No.: 60122770

Method: TO-14M Ambient Air

Description: TO-14M MSV AIR - Ambient

Client: XDD, LLC

Date: June 25, 2012

General Information:

3 samples were analyzed for TO-14M Ambient Air. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

A4: Sample was transferred from a sampling bag into a Summa Canister within 48 hours of collection.

- WGKBIGMO98STACK060612 (Lab ID: 60122770001)
- WGKBIGMO99STACK060612 (Lab ID: 60122770002)
- WGKBIGMOTOXINF060612 (Lab ID: 60122770003)

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

Surrogates:

All surrogates were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

Sample Comments:

A3: The sample was analyzed by serial dilution.

- WGKBIGMO98STACK060612 (Lab ID: 60122770001)
- WGKBIGMO99STACK060612 (Lab ID: 60122770002)
- WGKBIGMOTOXINF060612 (Lab ID: 60122770003)

REPORT OF LABORATORY ANALYSIS

Page 5 of 13

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PROJECT NARRATIVE

Project: BIG MO SVE

Pace Project No.: 60122770

Method: TO-14M Ambient Air

Description: TO-14M MSV AIR - Ambient

Client: XDD, LLC

Date: June 25, 2012

Analyte Comments:

QC Batch: AIR/15133

C0: Result confirmed by second analysis.

- WGKBIGMOTOXINF060612 (Lab ID: 60122770003)
- Benzene

E: Analyte concentration exceeded the calibration range. The reported result is estimated.

- WGKBIGMOTOXINF060612 (Lab ID: 60122770003)
- Benzene

This data package has been reviewed for quality and completeness and is approved for release.

REPORT OF LABORATORY ANALYSIS

Page 6 of 13

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ANALYTICAL RESULTS

Project: BIG MO SVE

Pace Project No.: 60122770

Sample: WGKBIGMO98STACK0606 **Lab ID:** 60122770001 Collected: 06/06/12 09:00 Received: 06/07/12 10:10 Matrix: Air
12

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
TO-14M MSV AIR - Ambient									
Analytical Method: TO-14M Ambient Air									
Benzene	27.1	ppbv	26.9	13.4	53.76		06/20/12 15:52	71-43-2	A4
Chlorobenzene	ND	ppbv	26.9	13.4	53.76		06/20/12 15:52	108-90-7	
1,4-Dichlorobenzene	ND	ppbv	26.9	13.4	53.76		06/20/12 15:52	106-46-7	
Ethylbenzene	ND	ppbv	26.9	13.4	53.76		06/20/12 15:52	100-41-4	
Toluene	ND	ppbv	26.9	13.4	53.76		06/20/12 15:52	108-88-3	
m&p-Xylene	ND	ppbv	53.8	26.9	53.76		06/20/12 15:52	179601-23-1	
o-Xylene	ND	ppbv	26.9	13.4	53.76		06/20/12 15:52	95-47-6	

ANALYTICAL RESULTS

Project: BIG MO SVE

Pace Project No.: 60122770

Sample: WGKBIGMO99STACK0606 **Lab ID:** 60122770002 Collected: 06/06/12 09:05 Received: 06/07/12 10:10 Matrix: Air
12

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
TO-14M MSV AIR - Ambient									
Analytical Method: TO-14M Ambient Air									
Benzene	36.7	ppbv	26.9	13.4	53.76		06/20/12 16:22	71-43-2	A4
Chlorobenzene	ND	ppbv	26.9	13.4	53.76		06/20/12 16:22	108-90-7	
1,4-Dichlorobenzene	ND	ppbv	26.9	13.4	53.76		06/20/12 16:22	106-46-7	
Ethylbenzene	ND	ppbv	26.9	13.4	53.76		06/20/12 16:22	100-41-4	
Toluene	ND	ppbv	26.9	13.4	53.76		06/20/12 16:22	108-88-3	
m&p-Xylene	ND	ppbv	53.8	26.9	53.76		06/20/12 16:22	179601-23-1	
o-Xylene	ND	ppbv	26.9	13.4	53.76		06/20/12 16:22	95-47-6	

ANALYTICAL RESULTS

Project: BIG MO SVE

Pace Project No.: 60122770

Sample: WGKBIGMOTOXINF060612 **Lab ID: 60122770003** Collected: 06/06/12 09:10 Received: 06/07/12 10:10 Matrix: Air

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
TO-14M MSV AIR - Ambient		Analytical Method: TO-14M Ambient Air							
Benzene	1190000	ppbv	8600	4300	17203.		06/20/12 15:22	71-43-2	C0,E
Chlorobenzene	10500	ppbv	538	269	1075.2		06/20/12 02:34	108-90-7	A4
1,4-Dichlorobenzene	ND	ppbv	538	269	1075.2		06/20/12 02:34	106-46-7	
Ethylbenzene	ND	ppbv	538	269	1075.2		06/20/12 02:34	100-41-4	
Toluene	ND	ppbv	538	269	1075.2		06/20/12 02:34	108-88-3	
m&p-Xylene	ND	ppbv	1080	538	1075.2		06/20/12 02:34	179601-23-1	
o-Xylene	ND	ppbv	538	269	1075.2		06/20/12 02:34	95-47-6	

QUALITY CONTROL DATA

Project: BIG MO SVE

Pace Project No.: 60122770

QC Batch:	AIR/15133	Analysis Method:	TO-14M Ambient Air
QC Batch Method:	TO-14M Ambient Air	Analysis Description:	TO14 MSV AIR - AMBIENT
Associated Lab Samples:	60122770003		

METHOD BLANK: 1221084 Matrix: Air

Associated Lab Samples: 60122770003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,4-Dichlorobenzene	ppbv	ND	0.50	06/19/12 10:12	
Benzene	ppbv	ND	0.50	06/19/12 10:12	
Chlorobenzene	ppbv	ND	0.50	06/19/12 10:12	
Ethylbenzene	ppbv	ND	0.50	06/19/12 10:12	
m&p-Xylene	ppbv	ND	1.0	06/19/12 10:12	
o-Xylene	ppbv	ND	0.50	06/19/12 10:12	
Toluene	ppbv	ND	0.50	06/19/12 10:12	

LABORATORY CONTROL SAMPLE: 1221085

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,4-Dichlorobenzene	ppbv	10	10.7	107	72-131	
Benzene	ppbv	10	9.7	97	69-134	
Chlorobenzene	ppbv	10	11.0	110	75-128	
Ethylbenzene	ppbv	10	9.4	94	69-139	
m&p-Xylene	ppbv	20	18.7	93	66-137	
o-Xylene	ppbv	10	10.7	107	69-138	
Toluene	ppbv	10	9.7	97	71-132	

QUALITY CONTROL DATA

Project: BIG MO SVE

Pace Project No.: 60122770

QC Batch:	AIR/15139	Analysis Method:	TO-14M Ambient Air
QC Batch Method:	TO-14M Ambient Air	Analysis Description:	TO14 MSV AIR - AMBIENT
Associated Lab Samples:	60122770001, 60122770002		

METHOD BLANK: 1222547 Matrix: Air

Associated Lab Samples: 60122770001, 60122770002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,4-Dichlorobenzene	ppbv	ND	0.50	06/19/12 22:31	
Benzene	ppbv	ND	0.50	06/19/12 22:31	
Chlorobenzene	ppbv	ND	0.50	06/19/12 22:31	
Ethylbenzene	ppbv	ND	0.50	06/19/12 22:31	
m&p-Xylene	ppbv	ND	1.0	06/19/12 22:31	
o-Xylene	ppbv	ND	0.50	06/19/12 22:31	
Toluene	ppbv	ND	0.50	06/19/12 22:31	

LABORATORY CONTROL SAMPLE: 1222548

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,4-Dichlorobenzene	ppbv	10	9.5	95	72-131	
Benzene	ppbv	10	10.8	108	69-134	
Chlorobenzene	ppbv	10	10.3	103	75-128	
Ethylbenzene	ppbv	10	11.3	113	69-139	
m&p-Xylene	ppbv	20	23.3	116	66-137	
o-Xylene	ppbv	10	11.1	111	69-138	
Toluene	ppbv	10	11.0	110	71-132	

QUALIFIERS

Project: BIG MO SVE
Pace Project No.: 60122770

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PRL - Pace Reporting Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

LABORATORIES

PASI-M Pace Analytical Services - Minneapolis

SAMPLE QUALIFIERS

Sample: 60122770001

[1] The sample was analyzed by serial dilution.

Sample: 60122770002

[1] The sample was analyzed by serial dilution.

Sample: 60122770003

[1] The sample was analyzed by serial dilution.

ANALYTE QUALIFIERS

A4 A

A4 Sample was transferred from a sampling bag into a Summa Canister within 48 hours of collection.

C0 Result confirmed by second analysis.

E Analyte concentration exceeded the calibration range. The reported result is estimated.

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: BIG MO SVE

Pace Project No.: 60122770

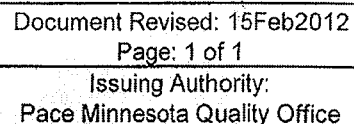
Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60122770001	WGKBIGMO98STACK060612	TO-14M Ambient Air	AIR/15139		
60122770002	WGKBIGMO99STACK060612	TO-14M Ambient Air	AIR/15139		
60122770003	WGKBIGMOTOXINF060612	TO-14M Ambient Air	AIR/15133		



CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:	
Company	XDD, LLC	Report To	ERIN STANISZEWSKI; XDD, LLC	Attention:	Solutia Inc. - Bill Johnson
Address:	22 Martin Way #3 Stratham, NH 03885	Copy To	BILL JOHNSON	Company Name:	575 Maryville Centre Drive St. Louis, MO 63141
Email To	staniszevski@xdd-llc.com	Purchase Order No.:	wgjohn@solutia.com	Address:	
Phone:	603-418-3132	Project Name:	Big Mo SVE	Pace Quote Reference:	00001191
Requested Due Date/TAT:	STD 10 business days	Project Number:	11002	Pace Project Manager:	Jaime Church
Valid Matrix Codes		COLLECTED		Requested Analysis Filtered (Y/N)	
MATRIX CODE	DRINKING WATER DW	COMPOSITE START	DATE	TIME	
WATER WT	WASTE WATER WW	COMPOSITE ENDIGRAB	DATE	TIME	
PRODUCT P	SOL/SOLID SL		DATE	TIME	
OIL OL	WPE WP		DATE	TIME	
AIR AR	OTHER OT		DATE	TIME	
ISSUE TS			DATE	TIME	
SAMPLE ID (A-Z, 0-9 / -)		SAMPLE TYPE (G=GRAB C=COMP)		SAMPLE TEMP AT COLLECTION	
Sample IDs MUST BE UNIQUE		MATRIX CODE (see valid codes to left)		SAMPLE TEMP AT COLLECTION	
ITEM #		DATE	TIME	DATE	TIME
1	WVGK BIG MO 98 STACK 060612 AR G	6/16	0900	6/16	0900
2	WVGK BIG MO 99 STACK 060612 AR G	6/16	0905	6/16	0905
3	WVGK BIG MO TOX INFO 060612 AR G	6/16	0910	6/16	0910
4					
5					
6					
7					
8					
9					
10					
11					
12					
ADDITIONAL COMMENTS		RELINQUISHED BY / AFFILIATION		DATE	
*1,2,4-trichlorobenzene, 1,2-dichlorobenzene, 1,3-dichlorobenzene, 1,4-dichlorobenzene, benzene, chlorobenzene		XDD		10:00	
Please report as a Level IV data package					
Report to both Erin and Bill					
SAMPLER NAME AND SIGNATURE		PRINT Name of SAMPLER: CURT FAHNESTACK		DATE Signed (MM/DD/YY): 6/16/12	
		SIGNATURE of SAMPLER: [Signature]			
Temp in °C		Received on		Cooler (Y/N)	
Samples Intact (Y/N)					



July 30, 2012

Erin Stanisewski
XDD, LLC
22 Marin Way #3
Stratham, NH 03885

RE: Project: BIG MO SVE
Pace Project No.: 60125137

Dear Erin Stanisewski:

Enclosed are the analytical results for sample(s) received by the laboratory on July 13, 2012. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Jamie Church

jamie.church@pacelabs.com
Project Manager

Enclosures

cc: William Johnson, Solutia, Inc.



REPORT OF LABORATORY ANALYSIS

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Page 1 of 13

CERTIFICATIONS

Project: BIG MO SVE

Pace Project No.: 60125137

Minnesota Certification IDs

1700 Elm Street SE Suite 200, Minneapolis, MN 55414

A2LA Certification #: 2926.01

Alaska Certification #: UST-078

Alaska Certification #MN00064

Arizona Certification #: AZ-0014

Arkansas Certification #: 88-0680

California Certification #: 01155CA

EPA Region 8 Certification #: Pace

Florida/NELAP Certification #: E87605

Georgia Certification #: 959

Idaho Certification #: MN00064

Illinois Certification #: 200011

Iowa Certification #: 368

Kansas Certification #: E-10167

Louisiana Certification #: 03086

Louisiana Certification #: LA080009

Maine Certification #: 2007029

Maryland Certification #: 322

Michigan DEQ Certification #: 9909

Minnesota Certification #: 027-053-137

Mississippi Certification #: Pace

Montana Certification #: MT CERT0092

Nevada Certification #: MN_00064

Nebraska Certification #: Pace

New Jersey Certification #: MN-002

New Mexico Certification #: Pace

New York Certification #: 11647

North Carolina Certification #: 530

North Dakota Certification #: R-036

North Dakota Certification #: R-036A

Ohio VAP Certification #: CL101

Oklahoma Certification #: D9921

Oklahoma Certification #: 9507

Oregon Certification #: MN200001

Pennsylvania Certification #: 68-00563

Puerto Rico Certification

Tennessee Certification #: 02818

Texas Certification #: T104704192

Virginia/DCLS Certification #: 002521

Virginia/VELAP Certification #: 460163

Washington Certification #: C754

Wisconsin Certification #: 999407970

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: BIG MO SVE

Pace Project No.: 60125137

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60125137001	WKBIGMO98STACK071212	Air	07/12/12 10:39	07/13/12 10:04
60125137002	WKBIGMO99STACK071212	Air	07/12/12 10:31	07/13/12 10:04
60125137003	WKBIGMOTOXINF071212	Air	07/12/12 10:48	07/13/12 10:04

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: BIG MO SVE

Pace Project No.: 60125137

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60125137001	WKBIGMO98STACK071212	TO-14M Ambient Air	DR1	7	PASI-M
60125137002	WKBIGMO99STACK071212	TO-14M Ambient Air	DR1	7	PASI-M
60125137003	WKBIGMOTOXINF071212	TO-14M Ambient Air	DR1	7	PASI-M

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: BIG MO SVE

Pace Project No.: 60125137

Method: TO-14M Ambient Air

Description: TO-14M MSV AIR - Ambient

Client: XDD_SOLUTION, LLC

Date: July 30, 2012

General Information:

3 samples were analyzed for TO-14M Ambient Air. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

A4: Sample was transferred from a sampling bag into a Summa Canister within 48 hours of collection.

- WKBIGMO98STACK071212 (Lab ID: 60125137001)
- WKBIGMO99STACK071212 (Lab ID: 60125137002)
- WKBIGMOTOXINF071212 (Lab ID: 60125137003)

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

Surrogates:

All surrogates were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

Sample Comments:

A3: The sample was analyzed by serial dilution.

- WKBIGMO98STACK071212 (Lab ID: 60125137001)
- WKBIGMO99STACK071212 (Lab ID: 60125137002)
- WKBIGMOTOXINF071212 (Lab ID: 60125137003)

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: BIG MO SVE

Pace Project No.: 60125137

Method: TO-14M Ambient Air

Description: TO-14M MSV AIR - Ambient

Client: XDD_SOLUTION, LLC

Date: July 30, 2012

Analyte Comments:

QC Batch: AIR/15382

E: Analyte concentration exceeded the calibration range. The reported result is estimated.

- WKBIGMOTOXINF071212 (Lab ID: 60125137003)
- Benzene

This data package has been reviewed for quality and completeness and is approved for release.

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BIG MO SVE

Pace Project No.: 60125137

Sample: WKBIGMO98STACK071212 **Lab ID: 60125137001** Collected: 07/12/12 10:39 Received: 07/13/12 10:04 Matrix: Air

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
TO-14M MSV AIR - Ambient	Analytical Method: TO-14M Ambient Air								
Benzene	ND	ppbv	13.9	7.0	27.84		07/25/12 15:44	71-43-2	A4
Chlorobenzene	ND	ppbv	13.9	7.0	27.84		07/25/12 15:44	108-90-7	
1,4-Dichlorobenzene	ND	ppbv	13.9	7.0	27.84		07/25/12 15:44	106-46-7	
Ethylbenzene	ND	ppbv	13.9	7.0	27.84		07/25/12 15:44	100-41-4	
Toluene	16.6	ppbv	13.9	7.0	27.84		07/25/12 15:44	108-88-3	
m&p-Xylene	ND	ppbv	27.8	13.9	27.84		07/25/12 15:44	179601-23-1	
o-Xylene	ND	ppbv	13.9	7.0	27.84		07/25/12 15:44	95-47-6	

ANALYTICAL RESULTS

Project: BIG MO SVE

Pace Project No.: 60125137

Sample: WKBIGMO99STACK071212 **Lab ID: 60125137002** Collected: 07/12/12 10:31 Received: 07/13/12 10:04 Matrix: Air

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
TO-14M MSV AIR - Ambient		Analytical Method: TO-14M Ambient Air							
Benzene	ND	ppbv	13.9	7.0	27.84		07/25/12 15:12	71-43-2	A4
Chlorobenzene	ND	ppbv	13.9	7.0	27.84		07/25/12 15:12	108-90-7	
1,4-Dichlorobenzene	ND	ppbv	13.9	7.0	27.84		07/25/12 15:12	106-46-7	
Ethylbenzene	ND	ppbv	13.9	7.0	27.84		07/25/12 15:12	100-41-4	
Toluene	7.9J	ppbv	13.9	7.0	27.84		07/25/12 15:12	108-88-3	
m&p-Xylene	ND	ppbv	27.8	13.9	27.84		07/25/12 15:12	179601-23-1	
o-Xylene	ND	ppbv	13.9	7.0	27.84		07/25/12 15:12	95-47-6	

ANALYTICAL RESULTS

Project: BIG MO SVE

Pace Project No.: 60125137

Sample: WKBIGMOTOXINF071212 Lab ID: 60125137003 Collected: 07/12/12 10:48 Received: 07/13/12 10:04 Matrix: Air									
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
TO-14M MSV AIR - Ambient Analytical Method: TO-14M Ambient Air									
Benzene	1820000	ppbv	18400	9220	36864		07/26/12 02:21	71-43-2	A4,E
Chlorobenzene	17900	ppbv	288	144	576		07/24/12 21:57	108-90-7	
1,4-Dichlorobenzene	ND	ppbv	288	144	576		07/24/12 21:57	106-46-7	
Ethylbenzene	ND	ppbv	288	144	576		07/24/12 21:57	100-41-4	
Toluene	200J	ppbv	288	144	576		07/24/12 21:57	108-88-3	
m&p-Xylene	ND	ppbv	576	288	576		07/24/12 21:57	179601-23-1	
o-Xylene	ND	ppbv	288	144	576		07/24/12 21:57	95-47-6	

QUALITY CONTROL DATA

Project: BIG MO SVE

Pace Project No.: 60125137

QC Batch:	AIR/15382	Analysis Method:	TO-14M Ambient Air
QC Batch Method:	TO-14M Ambient Air	Analysis Description:	TO14 MSV AIR - AMBIENT
Associated Lab Samples:	60125137003		

METHOD BLANK: 1248278 Matrix: Air

Associated Lab Samples: 60125137003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,4-Dichlorobenzene	ppbv	ND	0.50	07/24/12 09:48	
Benzene	ppbv	ND	0.50	07/24/12 09:48	
Chlorobenzene	ppbv	ND	0.50	07/24/12 09:48	
Ethylbenzene	ppbv	ND	0.50	07/24/12 09:48	
m&p-Xylene	ppbv	ND	1.0	07/24/12 09:48	
o-Xylene	ppbv	ND	0.50	07/24/12 09:48	
Toluene	ppbv	ND	0.50	07/24/12 09:48	

LABORATORY CONTROL SAMPLE: 1248279

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,4-Dichlorobenzene	ppbv	10	9.5	95	72-131	
Benzene	ppbv	10	10.7	107	69-134	
Chlorobenzene	ppbv	10	9.5	95	75-128	
Ethylbenzene	ppbv	10	11.6	116	69-139	
m&p-Xylene	ppbv	20	22.0	110	66-137	
o-Xylene	ppbv	10	11.2	112	69-138	
Toluene	ppbv	10	9.7	97	71-132	

QUALITY CONTROL DATA

Project: BIG MO SVE

Pace Project No.: 60125137

QC Batch:	AIR/15391	Analysis Method:	TO-14M Ambient Air
QC Batch Method:	TO-14M Ambient Air	Analysis Description:	TO14 MSV AIR - AMBIENT
Associated Lab Samples:	60125137001, 60125137002		

METHOD BLANK: 1249476 Matrix: Air

Associated Lab Samples: 60125137001, 60125137002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,4-Dichlorobenzene	ppbv	ND	0.50	07/25/12 09:17	
Benzene	ppbv	ND	0.50	07/25/12 09:17	
Chlorobenzene	ppbv	ND	0.50	07/25/12 09:17	
Ethylbenzene	ppbv	ND	0.50	07/25/12 09:17	
m&p-Xylene	ppbv	ND	1.0	07/25/12 09:17	
o-Xylene	ppbv	ND	0.50	07/25/12 09:17	
Toluene	ppbv	ND	0.50	07/25/12 09:17	

LABORATORY CONTROL SAMPLE: 1249477

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,4-Dichlorobenzene	ppbv	10	9.4	94	72-131	
Benzene	ppbv	10	10.5	105	69-134	
Chlorobenzene	ppbv	10	9.3	93	75-128	
Ethylbenzene	ppbv	10	11.6	116	69-139	
m&p-Xylene	ppbv	20	22.2	111	66-137	
o-Xylene	ppbv	10	11.0	110	69-138	
Toluene	ppbv	10	9.5	95	71-132	

SAMPLE DUPLICATE: 1250566

Parameter	Units	10198743002 Result	Dup Result	RPD	Max RPD	Qualifiers
1,4-Dichlorobenzene	ppbv	ND	ND		30	
Benzene	ppbv	0.97	0.98	1	30	
Chlorobenzene	ppbv	ND	ND		30	
Ethylbenzene	ppbv	ND	ND		30	
m&p-Xylene	ppbv	ND	ND		30	
o-Xylene	ppbv	ND	ND		30	
Toluene	ppbv	ND	0.60J		30	

QUALIFIERS

Project: BIG MO SVE
Pace Project No.: 60125137

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PRL - Pace Reporting Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

LABORATORIES

PASI-M Pace Analytical Services - Minneapolis

SAMPLE QUALIFIERS

Sample: 60125137001

[1] The sample was analyzed by serial dilution.

Sample: 60125137002

[1] The sample was analyzed by serial dilution.

Sample: 60125137003

[1] The sample was analyzed by serial dilution.

ANALYTE QUALIFIERS

A4 Sample was transferred from a sampling bag into a Summa Canister within 48 hours of collection.

E Analyte concentration exceeded the calibration range. The reported result is estimated.

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: BIG MO SVE

Pace Project No.: 60125137

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60125137001	WKBIGMO98STACK071212	TO-14M Ambient Air	AIR/15391		
60125137002	WKBIGMO99STACK071212	TO-14M Ambient Air	AIR/15391		
60125137003	WKBIGMOTOXINF071212	TO-14M Ambient Air	AIR/15382		

10194635

Page: 1 of 1

Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:	
Company: XDD, LLC	Address: 22 Main Way #3 Stratham, NH 03885	Report To: <u>Edn Stratuski, XDD</u>	Copy To: <u>Bill Johnson</u>	Attention: <u>Solutia Inc. - Bill Johnson</u>	Company Name: 575 Maryville Centre Drive St. Louis, MO 63141
Phone: 603-418-3132	Fax: <u>603-418-3132</u>	Purchase Order No: <u>11002</u>	Project Name: <u>Big Mo SUE</u>	Reference: <u>00001191</u>	Face Project Manager: <u>Jaime Church</u>
Requested Due Date/TAT: STD 10 business days	Project Number: <u>11002</u>	Project Name: <u>Big Mo SUE</u>	Page Profile #:	Requested Analysis Filtered (Y/N)	REGULATORY AGENCY NPDES ☐ GROUND WATER ☐ DRINKING WATER ☐ UST ☐ RCRA ☐ OTHER ☒ Site Location: <u>IL</u>

ITEM #	Section D Required Client Information	Valid Matrix Codes MATRIX CODE (A-Z, 0-9 / -) Sample IDs MUST BE UNIQUE	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	DATE	TIME	DATE	TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Unpreserved	H ₂ SO ₄	HNO ₃	HCl	NaOH	Na ₂ S ₂ O ₃	Methanol	Other	Analysis Test	TO-14*	Preservatives	Y/N	N	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	WGSKBLGMD98STACK074212	AR G					7/12/12	039		2															
2	WGSKBLGMD98STACK074212	AR G					7/12/12	1031		2															
3	WGSKBLGMD98STACK074212	AR G					7/12/12	1048		2															
4																									
5																									
6																									
7																									
8																									
9																									
10																									
11																									
12																									

ADDITIONAL COMMENTS		RELINQUISHED BY / AFFILIATION		DATE		TIME		ACCEPTED BY / AFFILIATION		DATE		TIME		SAMPLE CONDITIONS	
1,2,4-trichlorobenzene, 1,2-dichlorobenzene, 1,3-dichlorobenzene, 1,4-dichlorobenzene, benzene, toluene		Pace Corp XDD		7/12/12		from 2m pace		7.13.12		1004		and		Y	
Big Mo TO-14A 1st		Pace Corp XDD		7/12/12		from 2m pace		7.13.12		1004		and		Y	
Report to both Erin and Bill		Pace Corp XDD		7/12/12		from 2m pace		7.13.12		1004		and		Y	

SAMPLER NAME AND SIGNATURE		DATE Signed	
PRINT Name of SAMPLER: <u>Erin Crawford</u>		07/12/12	
SIGNATURE of SAMPLER: <u>Erin Crawford</u>		07/12/12	

Chain of Custody

10199635

Pace Analytical
www.pacelabs.com

Workorder: 60125137

Workorder Name: BIG MO SVE

Owner Received Date: 7/13/2012 Results Requested By: 7/27/2012

Report To

Jamie Church
Pace Analytical Services, Inc.
9608 Loiret Blvd.
Lenexa, KS 66219
Phone (913)599-5665
Fax (913)599-1759

Subcontract To

Pace Analytical Minnesota
1700 Elm Street
Suite 200
Minneapolis, MN 55414
Phone (612)607-1700

Requested Analysis

Item	Sample ID	Sample Type	Collect Date/Time	Lab ID	Matrix	Preserved Containers	TO-14	LAB USE ONLY
1	WKBIGMO96STACK071212	PS	7/12/2012 10:39	60125137001	Air	1	X	
2	WKBIGMO96STACK071212	PS	7/12/2012 10:31	60125137002	Air	1	X	
3	WKBIGMOTOXIN071212	PS	7/12/2012 10:48	60125137003	Air	1	X	
4								
5								
Transfers								
1	Released By	Date/Time	Received By	Date/Time				
2								
3								
Cooler Temperature on Receipt <i>Andyc</i> Custody Seal <i>Y</i> or <i>N</i> Received on Ice <i>Y</i> or <i>N</i> Samples Intact <i>Y</i> or <i>N</i>								

Comments

LAB USE ONLY

August 08, 2012

Erin Stanisewski
XDD, LLC
22 Marin Way #3
Stratham, NH 03885

RE: Project: BIG MO SVE SYSTEM
Pace Project No.: 60125786

Dear Erin Stanisewski:

Enclosed are the analytical results for sample(s) received by the laboratory on July 25, 2012. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Andy Brownfield for
Jamie Church
jamie.church@pacelabs.com
Project Manager

Enclosures

cc: William Johnson, Solutia, Inc.



REPORT OF LABORATORY ANALYSIS

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PacePackage P. 1 of 10

CERTIFICATIONS

Project: BIG MO SVE SYSTEM

Pace Project No.: 60125786

Minnesota Certification IDs

1700 Elm Street SE Suite 200, Minneapolis, MN 55414

A2LA Certification #: 2926.01

Alaska Certification #: UST-078

Alaska Certification #MN00064

Arizona Certification #: AZ-0014

Arkansas Certification #: 88-0680

California Certification #: 01155CA

EPA Region 8 Certification #: Pace

Florida/NELAP Certification #: E87605

Georgia Certification #: 959

Idaho Certification #: MN00064

Illinois Certification #: 200011

Iowa Certification #: 368

Kansas Certification #: E-10167

Louisiana Certification #: 03086

Louisiana Certification #: LA080009

Maine Certification #: 2007029

Maryland Certification #: 322

Michigan DEQ Certification #: 9909

Minnesota Certification #: 027-053-137

Mississippi Certification #: Pace

Montana Certification #: MT CERT0092

Nevada Certification #: MN_00064

Nebraska Certification #: Pace

New Jersey Certification #: MN-002

New Mexico Certification #: Pace

New York Certification #: 11647

North Carolina Certification #: 530

North Dakota Certification #: R-036

North Dakota Certification #: R-036A

Ohio VAP Certification #: CL101

Oklahoma Certification #: D9921

Oklahoma Certification #: 9507

Oregon Certification #: MN200001

Pennsylvania Certification #: 68-00563

Puerto Rico Certification

Tennessee Certification #: 02818

Texas Certification #: T104704192

Virginia/DCLS Certification #: 002521

Virginia/VELAP Certification #: 460163

Washington Certification #: C754

Wisconsin Certification #: 999407970

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: BIG MO SVE SYSTEM

Pace Project No.: 60125786

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60125786001	WGKSVEEFF072412	Air	07/24/12 09:30	07/25/12 10:05

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: BIG MO SVE SYSTEM

Pace Project No.: 60125786

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60125786001	WGKSVEEFF072412	TO-14M Ambient Air	DR1	7	PASI-M

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: BIG MO SVE SYSTEM

Pace Project No.: 60125786

Method: TO-14M Ambient Air

Description: TO-14M MSV AIR - Ambient

Client: XDD_SOLUTION, LLC

Date: August 08, 2012

General Information:

1 sample was analyzed for TO-14M Ambient Air. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

A4: Sample was transferred from a sampling bag into a Summa Canister within 48 hours of collection.

- WGKSVEEFF072412 (Lab ID: 60125786001)

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

Surrogates:

All surrogates were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

Sample Comments:

A3: The sample was analyzed by serial dilution.

- WGKSVEEFF072412 (Lab ID: 60125786001)

Analyte Comments:

QC Batch: AIR/15463

E: Analyte concentration exceeded the calibration range. The reported result is estimated.

- WGKSVEEFF072412 (Lab ID: 60125786001)
- Benzene

This data package has been reviewed for quality and completeness and is approved for release.

REPORT OF LABORATORY ANALYSIS

Page 5 of 9

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ANALYTICAL RESULTS

Project: BIG MO SVE SYSTEM

Pace Project No.: 60125786

Sample: WGKSVVEFF072412 Lab ID: 60125786001 Collected: 07/24/12 09:30 Received: 07/25/12 10:05 Matrix: Air									
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
TO-14M MSV AIR - Ambient Analytical Method: TO-14M Ambient Air									
Benzene	2520000	ppbv	17800	8910	35635.		08/07/12 08:52	71-43-2	A4,E
Chlorobenzene	114000	ppbv	17800	8910	35635.		08/07/12 08:52	108-90-7	
1,4-Dichlorobenzene	ND	ppbv	17800	8910	35635.		08/07/12 08:52	106-46-7	
Ethylbenzene	ND	ppbv	17800	8910	35635.		08/07/12 08:52	100-41-4	
Toluene	ND	ppbv	17800	8910	35635.		08/07/12 08:52	108-88-3	
m&p-Xylene	ND	ppbv	35600	17800	35635.		08/07/12 08:52	179601-23-1	
o-Xylene	ND	ppbv	17800	8910	35635.		08/07/12 08:52	95-47-6	

QUALITY CONTROL DATA

Project: BIG MO SVE SYSTEM

Pace Project No.: 60125786

QC Batch:	AIR/15463	Analysis Method:	TO-14M Ambient Air
QC Batch Method:	TO-14M Ambient Air	Analysis Description:	TO14 MSV AIR - AMBIENT
Associated Lab Samples:	60125786001		

METHOD BLANK: 1257785 Matrix: Air

Associated Lab Samples: 60125786001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,4-Dichlorobenzene	ppbv	ND	0.50	08/06/12 15:38	
Benzene	ppbv	ND	0.50	08/06/12 15:38	
Chlorobenzene	ppbv	ND	0.50	08/06/12 15:38	
Ethylbenzene	ppbv	ND	0.50	08/06/12 15:38	
m&p-Xylene	ppbv	ND	1.0	08/06/12 15:38	
o-Xylene	ppbv	ND	0.50	08/06/12 15:38	
Toluene	ppbv	ND	0.50	08/06/12 15:38	

LABORATORY CONTROL SAMPLE: 1257786

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,4-Dichlorobenzene	ppbv	10	9.9	99	72-131	
Benzene	ppbv	10	10.4	104	69-134	
Chlorobenzene	ppbv	10	9.3	93	75-128	
Ethylbenzene	ppbv	10	10.6	106	69-139	
m&p-Xylene	ppbv	20	19.1	95	66-137	
o-Xylene	ppbv	10	10.3	103	69-138	
Toluene	ppbv	10	9.8	98	71-132	

QUALIFIERS

Project: BIG MO SVE SYSTEM
Pace Project No.: 60125786

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PRL - Pace Reporting Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

LABORATORIES

PASI-M Pace Analytical Services - Minneapolis

SAMPLE QUALIFIERS

Sample: 60125786001

[1] The sample was analyzed by serial dilution.

ANALYTE QUALIFIERS

A4 Sample was transferred from a sampling bag into a Summa Canister within 48 hours of collection.

E Analyte concentration exceeded the calibration range. The reported result is estimated.

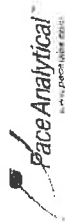
QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: BIG MO SVE SYSTEM

Pace Project No.: 60125786

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60125786001	WGKSVEEFF072412	TO-14M Ambient Air	AIR/15463		

CHAIN-OF-CUSTODY / Analytical Request Document
The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.



Section A Required Client Information: Company: XDD, LLC Address: 22 Marin Way #3 Stratham, NH 03885 Email To: stanisewski@xdd-llc.com Phone: 603-418-3132 Fax: _____ Requested Due Date/TAT: 5 TO 10 business days		Section B Required Project Information: Report To: Erin Stanisewski - XDD, LLC Copy To: Bill Johnson Project Name: SVE System Project Number: 11002		Section C Invoice Information: Attention: Solutia Inc. - Bill Johnson Company Name: 575 Maryville Centre Drive St. Louis, MO 63141 Pace Quote Reference: 00001191 Pace Project Manager: Jaime Church Pace Profile #: _____		Section D Required Client Information: SAMPLE ID (A-Z, 0-9 / -) Sample IDs MUST BE UNIQUE Valid Matrix Codes MATRIX CODE DRINKING WATER DW WATER WWT WATER PRODUCT P SOLID SL OIL OL AIR APT AIR OT TISSE TIS	
REGULATORY AGENCY ☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER ☐ UST ☐ RCRA ☐ OTHER _____		Site Location STATE: IL		Requested Analysis Filtered (Y/N)			
Residual Chlorine (Y/N)		Preservatives Unpreserved H ₂ SO ₄ HNO ₃ HCl NaOH Na ₂ S ₂ O ₃ Methanol Other _____		Analysis Test X TO-14A Big Mo List			
Pace Project No. / Lab I.D. 6061252786		SAMPLE CONDITIONS		Temp in °C			
Received on		Custody Sealed		Samples Intact			
Ice (Y/N)		Cooler (Y/N)		Y/N			
DATE SIGNED (MM/DD/YY): 7/24/12		DATE SIGNED (MM/DD/YY): 7/25/12		DATE SIGNED (MM/DD/YY): 7/24/12			
SIGNATURE OF SAMPLER: [Signature]		SIGNATURE OF ANALYST: [Signature]		SIGNATURE OF CLIENT: [Signature]			
PRINT NAME OF SAMPLER: [Name]		PRINT NAME OF ANALYST: [Name]		PRINT NAME OF CLIENT: [Name]			
SAMPLER NAME AND SIGNATURE		ANALYST NAME AND SIGNATURE		CLIENT NAME AND SIGNATURE			

*Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to the charges of 1.5% per month. Early invoices not paid within 30 days.

10484

August 09, 2012

Erin Stanisewski
XDD, LLC
22 Marin Way #3
Stratham, NH 03885

RE: Project: BIG MO SVE SYSTEM
Pace Project No.: 60125968

Dear Erin Stanisewski:

Enclosed are the analytical results for sample(s) received by the laboratory on July 27, 2012. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Andy Brownfield for
Jamie Church
jamie.church@pacelabs.com
Project Manager

Enclosures

cc: William Johnson, Solutia, Inc.



REPORT OF LABORATORY ANALYSIS

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Page 1 of 9

PacePackage P. 1 of 10

CERTIFICATIONS

Project: BIG MO SVE SYSTEM

Pace Project No.: 60125968

Minnesota Certification IDs

1700 Elm Street SE Suite 200, Minneapolis, MN 55414

A2LA Certification #: 2926.01

Alaska Certification #: UST-078

Alaska Certification #MN00064

Arizona Certification #: AZ-0014

Arkansas Certification #: 88-0680

California Certification #: 01155CA

EPA Region 8 Certification #: Pace

Florida/NELAP Certification #: E87605

Georgia Certification #: 959

Idaho Certification #: MN00064

Illinois Certification #: 200011

Iowa Certification #: 368

Kansas Certification #: E-10167

Louisiana Certification #: 03086

Louisiana Certification #: LA080009

Maine Certification #: 2007029

Maryland Certification #: 322

Michigan DEQ Certification #: 9909

Minnesota Certification #: 027-053-137

Mississippi Certification #: Pace

Montana Certification #: MT CERT0092

Nevada Certification #: MN_00064

Nebraska Certification #: Pace

New Jersey Certification #: MN-002

New Mexico Certification #: Pace

New York Certification #: 11647

North Carolina Certification #: 530

North Dakota Certification #: R-036

North Dakota Certification #: R-036A

Ohio VAP Certification #: CL101

Oklahoma Certification #: D9921

Oklahoma Certification #: 9507

Oregon Certification #: MN200001

Pennsylvania Certification #: 68-00563

Puerto Rico Certification

Tennessee Certification #: 02818

Texas Certification #: T104704192

Virginia/DCLS Certification #: 002521

Virginia/VELAP Certification #: 460163

Washington Certification #: C754

Wisconsin Certification #: 999407970

REPORT OF LABORATORY ANALYSIS

Page 2 of 9

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SAMPLE SUMMARY

Project: BIG MO SVE SYSTEM

Pace Project No.: 60125968

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60125968001	WGKBIGMOSP401072612	Air	07/26/12 15:58	07/27/12 10:05

REPORT OF LABORATORY ANALYSIS

Page 3 of 9

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SAMPLE ANALYTE COUNT

Project: BIG MO SVE SYSTEM

Pace Project No.: 60125968

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60125968001	WGKBIGMOSP401072612	TO-14M Ambient Air	CJR	7	PASI-M

REPORT OF LABORATORY ANALYSIS

Page 4 of 9

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PROJECT NARRATIVE

Project: BIG MO SVE SYSTEM

Pace Project No.: 60125968

Method: TO-14M Ambient Air

Description: TO-14M MSV AIR - Ambient

Client: XDD_SOLUTION, LLC

Date: August 09, 2012

General Information:

1 sample was analyzed for TO-14M Ambient Air. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

A4: Sample was transferred from a sampling bag into a Summa Canister within 48 hours of collection.

- WGKBIGMOSP401072612 (Lab ID: 60125968001)

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

Surrogates:

All surrogates were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

Sample Comments:

A3: The sample was analyzed by serial dilution.

- WGKBIGMOSP401072612 (Lab ID: 60125968001)

Analyte Comments:

QC Batch: AIR/15473

E: Analyte concentration exceeded the calibration range. The reported result is estimated.

- WGKBIGMOSP401072612 (Lab ID: 60125968001)
- Benzene

This data package has been reviewed for quality and completeness and is approved for release.

REPORT OF LABORATORY ANALYSIS

Page 5 of 9

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ANALYTICAL RESULTS

Project: BIG MO SVE SYSTEM

Pace Project No.: 60125968

Sample: WGKBIGMOSP401072612 Lab ID: 60125968001 Collected: 07/26/12 15:58 Received: 07/27/12 10:05 Matrix: Air									
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
TO-14M MSV AIR - Ambient Analytical Method: TO-14M Ambient Air									
Benzene	2260000	ppbv	4450	2230	8908.8		08/08/12 08:58	71-43-2	A4,E
Chlorobenzene	110000	ppbv	4450	2230	8908.8		08/08/12 08:58	108-90-7	
1,4-Dichlorobenzene	ND	ppbv	4450	2230	8908.8		08/08/12 08:58	106-46-7	
Ethylbenzene	ND	ppbv	4450	2230	8908.8		08/08/12 08:58	100-41-4	
Toluene	ND	ppbv	4450	2230	8908.8		08/08/12 08:58	108-88-3	
m&p-Xylene	ND	ppbv	8910	4450	8908.8		08/08/12 08:58	179601-23-1	
o-Xylene	ND	ppbv	4450	2230	8908.8		08/08/12 08:58	95-47-6	

QUALITY CONTROL DATA

Project: BIG MO SVE SYSTEM

Pace Project No.: 60125968

QC Batch:	AIR/15473	Analysis Method:	TO-14M Ambient Air
QC Batch Method:	TO-14M Ambient Air	Analysis Description:	TO14 MSV AIR - AMBIENT
Associated Lab Samples:	60125968001		

METHOD BLANK: 1259131 Matrix: Air

Associated Lab Samples: 60125968001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,4-Dichlorobenzene	ppbv	ND	0.50	08/07/12 23:09	
Benzene	ppbv	ND	0.50	08/07/12 23:09	
Chlorobenzene	ppbv	ND	0.50	08/07/12 23:09	
Ethylbenzene	ppbv	ND	0.50	08/07/12 23:09	
m&p-Xylene	ppbv	ND	1.0	08/07/12 23:09	
o-Xylene	ppbv	ND	0.50	08/07/12 23:09	
Toluene	ppbv	ND	0.50	08/07/12 23:09	

LABORATORY CONTROL SAMPLE: 1259132

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,4-Dichlorobenzene	ppbv	10	10.6	106	72-131	
Benzene	ppbv	10	9.8	98	69-134	
Chlorobenzene	ppbv	10	10	100	75-128	
Ethylbenzene	ppbv	10	10.9	109	69-139	
m&p-Xylene	ppbv	20	20.9	105	66-137	
o-Xylene	ppbv	10	10.6	106	69-138	
Toluene	ppbv	10	10.8	108	71-132	

QUALIFIERS

Project: BIG MO SVE SYSTEM
Pace Project No.: 60125968

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PRL - Pace Reporting Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

LABORATORIES

PASI-M Pace Analytical Services - Minneapolis

SAMPLE QUALIFIERS

Sample: 60125968001

[1] The sample was analyzed by serial dilution.

ANALYTE QUALIFIERS

A4 Sample was transferred from a sampling bag into a Summa Canister within 48 hours of collection.

E Analyte concentration exceeded the calibration range. The reported result is estimated.

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: BIG MO SVE SYSTEM

Pace Project No.: 60125968

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60125968001	WGKBIGMOSP401072612	TO-14M Ambient Air	AIR/15473		

Section A Required Client Information: Company: XOO, LLC Address: 22 Mann Way Shatham, NH 03855 Email To: Stanisewski Phone: 603-799-8022 Fax: XOO Requested Due Date: Standard		Section B Required Project Information: Attention: Erin Stanisewski + Bill Copy to: (XOO) Project Name: big Mo SVE system Purchase Order No.: 11002		Section C Invoice Information: Attention: Solutia Inc - Bill Johnson Company: Solutia Inc Address: 375 Maryville Centre St. Louis, MO 63141 Paces Profile #: 0005191 Paces Project Manager: Jamie Slade		Page: 1 of 1 1557215 REGULATORY AGENCY ☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER ☐ UST ☒ RCRA ☐ OTHER air Site Location: IL STATE: IL	
--	--	---	--	---	--	---	--

ITEM #	Section D Required Client Information	Matrix Codes MATRIX / CODE	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED		SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives	Requested Analysis Filtered (Y/N)	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
				COMPOSITE START	COMPOSITE END/GRAB						
1	SAMPLE ID (A-Z, 0-9 / - /) Sample IDs MUST BE UNIQUE	DW WT WW P SL OL WP AR TS OT	AA G	DATE: 7/26/12 TIME: 1530	DATE: 7/26/12 TIME: 1530		2	Unpreserved H ₂ SO ₄ HNO ₃ HCl NaOH Na ₂ S ₂ O ₃ Methanol Other	X	70-144-Jhot	60125968
2											See comments
3											
4											
5											
6											
7											
8											
9											
10											
11											
12											

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
big Mo SVE TO-14A specific shortlist email to XOO + Solutia provide EDO w/ report	[Signature]	7/26/12	1830	[Signature]	7/26/12	1830	Temp in °C Sealed Cooler Received on Ice (Y/N) Custody Samples Intact

*Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.

August 21, 2012

Erin Stanisewski
XDD, LLC
22 Marin Way #3
Stratham, NH 03885

RE: Project: SVE SYSTEM
Pace Project No.: 60126637

Dear Erin Stanisewski:

Enclosed are the analytical results for sample(s) received by the laboratory on August 08, 2012. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Andy Brownfield for
Jamie Church
jamie.church@pacelabs.com
Project Manager

Enclosures

cc: William Johnson, Solutia, Inc.



REPORT OF LABORATORY ANALYSIS

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Page 1 of 13

PacePackage P. 1 of 15

CERTIFICATIONS

Project: SVE SYSTEM

Pace Project No.: 60126637

Minnesota Certification IDs

1700 Elm Street SE Suite 200, Minneapolis, MN 55414

A2LA Certification #: 2926.01

Alaska Certification #: UST-078

Alaska Certification #MN00064

Arizona Certification #: AZ-0014

Arkansas Certification #: 88-0680

California Certification #: 01155CA

EPA Region 8 Certification #: Pace

Florida/NELAP Certification #: E87605

Georgia Certification #: 959

Idaho Certification #: MN00064

Illinois Certification #: 200011

Iowa Certification #: 368

Kansas Certification #: E-10167

Louisiana Certification #: 03086

Louisiana Certification #: LA080009

Maine Certification #: 2007029

Maryland Certification #: 322

Michigan DEQ Certification #: 9909

Minnesota Certification #: 027-053-137

Mississippi Certification #: Pace

Montana Certification #: MT CERT0092

Nevada Certification #: MN_00064

Nebraska Certification #: Pace

New Jersey Certification #: MN-002

New Mexico Certification #: Pace

New York Certification #: 11647

North Carolina Certification #: 530

North Dakota Certification #: R-036

North Dakota Certification #: R-036A

Ohio VAP Certification #: CL101

Oklahoma Certification #: D9921

Oklahoma Certification #: 9507

Oregon Certification #: MN200001

Pennsylvania Certification #: 68-00563

Puerto Rico Certification

Tennessee Certification #: 02818

Texas Certification #: T104704192

Virginia/DCLS Certification #: 002521

Virginia/VELAP Certification #: 460163

Washington Certification #: C754

Wisconsin Certification #: 999407970

REPORT OF LABORATORY ANALYSIS

Page 2 of 13

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SAMPLE SUMMARY

Project: SVE SYSTEM

Pace Project No.: 60126637

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60126637001	WGKBIGMO98STACK080712	Air	08/07/12 12:41	08/08/12 09:55
60126637002	WGKBIGMO99STACK080712	Air	08/07/12 12:50	08/08/12 09:55
60126637003	WGKBIGMOTOXINF080712	Air	08/07/12 12:59	08/08/12 09:55

REPORT OF LABORATORY ANALYSIS

Page 3 of 13

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SAMPLE ANALYTE COUNT

Project: SVE SYSTEM

Pace Project No.: 60126637

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60126637001	WGKBIGMO98STACK080712	TO-14M Ambient Air	CJR	7	PASI-M
60126637002	WGKBIGMO99STACK080712	TO-14M Ambient Air	CJR	7	PASI-M
60126637003	WGKBIGMOTOXINF080712	TO-14M Ambient Air	CJR	7	PASI-M

REPORT OF LABORATORY ANALYSIS

Page 4 of 13

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PROJECT NARRATIVE

Project: SVE SYSTEM

Pace Project No.: 60126637

Method: TO-14M Ambient Air

Description: TO-14M MSV AIR - Ambient

Client: XDD_SOLUTION, LLC

Date: August 21, 2012

General Information:

3 samples were analyzed for TO-14M Ambient Air. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

A4: Sample was transferred from a sampling bag into a Summa Canister within 48 hours of collection.

- WGKBIGMO98STACK080712 (Lab ID: 60126637001)
- WGKBIGMO99STACK080712 (Lab ID: 60126637002)
- WGKBIGMOTOXINF080712 (Lab ID: 60126637003)

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

Surrogates:

All surrogates were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

Sample Comments:

A3: The sample was analyzed by serial dilution.

- WGKBIGMO98STACK080712 (Lab ID: 60126637001)
- WGKBIGMO99STACK080712 (Lab ID: 60126637002)
- WGKBIGMOTOXINF080712 (Lab ID: 60126637003)

Analyte Comments:

QC Batch: AIR/15531

E: Analyte concentration exceeded the calibration range. The reported result is estimated.

- WGKBIGMOTOXINF080712 (Lab ID: 60126637003)
- Benzene

REPORT OF LABORATORY ANALYSIS

Page 5 of 13

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PROJECT NARRATIVE

Project: SVE SYSTEM

Pace Project No.: 60126637

Method: TO-14M Ambient Air

Description: TO-14M MSV AIR - Ambient

Client: XDD_SOLUTION, LLC

Date: August 21, 2012

This data package has been reviewed for quality and completeness and is approved for release.

REPORT OF LABORATORY ANALYSIS

Page 6 of 13

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ANALYTICAL RESULTS

Project: SVE SYSTEM

Pace Project No.: 60126637

Sample: WGKBIGMO98STACK0807 **Lab ID:** 60126637001 Collected: 08/07/12 12:41 Received: 08/08/12 09:55 Matrix: Air
12

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
TO-14M MSV AIR - Ambient		Analytical Method: TO-14M Ambient Air							
Benzene	1740	ppbv	55.7	27.8	111.36		08/15/12 14:40	71-43-2	A4
Chlorobenzene	347	ppbv	55.7	27.8	111.36		08/15/12 14:40	108-90-7	
1,4-Dichlorobenzene	ND	ppbv	55.7	27.8	111.36		08/15/12 14:40	106-46-7	
Ethylbenzene	ND	ppbv	55.7	27.8	111.36		08/15/12 14:40	100-41-4	
Toluene	ND	ppbv	55.7	27.8	111.36		08/15/12 14:40	108-88-3	
m&p-Xylene	ND	ppbv	111	55.7	111.36		08/15/12 14:40	179601-23-1	
o-Xylene	ND	ppbv	55.7	27.8	111.36		08/15/12 14:40	95-47-6	

ANALYTICAL RESULTS

Project: SVE SYSTEM

Pace Project No.: 60126637

Sample: WGKBIGMO99STACK0807 **Lab ID:** 60126637002 Collected: 08/07/12 12:50 Received: 08/08/12 09:55 Matrix: Air
12

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
TO-14M MSV AIR - Ambient									
Analytical Method: TO-14M Ambient Air									
Benzene	1180	ppbv	111	55.7	222.72		08/15/12 15:09	71-43-2	A4
Chlorobenzene	147	ppbv	111	55.7	222.72		08/15/12 15:09	108-90-7	
1,4-Dichlorobenzene	ND	ppbv	111	55.7	222.72		08/15/12 15:09	106-46-7	
Ethylbenzene	ND	ppbv	111	55.7	222.72		08/15/12 15:09	100-41-4	
Toluene	ND	ppbv	111	55.7	222.72		08/15/12 15:09	108-88-3	
m&p-Xylene	ND	ppbv	223	111	222.72		08/15/12 15:09	179601-23-1	
o-Xylene	ND	ppbv	111	55.7	222.72		08/15/12 15:09	95-47-6	

ANALYTICAL RESULTS

Project: SVE SYSTEM

Pace Project No.: 60126637

Sample: WGKBIGMOTOXINF080712 **Lab ID:** 60126637003 Collected: 08/07/12 12:59 Received: 08/08/12 09:55 Matrix: Air

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
TO-14M MSV AIR - Ambient									
Analytical Method: TO-14M Ambient Air									
Benzene	3020000	ppbv	4450	2230	8908.8		08/15/12 08:14	71-43-2	A4,E
Chlorobenzene	183000	ppbv	4450	2230	8908.8		08/15/12 08:14	108-90-7	
1,4-Dichlorobenzene	ND	ppbv	4450	2230	8908.8		08/15/12 08:14	106-46-7	
Ethylbenzene	ND	ppbv	4450	2230	8908.8		08/15/12 08:14	100-41-4	
Toluene	ND	ppbv	4450	2230	8908.8		08/15/12 08:14	108-88-3	
m&p-Xylene	ND	ppbv	8910	4450	8908.8		08/15/12 08:14	179601-23-1	
o-Xylene	ND	ppbv	4450	2230	8908.8		08/15/12 08:14	95-47-6	

QUALITY CONTROL DATA

Project: SVE SYSTEM

Pace Project No.: 60126637

QC Batch:	AIR/15531	Analysis Method:	TO-14M Ambient Air
QC Batch Method:	TO-14M Ambient Air	Analysis Description:	TO14 MSV AIR - AMBIENT
Associated Lab Samples:	60126637003		

METHOD BLANK: 1266381 Matrix: Air

Associated Lab Samples: 60126637003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,4-Dichlorobenzene	ppbv	ND	0.50	08/14/12 11:54	
Benzene	ppbv	ND	0.50	08/14/12 11:54	
Chlorobenzene	ppbv	ND	0.50	08/14/12 11:54	
Ethylbenzene	ppbv	ND	0.50	08/14/12 11:54	
m&p-Xylene	ppbv	ND	1.0	08/14/12 11:54	
o-Xylene	ppbv	ND	0.50	08/14/12 11:54	
Toluene	ppbv	ND	0.50	08/14/12 11:54	

LABORATORY CONTROL SAMPLE: 1266382

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,4-Dichlorobenzene	ppbv	10	11.2	112	72-131	
Benzene	ppbv	10	12.4	124	69-134	
Chlorobenzene	ppbv	10	11.6	116	75-128	
Ethylbenzene	ppbv	10	11.7	117	69-139	
m&p-Xylene	ppbv	20	24.2	121	66-137	
o-Xylene	ppbv	10	11.6	116	69-138	
Toluene	ppbv	10	10.2	102	71-132	

QUALITY CONTROL DATA

Project: SVE SYSTEM

Pace Project No.: 60126637

QC Batch:	AIR/15539	Analysis Method:	TO-14M Ambient Air
QC Batch Method:	TO-14M Ambient Air	Analysis Description:	TO14 MSV AIR - AMBIENT
Associated Lab Samples:	60126637001, 60126637002		

METHOD BLANK: 1267797 Matrix: Air

Associated Lab Samples: 60126637001, 60126637002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,4-Dichlorobenzene	ppbv	ND	0.50	08/15/12 13:23	
Benzene	ppbv	ND	0.50	08/15/12 13:23	
Chlorobenzene	ppbv	ND	0.50	08/15/12 13:23	
Ethylbenzene	ppbv	ND	0.50	08/15/12 13:23	
m&p-Xylene	ppbv	ND	1.0	08/15/12 13:23	
o-Xylene	ppbv	ND	0.50	08/15/12 13:23	
Toluene	ppbv	ND	0.50	08/15/12 13:23	

LABORATORY CONTROL SAMPLE: 1267798

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,4-Dichlorobenzene	ppbv	10	11.3	113	72-131	
Benzene	ppbv	10	12.2	122	69-134	
Chlorobenzene	ppbv	10	11.6	116	75-128	
Ethylbenzene	ppbv	10	11.6	116	69-139	
m&p-Xylene	ppbv	20	23.9	120	66-137	
o-Xylene	ppbv	10	11.6	116	69-138	
Toluene	ppbv	10	10.2	102	71-132	

QUALIFIERS

Project: SVE SYSTEM
Pace Project No.: 60126637

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PRL - Pace Reporting Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

LABORATORIES

PASI-M Pace Analytical Services - Minneapolis

SAMPLE QUALIFIERS

Sample: 60126637001

[1] The sample was analyzed by serial dilution.

Sample: 60126637002

[1] The sample was analyzed by serial dilution.

Sample: 60126637003

[1] The sample was analyzed by serial dilution.

ANALYTE QUALIFIERS

A4 Sample was transferred from a sampling bag into a Summa Canister within 48 hours of collection.

E Analyte concentration exceeded the calibration range. The reported result is estimated.

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: SVE SYSTEM

Pace Project No.: 60126637

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60126637001	WGKBIGMO98STACK080712	TO-14M Ambient Air	AIR/15539		
60126637002	WGKBIGMO99STACK080712	TO-14M Ambient Air	AIR/15539		
60126637003	WGKBIGMOTOXINF080712	TO-14M Ambient Air	AIR/15531		

Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:		Page: of	
Company: XDD, LLC		Report To: Erin Stanisewski - XDD, LLC		Attention: Solutia Inc. - Bill Johnson			
Address: 22 Marin Way #3		Copy To: Bill Johnson		Company Name: 575 Maryville Centre Drive		REGULATORY AGENCY:	
Stratham, NH 03885		wgjohn@solutia.com		Address: St. Louis, MO 63141		☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER ☐ UST ☐ RCRA ☐ OTHER _____	
Email To: stanisewski@xdd-llc.com		Purchase Order No.:		Pace Quote Reference: 00001191			
Phone: 603-418-3132 Fax:		Project Name: SVE System		Pace Project Manager: Jaime Church		Site Location IL	
Requested Due Date/TAT: STD 10 business days		Project Number: 11002		Pace Profile #:		STATE: _____	

[illegible]

60126637

	Document Name: Air Sample Condition Upon Receipt	Document Revised: 19Jun2012 Page 1 of 1
	Document No.: F-MN-A-106-rev.04	Issuing Authority: Pace Minnesota Quality Office

Air Sample Condition Upon Receipt **Client Name:** XDD **Project #:**

Courier: ☒ Fed Ex ☐ UPS ☐ USPS ☐ Client
☐ Commercial ☐ Pace ☐ Other: _____

Tracking Number: 8762 5744 1505

Custody Seal on Cooler/Box Present? ☐ Yes ☒ No **Seals Intact?** ☐ Yes ☒ No **Optional:** Proj. Due Date: _____ Proj. Name: _____

Packing Material: ☐ Bubble Wrap ☐ Bubble Bags ☐ Foam ☒ None ☐ Other: _____

Temperature (TO17 and TO13 samples only): amb **Thermometer Used:** ☐ 80344042 ☐ 80512447
Temp should be above freezing to 6°C **Date & Initials of Person Examining Contents:** 8-8-12
Comments: _____

Chain of Custody Present?	☒ Yes ☐ No ☐ N/A	1.
Chain of Custody Filled Out?	☒ Yes ☐ No ☐ N/A	2.
Chain of Custody Relinquished?	☒ Yes ☐ No ☐ N/A	3.
Sampler Name and Signature on COC?	☒ Yes ☐ No ☐ N/A	4.
Samples Arrived within Hold Time?	☒ Yes ☐ No ☐ N/A	5.
Short Hold Time Analysis (<72 hr)?	☒ Yes ☐ No ☐ N/A	6.
Rush Turn Around Time Requested?	☐ Yes ☒ No ☐ N/A	7.
Sufficient Volume?	☒ Yes ☐ No ☐ N/A	8.
Correct Containers Used?	☒ Yes ☐ No ☐ N/A	9.
-Pace Containers Used?	☒ Yes ☐ No ☐ N/A	
Containers Intact?	☒ Yes ☐ No ☐ N/A	10.
Media: <u>6 bags</u>		11. <u>3 samples</u>
Sample Labels Match COC?	☒ Yes ☐ No ☐ N/A	12.

Canisters		Flow Controllers		Stand Alone G	
Sample Number	Can ID	Sample Number	Can ID	Sample Number	Can ID

CLIENT NOTIFICATION/RESOLUTION **Field Data Required?** ☐ Yes ☐ No

Person Contacted: _____ **Date/Time:** _____

Comments/Resolution: _____

Project Manager Review: ARB for DUC **Date:** 8/8/12

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)

September 20, 2012

Erin Stanisewski
XDD, LLC
22 Marin Way #3
Stratham, NH 03885

RE: Project: BIG MO
Pace Project No.: 60128277

Dear Erin Stanisewski:

Enclosed are the analytical results for sample(s) received by the laboratory on September 05, 2012. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Jamie Church

jamie.church@pacelabs.com
Project Manager

Enclosures

cc: William Johnson, Solutia, Inc.



REPORT OF LABORATORY ANALYSIS

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Page 1 of 13

CERTIFICATIONS

Project: BIG MO
Pace Project No.: 60128277

Minnesota Certification IDs

1700 Elm Street SE Suite 200, Minneapolis, MN 55414
A2LA Certification #: 2926.01
Alaska Certification #: UST-078
Alaska Certification #MN00064
Arizona Certification #: AZ-0014
Arkansas Certification #: 88-0680
California Certification #: 01155CA
Colorado Certification #Pace
Connecticut Certification #: PH-0256
EPA Region 8 Certification #: Pace
Florida/NELAP Certification #: E87605
Georgia Certification #: 959
Hawaii Certification #Pace
Idaho Certification #: MN00064
Illinois Certification #: 200011
Kansas Certification #: E-10167
Louisiana Certification #: 03086
Louisiana Certification #: LA080009
Maine Certification #: 2007029
Maryland Certification #: 322
Michigan DEQ Certification #: 9909
Minnesota Certification #: 027-053-137
Mississippi Certification #: Pace

Montana Certification #: MT CERT0092
Nevada Certification #: MN_00064
Nebraska Certification #: Pace
New Jersey Certification #: MN-002
New York Certification #: 11647
North Carolina Certification #: 530
North Dakota Certification #: R-036
North Dakota Certification #: R-036A
Ohio VAP Certification #: CL101
Oklahoma Certification #: 9507
Oregon Certification #: MN200001
Oregon Certification #: MN300001
Pennsylvania Certification #: 68-00563
Puerto Rico Certification
Tennessee Certification #: 02818
Texas Certification #: T104704192
Utah Certification #: MN00064
Virginia/DCLS Certification #: 002521
Virginia/VELAP Certification #: 460163
Washington Certification #: C754
West Virginia Certification #: 382
Wisconsin Certification #: 999407970

REPORT OF LABORATORY ANALYSIS

Page 2 of 13

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SAMPLE SUMMARY

Project: BIG MO
Pace Project No.: 60128277

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60128277001	BIGMOTOX601 STACK-090412	Air	09/04/12 14:15	09/05/12 10:10
60128277002	BIGMOTOX501 STACK-090412	Air	09/04/12 14:20	09/05/12 10:10
60128277003	BIGMOTOX601 INF-090412	Air	09/04/12 15:00	09/05/12 10:10
60128277004	BIGMOTOX501 INF-090412	Air	09/04/12 15:05	09/05/12 10:10

REPORT OF LABORATORY ANALYSIS

Page 3 of 13

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SAMPLE ANALYTE COUNT

Project: BIG MO
Pace Project No.: 60128277

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60128277001	BIGMOTOX601 STACK-090412	TO-14M Ambient Air	CJR	7	PASI-M
60128277002	BIGMOTOX501 STACK-090412	TO-14M Ambient Air	CJR	7	PASI-M
60128277003	BIGMOTOX601 INF-090412	TO-14M Ambient Air	CJR	7	PASI-M
60128277004	BIGMOTOX501 INF-090412	TO-14M Ambient Air	CJR	7	PASI-M

REPORT OF LABORATORY ANALYSIS

Page 4 of 13

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PROJECT NARRATIVE

Project: BIG MO
Pace Project No.: 60128277

Method: TO-14M Ambient Air
Description: TO-14M MSV AIR - Ambient
Client: XDD_SOLUTIONIA, LLC
Date: September 20, 2012

General Information:

4 samples were analyzed for TO-14M Ambient Air. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

A4: Sample was transferred from a sampling bag into a Summa Canister within 48 hours of collection.

- BIGMOTOX501 INF-090412 (Lab ID: 60128277004)
- BIGMOTOX501 STACK-090412 (Lab ID: 60128277002)
- BIGMOTOX601 INF-090412 (Lab ID: 60128277003)
- BIGMOTOX601 STACK-090412 (Lab ID: 60128277001)

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

Surrogates:

All surrogates were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

Sample Comments:

The internal standard recoveries associated with this sample exceed the lower control limit (-/40% of initial calibration standard).
Results confirmed by second analysis.

- BIGMOTOX601 STACK-090412 (Lab ID: 60128277001)

A3: The sample was analyzed by serial dilution.

- BIGMOTOX501 STACK-090412 (Lab ID: 60128277002)

The internal standard recoveries associated with this sample exceed the lower control limit (-/40% of initial calibration standard).
Results confirmed by second analysis.

- BIGMOTOX601 INF-090412 (Lab ID: 60128277003)

REPORT OF LABORATORY ANALYSIS

Page 5 of 13

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PROJECT NARRATIVE

Project: BIG MO
Pace Project No.: 60128277

Method: TO-14M Ambient Air
Description: TO-14M MSV AIR - Ambient
Client: XDD_SOLUTIONIA, LLC
Date: September 20, 2012

Sample Comments:

- A3: The sample was analyzed by serial dilution.
- BIGMOTOX501 INF-090412 (Lab ID: 60128277004)
- The internal standard recoveries associated with this sample exceed the lower control limit (-/40% of initial calibration standard).
Results confirmed by second analysis.
- BIGMOTOX501 STACK-090412 (Lab ID: 60128277002)
- A3: The sample was analyzed by serial dilution.
- BIGMOTOX601 INF-090412 (Lab ID: 60128277003)
- The internal standard recoveries associated with this sample exceed the lower control limit (-/40% of initial calibration standard).
Results confirmed by second analysis.
- BIGMOTOX501 INF-090412 (Lab ID: 60128277004)

Analyte Comments:

QC Batch: AIR/15744

- C0: Result confirmed by second analysis.
- BIGMOTOX501 INF-090412 (Lab ID: 60128277004)
 - Benzene
 - BIGMOTOX601 INF-090412 (Lab ID: 60128277003)
 - Benzene
- E: Analyte concentration exceeded the calibration range. The reported result is estimated.
- BIGMOTOX501 INF-090412 (Lab ID: 60128277004)
 - Benzene
 - BIGMOTOX601 INF-090412 (Lab ID: 60128277003)
 - Benzene

This data package has been reviewed for quality and completeness and is approved for release.

REPORT OF LABORATORY ANALYSIS

Page 6 of 13

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ANALYTICAL RESULTS

Project: BIG MO
Pace Project No.: 60128277

Sample: BIGMOTOX601 STACK-090412 **Lab ID:** 60128277001 Collected: 09/04/12 14:15 Received: 09/05/12 10:10 Matrix: Air

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
TO-14M MSV AIR - Ambient									
Analytical Method: TO-14M Ambient Air									
Benzene	15.7J	ppbv	17.4	8.7	34.8		09/19/12 09:56	71-43-2	A4
Chlorobenzene	73.8	ppbv	17.4	8.7	34.8		09/19/12 09:56	108-90-7	
1,4-Dichlorobenzene	83.6	ppbv	17.4	8.7	34.8		09/19/12 09:56	106-46-7	
Ethylbenzene	ND	ppbv	17.4	8.7	34.8		09/19/12 09:56	100-41-4	
Toluene	11.2J	ppbv	17.4	8.7	34.8		09/19/12 09:56	108-88-3	
m&p-Xylene	ND	ppbv	34.8	17.4	34.8		09/19/12 09:56	179601-23-1	
o-Xylene	ND	ppbv	17.4	8.7	34.8		09/19/12 09:56	95-47-6	

ANALYTICAL RESULTS

Project: BIG MO
Pace Project No.: 60128277

Sample: BIGMOTOX501 STACK-090412 **Lab ID:** 60128277002 Collected: 09/04/12 14:20 Received: 09/05/12 10:10 Matrix: Air

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
TO-14M MSV AIR - Ambient									
Analytical Method: TO-14M Ambient Air									
Benzene	28.0	ppbv	27.8	13.9	55.68		09/19/12 10:54	71-43-2	A4
Chlorobenzene	79.0	ppbv	27.8	13.9	55.68		09/19/12 10:54	108-90-7	
1,4-Dichlorobenzene	89.1	ppbv	27.8	13.9	55.68		09/19/12 10:54	106-46-7	
Ethylbenzene	ND	ppbv	27.8	13.9	55.68		09/19/12 10:54	100-41-4	
Toluene	16.8J	ppbv	27.8	13.9	55.68		09/19/12 10:54	108-88-3	
m&p-Xylene	ND	ppbv	55.7	27.8	55.68		09/19/12 10:54	179601-23-1	
o-Xylene	ND	ppbv	27.8	13.9	55.68		09/19/12 10:54	95-47-6	

ANALYTICAL RESULTS

Project: BIG MO
Pace Project No.: 60128277

Sample: BIGMOTOX601 INF-090412 Lab ID: 60128277003 Collected: 09/04/12 15:00 Received: 09/05/12 10:10 Matrix: Air									
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
TO-14M MSV AIR - Ambient Analytical Method: TO-14M Ambient Air									
Benzene	2110000	ppbv	21500	10800	43008		09/19/12 13:47	71-43-2	C0,E
Chlorobenzene	88300	ppbv	2690	1340	5376		09/19/12 06:24	108-90-7	
1,4-Dichlorobenzene	ND	ppbv	2690	1340	5376		09/19/12 06:24	106-46-7	
Ethylbenzene	ND	ppbv	2690	1340	5376		09/19/12 06:24	100-41-4	
Toluene	ND	ppbv	2690	1340	5376		09/19/12 06:24	108-88-3	A4
m&p-Xylene	ND	ppbv	5380	2690	5376		09/19/12 06:24	179601-23-1	
o-Xylene	ND	ppbv	2690	1340	5376		09/19/12 06:24	95-47-6	

ANALYTICAL RESULTS

Project: BIG MO
Pace Project No.: 60128277

Sample: BIGMOTOX501 INF-090412 **Lab ID: 60128277004** Collected: 09/04/12 15:05 Received: 09/05/12 10:10 Matrix: Air

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
TO-14M MSV AIR - Ambient	Analytical Method: TO-14M Ambient Air								
Benzene	2170000	ppbv	8910	4450	17817.		09/19/12 15:14	71-43-2	C0,E
Chlorobenzene	105000	ppbv	8910	4450	17817.		09/19/12 15:14	108-90-7	
1,4-Dichlorobenzene	355J	ppbv	557	278	1113.6		09/19/12 07:50	106-46-7	
Ethylbenzene	ND	ppbv	557	278	1113.6		09/19/12 07:50	100-41-4	
Toluene	401J	ppbv	557	278	1113.6		09/19/12 07:50	108-88-3	A4
m&p-Xylene	ND	ppbv	1110	557	1113.6		09/19/12 07:50	179601-23-1	
o-Xylene	ND	ppbv	557	278	1113.6		09/19/12 07:50	95-47-6	

QUALITY CONTROL DATA

Project: BIG MO
Pace Project No.: 60128277

QC Batch: AIR/15744 Analysis Method: TO-14M Ambient Air
QC Batch Method: TO-14M Ambient Air Analysis Description: TO14 MSV AIR - AMBIENT
Associated Lab Samples: 60128277001, 60128277002, 60128277003, 60128277004

METHOD BLANK: 1290099 Matrix: Air
Associated Lab Samples: 60128277001, 60128277002, 60128277003, 60128277004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,4-Dichlorobenzene	ppbv	ND	0.50	09/18/12 20:47	
Benzene	ppbv	ND	0.50	09/18/12 20:47	
Chlorobenzene	ppbv	ND	0.50	09/18/12 20:47	
Ethylbenzene	ppbv	ND	0.50	09/18/12 20:47	
m&p-Xylene	ppbv	ND	1.0	09/18/12 20:47	
o-Xylene	ppbv	ND	0.50	09/18/12 20:47	
Toluene	ppbv	ND	0.50	09/18/12 20:47	

LABORATORY CONTROL SAMPLE: 1290100

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,4-Dichlorobenzene	ppbv	10	12.0	120	72-131	
Benzene	ppbv	10	10.4	104	69-134	
Chlorobenzene	ppbv	10	10.7	107	75-128	
Ethylbenzene	ppbv	10	12.1	121	69-139	
m&p-Xylene	ppbv	20	26.5	133	66-137	
o-Xylene	ppbv	10	12.1	121	69-138	
Toluene	ppbv	10	8.8	88	71-132	

QUALIFIERS

Project: BIG MO
Pace Project No.: 60128277

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PRL - Pace Reporting Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

LABORATORIES

PASI-M Pace Analytical Services - Minneapolis

SAMPLE QUALIFIERS

Sample: 60128277001

[1] The internal standard recoveries associated with this sample exceed the lower control limit (-/40% of initial calibration standard). Results confirmed by second analysis.

Sample: 60128277002

[1] The sample was analyzed by serial dilution.

[2] The internal standard recoveries associated with this sample exceed the lower control limit (-/40% of initial calibration standard). Results confirmed by second analysis.

Sample: 60128277003

[1] The internal standard recoveries associated with this sample exceed the lower control limit (-/40% of initial calibration standard). Results confirmed by second analysis.

[2] The sample was analyzed by serial dilution.

Sample: 60128277004

[1] The sample was analyzed by serial dilution.

[2] The internal standard recoveries associated with this sample exceed the lower control limit (-/40% of initial calibration standard). Results confirmed by second analysis.

ANALYTE QUALIFIERS

A4 Sample was transferred from a sampling bag into a Summa Canister within 48 hours of collection.

C0 Result confirmed by second analysis.

E Analyte concentration exceeded the calibration range. The reported result is estimated.

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: BIG MO

Pace Project No.: 60128277

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60128277001	BIGMOTOX601 STACK-090412	TO-14M Ambient Air	AIR/15744		
60128277002	BIGMOTOX501 STACK-090412	TO-14M Ambient Air	AIR/15744		
60128277003	BIGMOTOX601 INF-090412	TO-14M Ambient Air	AIR/15744		
60128277004	BIGMOTOX501 INF-090412	TO-14M Ambient Air	AIR/15744		

Page:

Tamp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
------------	--------------------------	-----------------------------------	-------------------------

F-ALL-Q-020rev.08, 12-Oct-2007

	Document Name: Air Sample Condition Upon Receipt	Document Revised: 19Jun2012 Page 1 of 1
	Document No.: F-MN-A-106-rev.04	Issuing Authority: Pace Minnesota Quality Office

Air Sample Condition Upon Receipt	Client Name: <u>XDD LLC</u>	Project #:
	Courier: ☒ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☐ Pace ☐ Other:	
Tracking Number: <u>8762 5744 1539, 7957 6571 4961</u>		
Custody Seal on Cooler/Box Present? ☒ Yes ☐ No Seals Intact? ☒ Yes ☐ No		Optional: Proj. Due Date: Proj. Name:
Packing Material: ☐ Bubble Wrap ☐ Bubble Bags ☐ Foam ☒ None ☐ Other:		
Temperature (TO17 and TO13 samples only): <u>AMB</u> Thermometer Used: ☐ 80344042 ☐ 80512447 Temp should be above freezing to 6°C Date & Initials of Person Examining Contents: <u>9-5-12 X</u>		

Comments:			
Chain of Custody Present?	☒ Yes ☐ No ☐ N/A	1.	
Chain of Custody Filled Out?	☒ Yes ☐ No ☐ N/A	2.	
Chain of Custody Relinquished?	☒ Yes ☐ No ☐ N/A	3.	
Sampler Name and Signature on COC?	☒ Yes ☐ No ☐ N/A	4.	
Samples Arrived within Hold Time?	☒ Yes ☐ No ☐ N/A	5.	
Short Hold Time Analysis (<72 hr)?	☒ Yes ☐ No ☐ N/A	6.	<u>TD14</u>
Rush Turn Around Time Requested?	☐ Yes ☒ No ☐ N/A	7.	
Sufficient Volume?	☒ Yes ☐ No ☐ N/A	8.	
Correct Containers Used?	☒ Yes ☐ No ☐ N/A	9.	
-Pace Containers Used?	☒ Yes ☒ No ☐ N/A		
Containers Intact?	☒ Yes ☐ No ☐ N/A	10.	
Media: <u>AMB (BAG)</u>		11.	
Sample Labels Match COC?	☒ Yes ☐ No ☐ N/A	12.	

Samples Received:					
Canisters		Flow Controllers		Stand Alone G	
Sample Number	Can ID	Sample Number	Can ID	Sample Number	Can ID

CLIENT NOTIFICATION/RESOLUTION

Person Contacted: _____ Date/Time: _____

Comments/Resolution: _____

Field Data Required? ☐ Yes ☐ No

Project Manager Review: _____ **Date:** _____

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)

October 18, 2012

Erin Stanisewski
XDD, LLC
22 Marin Way #3
Stratham, NH 03885

RE: Project: SVE SYSTEM
Pace Project No.: 60130455

Dear Erin Stanisewski:

Enclosed are the analytical results for sample(s) received by the laboratory on October 04, 2012. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Jamie Church

jamie.church@pacelabs.com
Project Manager

Enclosures

cc: William Johnson, Solutia, Inc.



REPORT OF LABORATORY ANALYSIS

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Page 1 of 13

CERTIFICATIONS

Project: SVE SYSTEM

Pace Project No.: 60130455

Minnesota Certification IDs

1700 Elm Street SE Suite 200, Minneapolis, MN 55414

A2LA Certification #: 2926.01

Alaska Certification #: UST-078

Alaska Certification #MN00064

Arizona Certification #: AZ-0014

Arkansas Certification #: 88-0680

California Certification #: 01155CA

Colorado Certification #Pace

Connecticut Certification #: PH-0256

EPA Region 8 Certification #: Pace

Florida/NELAP Certification #: E87605

Georgia Certification #: 959

Hawaii Certification #Pace

Idaho Certification #: MN00064

Illinois Certification #: 200011

Kansas Certification #: E-10167

Louisiana Certification #: 03086

Louisiana Certification #: LA080009

Maine Certification #: 2007029

Maryland Certification #: 322

Michigan DEQ Certification #: 9909

Minnesota Certification #: 027-053-137

Mississippi Certification #: Pace

Montana Certification #: MT CERT0092

Nevada Certification #: MN_00064

Nebraska Certification #: Pace

New Jersey Certification #: MN-002

New York Certification #: 11647

North Carolina Certification #: 530

North Dakota Certification #: R-036

North Dakota Certification #: R-036A

Ohio VAP Certification #: CL101

Oklahoma Certification #: 9507

Oregon Certification #: MN200001

Oregon Certification #: MN300001

Pennsylvania Certification #: 68-00563

Puerto Rico Certification

Tennessee Certification #: 02818

Texas Certification #: T104704192

Utah Certification #: MN00064

Virginia/DCLS Certification #: 002521

Virginia/VELAP Certification #: 460163

Washington Certification #: C754

West Virginia Certification #: 382

Wisconsin Certification #: 999407970

REPORT OF LABORATORY ANALYSIS

Page 2 of 13

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SAMPLE SUMMARY

Project: SVE SYSTEM

Pace Project No.: 60130455

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60130455001	WGKUBIGMO1000SCFMTOXINF-100312	Air	10/03/12 13:00	10/04/12 08:50
60130455002	WGKUBIGMO2000SCFMTOXINF-100312	Air	10/03/12 13:20	10/04/12 08:50
60130455003	WGKUBIGMO1000SCFMTOXSTA-100312	Air	10/03/12 13:30	10/04/12 08:50
60130455004	WGKUBIGMO2000SCFMTOXSTA-100312	Air	10/03/12 13:40	10/04/12 08:50

REPORT OF LABORATORY ANALYSIS

Page 3 of 13

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SAMPLE ANALYTE COUNT

Project: SVE SYSTEM

Pace Project No.: 60130455

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60130455001	WGKUBIGMO1000SCFMTOXINF-100312	TO-14M Ambient Air	CJR	7	PASI-M
60130455002	WGKUBIGMO2000SCFMTOXINF-100312	TO-14M Ambient Air	CJR	7	PASI-M
60130455003	WGKUBIGMO1000SCFMTOXSTA-100312	TO-14M Ambient Air	CJR	7	PASI-M
60130455004	WGKUBIGMO2000SCFMTOXSTA-100312	TO-14M Ambient Air	CJR	7	PASI-M

REPORT OF LABORATORY ANALYSIS

Page 4 of 13

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PROJECT NARRATIVE

Project: SVE SYSTEM

Pace Project No.: 60130455

Method: TO-14M Ambient Air

Description: TO-14M MSV AIR - Ambient

Client: XDD_SOLUTION, LLC

Date: October 18, 2012

General Information:

4 samples were analyzed for TO-14M Ambient Air. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

A4: Sample was transferred from a sampling bag into a Summa Canister within 48 hours of collection.

- WGKUBIGMO1000SCFMTOXINF-100312 (Lab ID: 60130455001)
- WGKUBIGMO1000SCFMTOXSTA-100312 (Lab ID: 60130455003)
- WGKUBIGMO2000SCFMTOXINF-100312 (Lab ID: 60130455002)
- WGKUBIGMO2000SCFMTOXSTA-100312 (Lab ID: 60130455004)

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

Surrogates:

All surrogates were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

Sample Comments:

A3: The sample was analyzed by serial dilution.

- WGKUBIGMO1000SCFMTOXINF-100312 (Lab ID: 60130455001)
- WGKUBIGMO2000SCFMTOXINF-100312 (Lab ID: 60130455002)

Analyte Comments:

QC Batch: AIR/15944

E: Analyte concentration exceeded the calibration range. The reported result is estimated.

- WGKUBIGMO1000SCFMTOXINF-100312 (Lab ID: 60130455001)
 - Benzene

REPORT OF LABORATORY ANALYSIS

Page 5 of 13

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PROJECT NARRATIVE

Project: SVE SYSTEM

Pace Project No.: 60130455

Method: TO-14M Ambient Air

Description: TO-14M MSV AIR - Ambient

Client: XDD_SOLUTION, LLC

Date: October 18, 2012

Analyte Comments:

QC Batch: AIR/15944

E: Analyte concentration exceeded the calibration range. The reported result is estimated.

- WGKUBIGMO1000SCFMTOXINF-100312 (Lab ID: 60130455001)
 - Chlorobenzene
- WGKUBIGMO2000SCFMTOXINF-100312 (Lab ID: 60130455002)
 - Benzene
 - Chlorobenzene

This data package has been reviewed for quality and completeness and is approved for release.

REPORT OF LABORATORY ANALYSIS

Page 6 of 13

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ANALYTICAL RESULTS

Project: SVE SYSTEM

Pace Project No.: 60130455

Sample: W GKUBIGMO1000SCFMT **Lab ID:** 60130455001 Collected: 10/03/12 13:00 Received: 10/04/12 08:50 Matrix: Air
OXINF-100312

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
TO-14M MSV AIR - Ambient									
Analytical Method: TO-14M Ambient Air									
Benzene	927000	ppbv	2150	1080	4300.8		10/18/12 08:43	71-43-2	A4,E
Chlorobenzene	237000	ppbv	2150	1080	4300.8		10/18/12 08:43	108-90-7	E
1,4-Dichlorobenzene	ND	ppbv	2150	1080	4300.8		10/18/12 08:43	106-46-7	
Ethylbenzene	ND	ppbv	2150	1080	4300.8		10/18/12 08:43	100-41-4	
Toluene	1630J	ppbv	2150	1080	4300.8		10/18/12 08:43	108-88-3	
m&p-Xylene	ND	ppbv	4300	2150	4300.8		10/18/12 08:43	179601-23-1	
o-Xylene	ND	ppbv	2150	1080	4300.8		10/18/12 08:43	95-47-6	

ANALYTICAL RESULTS

Project: SVE SYSTEM

Pace Project No.: 60130455

Sample: WGKUBIGMO2000SCFMT **Lab ID:** 60130455002 Collected: 10/03/12 13:20 Received: 10/04/12 08:50 Matrix: Air
OXINF-100312

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
TO-14M MSV AIR - Ambient									
Analytical Method: TO-14M Ambient Air									
Benzene	846000	ppbv	2150	1080	4300.8		10/18/12 08:14	71-43-2	A4,E
Chlorobenzene	196000	ppbv	2150	1080	4300.8		10/18/12 08:14	108-90-7	E
1,4-Dichlorobenzene	ND	ppbv	2150	1080	4300.8		10/18/12 08:14	106-46-7	
Ethylbenzene	ND	ppbv	2150	1080	4300.8		10/18/12 08:14	100-41-4	
Toluene	1710J	ppbv	2150	1080	4300.8		10/18/12 08:14	108-88-3	
m&p-Xylene	ND	ppbv	4300	2150	4300.8		10/18/12 08:14	179601-23-1	
o-Xylene	ND	ppbv	2150	1080	4300.8		10/18/12 08:14	95-47-6	

ANALYTICAL RESULTS

Project: SVE SYSTEM

Pace Project No.: 60130455

Sample: W GKUBIGMO1000SCFMT **Lab ID:** 60130455003 Collected: 10/03/12 13:30 Received: 10/04/12 08:50 Matrix: Air
OXSTA-100312

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
TO-14M MSV AIR - Ambient		Analytical Method: TO-14M Ambient Air							
Benzene	360	ppbv	17.4	8.7	34.8		10/18/12 07:16	71-43-2	A4
Chlorobenzene	83.8	ppbv	17.4	8.7	34.8		10/18/12 07:16	108-90-7	
1,4-Dichlorobenzene	54.6	ppbv	17.4	8.7	34.8		10/18/12 07:16	106-46-7	
Ethylbenzene	ND	ppbv	17.4	8.7	34.8		10/18/12 07:16	100-41-4	
Toluene	53.5	ppbv	17.4	8.7	34.8		10/18/12 07:16	108-88-3	
m&p-Xylene	ND	ppbv	34.8	17.4	34.8		10/18/12 07:16	179601-23-1	
o-Xylene	ND	ppbv	17.4	8.7	34.8		10/18/12 07:16	95-47-6	

ANALYTICAL RESULTS

Project: SVE SYSTEM

Pace Project No.: 60130455

Sample: WGKUBIGMO2000SCFMT **Lab ID:** 60130455004 Collected: 10/03/12 13:40 Received: 10/04/12 08:50 Matrix: Air
OXSTA-100312

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
TO-14M MSV AIR - Ambient									
Analytical Method: TO-14M Ambient Air									
Benzene	126	ppbv	17.4	8.7	34.8		10/18/12 07:45	71-43-2	A4
Chlorobenzene	372	ppbv	17.4	8.7	34.8		10/18/12 07:45	108-90-7	
1,4-Dichlorobenzene	366	ppbv	17.4	8.7	34.8		10/18/12 07:45	106-46-7	
Ethylbenzene	ND	ppbv	17.4	8.7	34.8		10/18/12 07:45	100-41-4	
Toluene	40.2	ppbv	17.4	8.7	34.8		10/18/12 07:45	108-88-3	
m&p-Xylene	ND	ppbv	34.8	17.4	34.8		10/18/12 07:45	179601-23-1	
o-Xylene	ND	ppbv	17.4	8.7	34.8		10/18/12 07:45	95-47-6	

QUALITY CONTROL DATA

Project: SVE SYSTEM

Pace Project No.: 60130455

QC Batch:	AIR/15944	Analysis Method:	TO-14M Ambient Air
QC Batch Method:	TO-14M Ambient Air	Analysis Description:	TO14 MSV AIR - AMBIENT
Associated Lab Samples:	60130455001, 60130455002, 60130455003, 60130455004		

METHOD BLANK: 1309134 Matrix: Air

Associated Lab Samples: 60130455001, 60130455002, 60130455003, 60130455004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,4-Dichlorobenzene	ppbv	ND	0.50	10/17/12 21:36	
Benzene	ppbv	ND	0.50	10/17/12 21:36	
Chlorobenzene	ppbv	ND	0.50	10/17/12 21:36	
Ethylbenzene	ppbv	ND	0.50	10/17/12 21:36	
m&p-Xylene	ppbv	ND	1.0	10/17/12 21:36	
o-Xylene	ppbv	ND	0.50	10/17/12 21:36	
Toluene	ppbv	ND	0.50	10/17/12 21:36	

LABORATORY CONTROL SAMPLE: 1309135

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,4-Dichlorobenzene	ppbv	10	10.8	108	72-131	
Benzene	ppbv	10	9.2	92	69-134	
Chlorobenzene	ppbv	10	9.9	99	75-128	
Ethylbenzene	ppbv	10	9.7	97	69-139	
m&p-Xylene	ppbv	20	19.5	97	66-137	
o-Xylene	ppbv	10	9.6	96	69-138	
Toluene	ppbv	10	9.7	97	71-132	

QUALIFIERS

Project: SVE SYSTEM
Pace Project No.: 60130455

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PRL - Pace Reporting Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

LABORATORIES

PASI-M Pace Analytical Services - Minneapolis

SAMPLE QUALIFIERS

Sample: 60130455001

[1] The sample was analyzed by serial dilution.

Sample: 60130455002

[1] The sample was analyzed by serial dilution.

ANALYTE QUALIFIERS

A4 Sample was transferred from a sampling bag into a Summa Canister within 48 hours of collection.

A4 a

E Analyte concentration exceeded the calibration range. The reported result is estimated.

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: SVE SYSTEM

Pace Project No.: 60130455

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60130455001	WGKUBIGMO1000SCFMTOXINF-100312	TO-14M Ambient Air	AIR/15944		
60130455002	WGKUBIGMO2000SCFMTOXINF-100312	TO-14M Ambient Air	AIR/15944		
60130455003	WGKUBIGMO1000SCFMTOXSTA-100312	TO-14M Ambient Air	AIR/15944		
60130455004	WGKUBIGMO2000SCFMTOXSTA-100312	TO-14M Ambient Air	AIR/15944		



CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:	
Company	XDD, LLC	Report To:	Erin Stanisewski - XDD, LLC	Attention:	Solutia Inc. - Bill Johnson
Address	22 Marin Way #3	Copy To:	Bill Johnson	Company Name:	575 Maryville Centre Drive
	Stratham, NH 03885		Wjohnn@solutia.com	Address:	St. Louis, MO 63141
E-mail To	stanisewski@xdd-llc.com	Purchase Order No.:		Pace Quote	00001191
Phone	603-418-3132	Project Name:	SVE System	Pace Project	Jaime Church
Requested Due Date/TAT:	STD to business days	Project Number:	11002	Pace Profile #:	

Page: 1 of 1

ITEM #	Valid Matrix Codes CODE MATRIX DRINKING WATER WASTE WATER WATER PRODUCT SOLID OIL WASTE AIR OTHER TISSE	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED		SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives	Requested Analysis Filtered (Y/N)	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
			COMPOSITE START	COMPOSITE END/GRAB						
			DATE	TIME						
1	WVGR BIG MO 1000 SCFM TOX INF - 100312 M G		10/03	1300		2	Unpreserved			0130455
2	WVGR BIG MO 2000 SCFM TOX INF - 100312 M G		10/03	1310		2				01
3	WVGR BIG MO 1000 SCFM TOX STAGE - 100312 M G		10/03	1330		2				02
4	WVGR BIG MO 2000 SCFM TOX STAGE - 100312 M G		10/03	1340		2				03
5	2 STAGE		10/03	1350		2				04
6										
7										
8										
9										
10										
11										
12										

ADDITIONAL COMMENTS Please email report to both Erin Stanisewski at XDD and Bill Johnson of Solutia. Please report as a Large IV data package	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS				
	R. Stanisewski	10/03/12	1530	R. Stanisewski	10/03/12	1530	Received on	Temp in °C	Ice (Y/N)		
	WVGR BIG MO 1000 SCFM TOX STAGE - 100312 M G	10/03/12	1700	R. Stanisewski	10/03/12	1850	Cooler (Y/N)		Custody Sealed		
RETURN TO PROJECT SPECIFIC ANALYSIS INSTRUCTIONS											Samples In tact (Y/N)
SAMPLER NAME AND SIGNATURE											
PRINT Name of SAMPLER: Regina R. Gardner											
SIGNATURE of SAMPLER: [Signature]											
DATE Signed (MM/DD/YYYY): 10/03/12											

*Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days

F-ALL-Q-020rev 08 12-Oct-2007



Document Name:
Air Sample Condition Upon Receipt
Document No.:
F-MN-A-105-rev.05

Document Revised: 22Aug2012
Page 1 of 1
Issuing Authority:
Pace Minnesota Quality Office

Air Sample Condition
Upon Receipt

Client Name:

Project #:

XDD, LLC

60130455

Courier: ☒ Fed Ex ☐ UPS ☐ USPS ☐ Client
☐ Commercial ☐ Pace ☐ Other:

Tracking Number: 8762 57441561

Custody Seal on Cooler/Box Present? ☒ Yes ☐ No

Seals Intact? ☒ Yes ☐ No

Optional: Proj. Due Date: Proj. Name:

Packing Material: ☐ Bubble Wrap ☐ Bubble Bags ☐ Foam ☒ None ☐ Other:

Temperature (TO17 and TO13 samples only): AMD
Temp should be above freezing to 6°C

Thermometer Used: ☐ B88A912167504 ☐ B0512447

Date & Initials of Person Examining Contents: 10-4-12 AF

Comments:

Chain of Custody Present?	☒ Yes ☐ No ☐ N/A	1.
Chain of Custody Filled Out?	☒ Yes ☐ No ☐ N/A	2.
Chain of Custody Relinquished?	☒ Yes ☐ No ☐ N/A	3.
Sampler Name and/or Signature on COC?	☒ Yes ☐ No ☐ N/A	4.
Samples Arrived within Hold Time?	☒ Yes ☐ No ☐ N/A	5.
Short Hold Time Analysis (<72 hr)?	☒ Yes ☐ No ☐ N/A	6. <u>TD3</u>
Rush Turn Around Time Requested?	☐ Yes ☒ No ☐ N/A	7.
Sufficient Volume?	☒ Yes ☐ No ☐ N/A	8.
Correct Containers Used?	☒ Yes ☐ No ☐ N/A	9.
-Pace Containers Used?	☒ Yes ☐ No ☐ N/A	
Containers Intact?	☒ Yes ☐ No ☐ N/A	10.
Media:	<u>AIR (BAH)</u>	11.
Sample Labels Match COC?	☒ Yes ☐ No ☐ N/A	12.

Samples Received:					
Canisters		Flow Controllers		Stand Alone G	
Sample Number	Can ID	Sample Number	Can ID	Sample Number	Can ID

CLIENT NOTIFICATION/RESOLUTION

Field Data Required? ☐ Yes ☐ No

Person Contacted: Date/Time:

Comments/Resolution:

Project Manager Review:

Date: 10/5/12

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)

December 21, 2012

Erin Stanisewski
XDD, LLC
22 Marin Way #3
Stratham, NH 03885

RE: Project: SVE SYSTEM
Pace Project No.: 60132760 REVISION, REV-1 12/21/12, Analyte list corrected

Dear Erin Stanisewski:

Enclosed are the analytical results for sample(s) received by the laboratory on November 07, 2012. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Jamie Church

jamie.church@pacelabs.com
Project Manager

Enclosures

cc: William Johnson, Solutia, Inc.



REPORT OF LABORATORY ANALYSIS

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Page 1 of 14

CERTIFICATIONS

Project: SVE SYSTEM

Pace Project No.: 60132760

Minnesota Certification IDs

1700 Elm Street SE Suite 200, Minneapolis, MN 55414

A2LA Certification #: 2926.01

Alaska Certification #: UST-078

Alaska Certification #MN00064

Arizona Certification #: AZ-0014

Arkansas Certification #: 88-0680

California Certification #: 01155CA

Colorado Certification #Pace

Connecticut Certification #: PH-0256

EPA Region 8 Certification #: Pace

Florida/NELAP Certification #: E87605

Georgia Certification #: 959

Hawaii Certification #Pace

Idaho Certification #: MN00064

Illinois Certification #: 200011

Kansas Certification #: E-10167

Louisiana Certification #: 03086

Louisiana Certification #: LA080009

Maine Certification #: 2007029

Maryland Certification #: 322

Michigan DEQ Certification #: 9909

Minnesota Certification #: 027-053-137

Mississippi Certification #: Pace

Montana Certification #: MT CERT0092

Nevada Certification #: MN_00064

Nebraska Certification #: Pace

New Jersey Certification #: MN-002

New York Certification #: 11647

North Carolina Certification #: 530

North Dakota Certification #: R-036

North Dakota Certification #: R-036A

Ohio VAP Certification #: CL101

Oklahoma Certification #: 9507

Oregon Certification #: MN200001

Oregon Certification #: MN300001

Pennsylvania Certification #: 68-00563

Puerto Rico Certification

Tennessee Certification #: 02818

Texas Certification #: T104704192

Utah Certification #: MN00064

Virginia/DCLS Certification #: 002521

Virginia/VELAP Certification #: 460163

Washington Certification #: C754

West Virginia Certification #: 382

Wisconsin Certification #: 999407970

REPORT OF LABORATORY ANALYSIS

Page 2 of 14

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SAMPLE SUMMARY

Project: SVE SYSTEM

Pace Project No.: 60132760

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60132760001	WGKBIGMO1000scfmTOXSTA-1106112	Air	11/06/12 11:50	11/07/12 09:20
60132760002	WGKBIGMO2000scfmTOXSTA-1106112	Air	11/06/12 11:45	11/07/12 09:20
60132760003	WGKBIGMO1000scfmTOXIN-1106112	Air	11/06/12 12:00	11/07/12 09:20
60132760004	WGKBIGMO2000scfmTOXIN-1106112	Air	11/06/12 11:55	11/07/12 09:20

REPORT OF LABORATORY ANALYSIS

Page 3 of 14

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SAMPLE ANALYTE COUNT

Project: SVE SYSTEM

Pace Project No.: 60132760

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60132760001	WGKBIGMO1000scfmTOXSTA-1106112	TO-14M Ambient Air	DR1	7	PASI-M
60132760002	WGKBIGMO2000scfmTOXSTA-1106112	TO-14M Ambient Air	DR1	7	PASI-M
60132760003	WGKBIGMO1000scfmTOXIN-1106112	TO-14M Ambient Air	RTP	7	PASI-M
60132760004	WGKBIGMO2000scfmTOXIN-1106112	TO-14M Ambient Air	RTP	7	PASI-M

REPORT OF LABORATORY ANALYSIS

Page 4 of 14

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PROJECT NARRATIVE

Project: SVE SYSTEM
Pace Project No.: 60132760

Method: TO-14M Ambient Air
Description: TO-14M MSV AIR - Ambient
Client: XDD_SOLUTION, LLC
Date: December 21, 2012

General Information:

4 samples were analyzed for TO-14M Ambient Air. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

A4: Sample was transferred from a sampling bag into a Summa Canister within 48 hours of collection.

- WGKBIGMO1000scfmTOXIN-1106112 (Lab ID: 60132760003)
- WGKBIGMO1000scfmTOXSTA-1106112 (Lab ID: 60132760001)
- WGKBIGMO2000scfmTOXIN-1106112 (Lab ID: 60132760004)
- WGKBIGMO2000scfmTOXSTA-1106112 (Lab ID: 60132760002)

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

Surrogates:

All surrogates were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

Sample Comments:

A3: The sample was analyzed by serial dilution.

- WGKBIGMO1000scfmTOXIN-1106112 (Lab ID: 60132760003)
- WGKBIGMO2000scfmTOXIN-1106112 (Lab ID: 60132760004)

Analyte Comments:

QC Batch: AIR/16185

E: Analyte concentration exceeded the calibration range. The reported result is estimated.

- WGKBIGMO2000scfmTOXIN-1106112 (Lab ID: 60132760004)
- Benzene

REPORT OF LABORATORY ANALYSIS

Page 5 of 14

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PROJECT NARRATIVE

Project: SVE SYSTEM

Pace Project No.: 60132760

Method: TO-14M Ambient Air

Description: TO-14M MSV AIR - Ambient

Client: XDD_SOLUTION, LLC

Date: December 21, 2012

Analyte Comments:

QC Batch: AIR/16185

E: Analyte concentration exceeded the calibration range. The reported result is estimated.

- WGKBIGMO2000scfmTOXIN-1106112 (Lab ID: 60132760004)
- Chlorobenzene

This data package has been reviewed for quality and completeness and is approved for release.

REPORT OF LABORATORY ANALYSIS

Page 6 of 14

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ANALYTICAL RESULTS

Project: SVE SYSTEM

Pace Project No.: 60132760

Sample: WGKBIGMO1000scfmTOX **Lab ID:** 60132760001 Collected: 11/06/12 11:50 Received: 11/07/12 09:20 Matrix: Air
STA-1106112

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
TO-14M MSV AIR - Ambient									
Analytical Method: TO-14M Ambient Air									
Benzene	ND	ppbv	16.8	8.4	33.6		11/16/12 22:33	71-43-2	A4
Chlorobenzene	98.6	ppbv	16.8	8.4	33.6		11/16/12 22:33	108-90-7	
1,4-Dichlorobenzene	293	ppbv	16.8	8.4	33.6		11/16/12 22:33	106-46-7	
Ethylbenzene	ND	ppbv	16.8	8.4	33.6		11/16/12 22:33	100-41-4	
Toluene	21.5	ppbv	16.8	8.4	33.6		11/16/12 22:33	108-88-3	
m&p-Xylene	ND	ppbv	33.6	16.8	33.6		11/16/12 22:33	179601-23-1	
o-Xylene	ND	ppbv	16.8	8.4	33.6		11/16/12 22:33	95-47-6	

ANALYTICAL RESULTS

Project: SVE SYSTEM

Pace Project No.: 60132760

Sample: WGKBIGMO2000scfmTOX **Lab ID:** 60132760002 Collected: 11/06/12 11:45 Received: 11/07/12 09:20 Matrix: Air
STA-1106112

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
TO-14M MSV AIR - Ambient									
Analytical Method: TO-14M Ambient Air									
Benzene	ND	ppbv	19.4	9.7	38.8		11/16/12 23:02	71-43-2	A4
Chlorobenzene	46.8	ppbv	19.4	9.7	38.8		11/16/12 23:02	108-90-7	
1,4-Dichlorobenzene	139	ppbv	19.4	9.7	38.8		11/16/12 23:02	106-46-7	
Ethylbenzene	ND	ppbv	19.4	9.7	38.8		11/16/12 23:02	100-41-4	
Toluene	13.0J	ppbv	19.4	9.7	38.8		11/16/12 23:02	108-88-3	
m&p-Xylene	ND	ppbv	38.8	19.4	38.8		11/16/12 23:02	179601-23-1	
o-Xylene	ND	ppbv	19.4	9.7	38.8		11/16/12 23:02	95-47-6	

ANALYTICAL RESULTS

Project: SVE SYSTEM

Pace Project No.: 60132760

Sample: WGKBIGMO1000scfmTOXI **Lab ID:** 60132760003 Collected: 11/06/12 12:00 Received: 11/07/12 09:20 Matrix: Air
N-1106112

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
TO-14M MSV AIR - Ambient									
Analytical Method: TO-14M Ambient Air									
Benzene	357000	ppbv	7740	3870	15482.		11/16/12 03:07	71-43-2	A4
Chlorobenzene	15900	ppbv	7740	3870	15482.		11/16/12 03:07	108-90-7	
1,4-Dichlorobenzene	ND	ppbv	7740	3870	15482.		11/16/12 03:07	106-46-7	
Ethylbenzene	ND	ppbv	7740	3870	15482.		11/16/12 03:07	100-41-4	
Toluene	ND	ppbv	7740	3870	15482.		11/16/12 03:07	108-88-3	
m&p-Xylene	ND	ppbv	15500	7740	15482.		11/16/12 03:07	179601-23-1	
o-Xylene	ND	ppbv	7740	3870	15482.		11/16/12 03:07	95-47-6	

ANALYTICAL RESULTS

Project: SVE SYSTEM

Pace Project No.: 60132760

Sample: WGKBIGMO2000scfmTOXI **Lab ID:** 60132760004 Collected: 11/06/12 11:55 Received: 11/07/12 09:20 Matrix: Air
N-1106112

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
TO-14M MSV AIR - Ambient									
Analytical Method: TO-14M Ambient Air									
Benzene	2630000	ppbv	7230	3610	14450.		11/16/12 03:35	71-43-2	A4,E
Chlorobenzene	800000	ppbv	7230	3610	14450.		11/16/12 03:35	108-90-7	E
1,4-Dichlorobenzene	ND	ppbv	7230	3610	14450.		11/16/12 03:35	106-46-7	
Ethylbenzene	ND	ppbv	7230	3610	14450.		11/16/12 03:35	100-41-4	
Toluene	ND	ppbv	7230	3610	14450.		11/16/12 03:35	108-88-3	
m&p-Xylene	ND	ppbv	14500	7230	14450.		11/16/12 03:35	179601-23-1	
o-Xylene	ND	ppbv	7230	3610	14450.		11/16/12 03:35	95-47-6	

QUALITY CONTROL DATA

Project: SVE SYSTEM

Pace Project No.: 60132760

QC Batch:	AIR/16185	Analysis Method:	TO-14M Ambient Air
QC Batch Method:	TO-14M Ambient Air	Analysis Description:	TO14 MSV AIR - AMBIENT
Associated Lab Samples:	60132760003, 60132760004		

METHOD BLANK: 1333738 Matrix: Air

Associated Lab Samples: 60132760003, 60132760004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,4-Dichlorobenzene	ppbv	ND	0.50	11/15/12 15:09	
Benzene	ppbv	ND	0.50	11/15/12 15:09	
Chlorobenzene	ppbv	ND	0.50	11/15/12 15:09	
Ethylbenzene	ppbv	ND	0.50	11/15/12 15:09	
m&p-Xylene	ppbv	ND	1.0	11/15/12 15:09	
o-Xylene	ppbv	ND	0.50	11/15/12 15:09	
Toluene	ppbv	ND	0.50	11/15/12 15:09	

LABORATORY CONTROL SAMPLE: 1333739

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,4-Dichlorobenzene	ppbv	10	10.6	106	72-131	
Benzene	ppbv	10	9.0	90	69-134	
Chlorobenzene	ppbv	10	9.2	92	75-128	
Ethylbenzene	ppbv	10	9.9	99	69-139	
m&p-Xylene	ppbv	20	22.5	113	66-137	
o-Xylene	ppbv	10	10	100	69-138	
Toluene	ppbv	10	9.9	99	71-132	

QUALITY CONTROL DATA

Project: SVE SYSTEM

Pace Project No.: 60132760

QC Batch:	AIR/16204	Analysis Method:	TO-14M Ambient Air
QC Batch Method:	TO-14M Ambient Air	Analysis Description:	TO14 MSV AIR - AMBIENT
Associated Lab Samples:	60132760001, 60132760002		

METHOD BLANK: 1334809 Matrix: Air

Associated Lab Samples: 60132760001, 60132760002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,4-Dichlorobenzene	ppbv	ND	0.50	11/16/12 11:17	
Benzene	ppbv	ND	0.50	11/16/12 11:17	
Chlorobenzene	ppbv	ND	0.50	11/16/12 11:17	
Ethylbenzene	ppbv	ND	0.50	11/16/12 11:17	
m&p-Xylene	ppbv	ND	1.0	11/16/12 11:17	
o-Xylene	ppbv	ND	0.50	11/16/12 11:17	
Toluene	ppbv	ND	0.50	11/16/12 11:17	

LABORATORY CONTROL SAMPLE: 1334810

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,4-Dichlorobenzene	ppbv	10	12.6	126	72-131	
Benzene	ppbv	10	8.1	81	69-134	
Chlorobenzene	ppbv	10	10.8	108	75-128	
Ethylbenzene	ppbv	10	10.2	102	69-139	
m&p-Xylene	ppbv	20	21.4	107	66-137	
o-Xylene	ppbv	10	10.2	102	69-138	
Toluene	ppbv	10	9.1	91	71-132	

QUALIFIERS

Project: SVE SYSTEM
Pace Project No.: 60132760

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PRL - Pace Reporting Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

LABORATORIES

PASI-M Pace Analytical Services - Minneapolis

SAMPLE QUALIFIERS

Sample: 60132760003

[1] The sample was analyzed by serial dilution.

Sample: 60132760004

[1] The sample was analyzed by serial dilution.

ANALYTE QUALIFIERS

A4 Sample was transferred from a sampling bag into a Summa Canister within 48 hours of collection.

E Analyte concentration exceeded the calibration range. The reported result is estimated.

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: SVE SYSTEM

Pace Project No.: 60132760

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60132760001	WGKBIGMO1000scfmTOXSTA-1106112	TO-14M Ambient Air	AIR/16204		
60132760002	WGKBIGMO2000scfmTOXSTA-1106112	TO-14M Ambient Air	AIR/16204		
60132760003	WGKBIGMO1000scfmTOXIN-1106112	TO-14M Ambient Air	AIR/16185		
60132760004	WGKBIGMO2000scfmTOXIN-1106112	TO-14M Ambient Air	AIR/16185		

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:	
Company: XDD, LLC		Report To: stanisewski@xdd-llc.com		Attention: Solutia, Inc. - Bill Johnson	
Address: 22 Marin Way #3		Copy To: wjohn@solulia.com		Company Name: 575 Maryville Centre Drive	
Stratham, NH 03885				Address: St. Louis, MO 63141	
Email To: stanisewski@xdd-llc.com		Purchase Order No.: 4504001018		Face Quote Reference: 1191	
Phone: 603-418-3132		Project Name: SVE System		Face Project Manager: Jamie Church	
Requested Due Date/TAT: standard		Project Number: 11002		Face Profile #: IL	
				STATE: IL	
				NPDES	
				GROUND WATER	
				RORA	
				UST	
				DRINKING WATER	
				EPA	
				OTHER	

ITEM #	Section D Required Client Information	Valid Matrix Codes MATRIX CODE DRINKING WATER DW WASTE WATER WW WASTE WATER PRODUCT P SOIL/SOLID SL OE WIRE WP AIR AR OTHER OT TISSUE TS	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED				SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives												Analysis Test	Y/N	N	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																
					DATE	TIME	DATE	TIME			Unpreserved	H ₂ SO ₄	HNO ₃	HCl	NaOH	Na ₂ S ₂ O ₃	Methanol	Other																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																									
1		WGKBIGMO1000scfm TOXSTACK- 110612	AR	G	—	—	11/06/12	1150		2	X																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																

ADDITIONAL COMMENTS		RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS	
Please email report to both Erin Stanisewski at XDD and Bill Johnson of Solutia.		Reginald Gardner	11/06/12	1530	Reginald Gardner	11-7-2012	09:30	Yes	N
* job specific list: 1,2,4-trichlorobenzene, 1,2-dichlorobenzene, 1,3-dichlorobenzene, 1,4-dichlorobenzene, benzene, chlorobenzene									
Please report as a Level II data package and refer to project specific analysis instructions.									
SAMPLER NAME AND SIGNATURE									
PRINT Name of SAMPLER: REGINALD GARDNER									
SIGNATURE of SAMPLER: [Signature]									
DATE Signed (MM/DD/YY): 11/06/12									
Temp in °C		Received on		Custody Sealed Cooler (Y/N)		Samples Infect (Y/N)			

	Document Name: Air Sample Condition Upon Receipt	Document Revised: 22 Aug 2012 Page 1 of 1
	Document No.: F-MN-A-106-rev.05	Issuing Authority: Pace Minnesota Quality Office

Air Sample Condition Upon Receipt Client Name: <u>XDD LLL</u> Project #: <u>60132760</u>	Courier: ☒ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☐ Pace ☐ Other: _____
	Tracking Number: <u>8015 3454 9130</u>

Custody Seal on Cooler/Box Present? ☐ Yes ☒ No Seals Intact? ☐ Yes ☐ No Optional: Proj. Due Date: Proj. Name:

Packing Material: ☐ Bubble Wrap ☐ Bubble Bags ☐ Foam ☒ None ☐ Other: _____

Temperature (T017 and T013 samples only): AMB Thermometer Used: ☐ B88A912167504 ☐ 80512447
 Temp should be above freezing to 6°C Date & Initials of Person Examining Contents: 11-7-12

			Comments:
Chain of Custody Present?	☒ Yes ☐ No ☐ N/A	1.	
Chain of Custody Filled Out?	☒ Yes ☐ No ☐ N/A	2.	
Chain of Custody Relinquished?	☒ Yes ☐ No ☐ N/A	3.	
Sampler Name and/or Signature on COC?	☒ Yes ☐ No ☐ N/A	4.	
Samples Arrived within Hold Time?	☒ Yes ☐ No ☐ N/A	5.	
Short Hold Time Analysis (<72 hr)?	☒ Yes ☐ No ☐ N/A	6.	<u>T014</u>
Rush Turn Around Time Requested?	☐ Yes ☒ No ☐ N/A	7.	
Sufficient Volume?	☒ Yes ☐ No ☐ N/A	8.	
Correct Containers Used?	☒ Yes ☐ No ☐ N/A	9.	
-Pace Containers Used?	☒ Yes ☐ No ☐ N/A		
Containers Intact?	☒ Yes ☐ No ☐ N/A	10.	
Media: <u>ARR (BAC)</u>		11.	
Sample Labels Match COC?	☒ Yes ☐ No ☐ N/A	12.	

Samples Received:					
Canisters		Flow Controllers		Stand Alone G	
Sample Number	Can ID	Sample Number	Can ID	Sample Number	Can ID

CLIENT NOTIFICATION/RESOLUTION Field Data Required? ☐ Yes ☐ No

Person Contacted: _____ Date/Time: _____

Comments/Resolution: _____

_____ Jamie Church _____ 11/7/12

Project Manager Review: _____ **Date:** _____

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)

11282

December 20, 2012

Erin Stanisewski
XDD, LLC
22 Marin Way #3
Stratham, NH 03885

RE: Project: SVE SYSTEM
Pace Project No.: 60134836

Dear Erin Stanisewski:

Enclosed are the analytical results for sample(s) received by the laboratory on December 06, 2012. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Jamie Church

jamie.church@pacelabs.com
Project Manager

Enclosures

cc: William Johnson, Solutia, Inc.



REPORT OF LABORATORY ANALYSIS

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Page 1 of 13

CERTIFICATIONS

Project: SVE SYSTEM

Pace Project No.: 60134836

Minnesota Certification IDs

1700 Elm Street SE Suite 200, Minneapolis, MN 55414

A2LA Certification #: 2926.01

Alaska Certification #: UST-078

Alaska Certification #MN00064

Arizona Certification #: AZ-0014

Arkansas Certification #: 88-0680

California Certification #: 01155CA

Colorado Certification #Pace

Connecticut Certification #: PH-0256

EPA Region 8 Certification #: Pace

Florida/NELAP Certification #: E87605

Georgia Certification #: 959

Hawaii Certification #Pace

Idaho Certification #: MN00064

Illinois Certification #: 200011

Kansas Certification #: E-10167

Louisiana Certification #: 03086

Louisiana Certification #: LA080009

Maine Certification #: 2007029

Maryland Certification #: 322

Michigan DEQ Certification #: 9909

Minnesota Certification #: 027-053-137

Mississippi Certification #: Pace

Montana Certification #: MT CERT0092

Nevada Certification #: MN_00064

Nebraska Certification #: Pace

New Jersey Certification #: MN-002

New York Certification #: 11647

North Carolina Certification #: 530

North Dakota Certification #: R-036

North Dakota Certification #: R-036A

Ohio VAP Certification #: CL101

Oklahoma Certification #: 9507

Oregon Certification #: MN200001

Oregon Certification #: MN300001

Pennsylvania Certification #: 68-00563

Puerto Rico Certification

Tennessee Certification #: 02818

Texas Certification #: T104704192

Utah Certification #: MN00064

Virginia/DCLS Certification #: 002521

Virginia/VELAP Certification #: 460163

Washington Certification #: C754

West Virginia Certification #: 382

Wisconsin Certification #: 999407970

REPORT OF LABORATORY ANALYSIS

Page 2 of 13

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SAMPLE SUMMARY

Project: SVE SYSTEM

Pace Project No.: 60134836

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60134836001	WGKBIGMO1000scfmTOXSTACK-	Air	12/05/12 11:20	12/06/12 09:20
60134836002	WGKBIGMO2000scfmTOXSTACK-	Air	12/05/12 11:10	12/06/12 09:20
60134836003	WGKBIGMO1000scfmTOXIN-	Air	12/05/12 11:40	12/06/12 09:20
60134836004	WGKBIGMO2000scfmTOXIN-	Air	12/05/12 11:30	12/06/12 09:20

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: SVE SYSTEM

Pace Project No.: 60134836

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60134836001	WGKBIGMO1000scfmTOXSTACK-	TO-14M Ambient Air	CJR	7	PASI-M
60134836002	WGKBIGMO2000scfmTOXSTACK-	TO-14M Ambient Air	CJR	7	PASI-M
60134836003	WGKBIGMO1000scfmTOXIN-	TO-14M Ambient Air	CJR	7	PASI-M
60134836004	WGKBIGMO2000scfmTOXIN-	TO-14M Ambient Air	CJR	7	PASI-M

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: SVE SYSTEM

Pace Project No.: 60134836

Method: TO-14M Ambient Air

Description: TO-14M MSV AIR - Ambient

Client: XDD_SOLUTION, LLC

Date: December 20, 2012

General Information:

4 samples were analyzed for TO-14M Ambient Air. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

A4: Sample was transferred from a sampling bag into a Summa Canister within 48 hours of collection.

- WGKBIGMO1000scfmTOXIN- (Lab ID: 60134836003)
- WGKBIGMO1000scfmTOXSTACK- (Lab ID: 60134836001)
- WGKBIGMO2000scfmTOXIN- (Lab ID: 60134836004)
- WGKBIGMO2000scfmTOXSTACK- (Lab ID: 60134836002)

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

Surrogates:

All surrogates were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

Sample Comments:

A3: The sample was analyzed by serial dilution.

- WGKBIGMO1000scfmTOXIN- (Lab ID: 60134836003)
- WGKBIGMO2000scfmTOXIN- (Lab ID: 60134836004)

Analyte Comments:

QC Batch: AIR/16443

E: Analyte concentration exceeded the calibration range. The reported result is estimated.

- WGKBIGMO1000scfmTOXIN- (Lab ID: 60134836003)
 - Benzene

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: SVE SYSTEM

Pace Project No.: 60134836

Method: TO-14M Ambient Air

Description: TO-14M MSV AIR - Ambient

Client: XDD_SOLUTION, LLC

Date: December 20, 2012

Analyte Comments:

QC Batch: AIR/16443

E: Analyte concentration exceeded the calibration range. The reported result is estimated.

- WGKBIGMO2000scfmTOXIN- (Lab ID: 60134836004)
- Benzene

This data package has been reviewed for quality and completeness and is approved for release.

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: SVE SYSTEM

Pace Project No.: 60134836

Sample: WGKBIGMO1000scfmTOX **Lab ID:** 60134836001 Collected: 12/05/12 11:20 Received: 12/06/12 09:20 Matrix: Air
STACK-

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
TO-14M MSV AIR - Ambient									
Analytical Method: TO-14M Ambient Air									
Benzene	14.0J	ppbv	17.4	8.7	34.8		12/19/12 11:17	71-43-2	A4
Chlorobenzene	88.7	ppbv	17.4	8.7	34.8		12/19/12 11:17	108-90-7	
1,4-Dichlorobenzene	145	ppbv	17.4	8.7	34.8		12/19/12 11:17	106-46-7	
Ethylbenzene	ND	ppbv	17.4	8.7	34.8		12/19/12 11:17	100-41-4	
Toluene	29.4	ppbv	17.4	8.7	34.8		12/19/12 11:17	108-88-3	
m&p-Xylene	ND	ppbv	34.8	17.4	34.8		12/19/12 11:17	179601-23-1	
o-Xylene	ND	ppbv	17.4	8.7	34.8		12/19/12 11:17	95-47-6	

ANALYTICAL RESULTS

Project: SVE SYSTEM

Pace Project No.: 60134836

Sample: WGKBIGMO2000scfmTOX **Lab ID:** 60134836002 Collected: 12/05/12 11:10 Received: 12/06/12 09:20 Matrix: Air
STACK-

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
TO-14M MSV AIR - Ambient									
Analytical Method: TO-14M Ambient Air									
Benzene	ND	ppbv	17.4	8.7	34.8		12/19/12 11:46	71-43-2	A4
Chlorobenzene	47.2	ppbv	17.4	8.7	34.8		12/19/12 11:46	108-90-7	
1,4-Dichlorobenzene	65.2	ppbv	17.4	8.7	34.8		12/19/12 11:46	106-46-7	
Ethylbenzene	ND	ppbv	17.4	8.7	34.8		12/19/12 11:46	100-41-4	
Toluene	19.3	ppbv	17.4	8.7	34.8		12/19/12 11:46	108-88-3	
m&p-Xylene	ND	ppbv	34.8	17.4	34.8		12/19/12 11:46	179601-23-1	
o-Xylene	ND	ppbv	17.4	8.7	34.8		12/19/12 11:46	95-47-6	

ANALYTICAL RESULTS

Project: SVE SYSTEM

Pace Project No.: 60134836

Sample: WGKBIGMO1000scfmTOXI **Lab ID:** 60134836003 Collected: 12/05/12 11:40 Received: 12/06/12 09:20 Matrix: Air
N-

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
TO-14M MSV AIR - Ambient									
Analytical Method: TO-14M Ambient Air									
Benzene	2430000	ppbv	7480	3740	14966.		12/19/12 12:44	71-43-2	A4,E
Chlorobenzene	253000	ppbv	7480	3740	14966.		12/19/12 12:44	108-90-7	
1,4-Dichlorobenzene	ND	ppbv	7480	3740	14966.		12/19/12 12:44	106-46-7	
Ethylbenzene	ND	ppbv	7480	3740	14966.		12/19/12 12:44	100-41-4	
Toluene	ND	ppbv	7480	3740	14966.		12/19/12 12:44	108-88-3	
m&p-Xylene	ND	ppbv	15000	7480	14966.		12/19/12 12:44	179601-23-1	
o-Xylene	ND	ppbv	7480	3740	14966.		12/19/12 12:44	95-47-6	

ANALYTICAL RESULTS

Project: SVE SYSTEM

Pace Project No.: 60134836

Sample: WGKBIGMO2000scfmTOXI **Lab ID:** 60134836004 Collected: 12/05/12 11:30 Received: 12/06/12 09:20 Matrix: Air
N-

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
TO-14M MSV AIR - Ambient		Analytical Method: TO-14M Ambient Air							
Benzene	2660000	ppbv	7480	3740	14966.		12/19/12 12:15	71-43-2	A4,E
Chlorobenzene	368000	ppbv	7480	3740	14966.		12/19/12 12:15	108-90-7	
1,4-Dichlorobenzene	ND	ppbv	7480	3740	14966.		12/19/12 12:15	106-46-7	
Ethylbenzene	ND	ppbv	7480	3740	14966.		12/19/12 12:15	100-41-4	
Toluene	ND	ppbv	7480	3740	14966.		12/19/12 12:15	108-88-3	
m&p-Xylene	ND	ppbv	15000	7480	14966.		12/19/12 12:15	179601-23-1	
o-Xylene	ND	ppbv	7480	3740	14966.		12/19/12 12:15	95-47-6	

QUALITY CONTROL DATA

Project: SVE SYSTEM

Pace Project No.: 60134836

QC Batch:	AIR/16443	Analysis Method:	TO-14M Ambient Air
QC Batch Method:	TO-14M Ambient Air	Analysis Description:	TO14 MSV AIR - AMBIENT
Associated Lab Samples:	60134836001, 60134836002, 60134836003, 60134836004		

METHOD BLANK: 1353894 Matrix: Air

Associated Lab Samples: 60134836001, 60134836002, 60134836003, 60134836004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,4-Dichlorobenzene	ppbv	ND	0.50	12/18/12 20:19	
Benzene	ppbv	ND	0.50	12/18/12 20:19	
Chlorobenzene	ppbv	ND	0.50	12/18/12 20:19	
Ethylbenzene	ppbv	ND	0.50	12/18/12 20:19	
m&p-Xylene	ppbv	ND	1.0	12/18/12 20:19	
o-Xylene	ppbv	ND	0.50	12/18/12 20:19	
Toluene	ppbv	ND	0.50	12/18/12 20:19	

LABORATORY CONTROL SAMPLE: 1353895

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,4-Dichlorobenzene	ppbv	10	10.0	100	72-131	
Benzene	ppbv	10	10	100	69-134	
Chlorobenzene	ppbv	10	9.7	97	75-128	
Ethylbenzene	ppbv	10	10.3	103	69-139	
m&p-Xylene	ppbv	10	10.2	102	66-137	
o-Xylene	ppbv	10	10.3	103	69-138	
Toluene	ppbv	10	9.8	98	71-132	

QUALIFIERS

Project: SVE SYSTEM
Pace Project No.: 60134836

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PRL - Pace Reporting Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

LABORATORIES

PASI-M Pace Analytical Services - Minneapolis

SAMPLE QUALIFIERS

Sample: 60134836003

[1] The sample was analyzed by serial dilution.

Sample: 60134836004

[1] The sample was analyzed by serial dilution.

ANALYTE QUALIFIERS

A4 Sample was transferred from a sampling bag into a Summa Canister within 48 hours of collection.

E Analyte concentration exceeded the calibration range. The reported result is estimated.

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: SVE SYSTEM

Pace Project No.: 60134836

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60134836001	WGKBIGMO1000scfmTOXSTACK	TO-14M Ambient Air	AIR/16443		
60134836002	WGKBIGMO2000scfmTOXSTACK	TO-14M Ambient Air	AIR/16443		
60134836003	WGKBIGMO1000scfmTOXIN-	TO-14M Ambient Air	AIR/16443		
60134836004	WGKBIGMO2000scfmTOXIN-	TO-14M Ambient Air	AIR/16443		

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Section A Required Client Information: Company: XDD, LLC Address: 22 Marin Way #3 Stratham, NH 03865 Email To: stanisewski@xdd-llc.com Phone: 603-418-3132 Fax: 603-778-2121 Requested Due Date/TAT: standard		Section B Required Project Information: Report To: stanisewski@xdd-llc.com Copy To: wjohnn@solutia.com Purchase Order No.: 4504001018 Project Name: SVE System Project Number: 11002		Section C Invoice Information: Attention: Solutia, Inc. - Bill Johnson Company Name: 575 Maryville Centre Drive Address: St. Louis, MO 63141 Pace Quote Reference: 1191 Pace Project Manager: Jamie Church Pace Profile #:	
REGULATORY AGENCY NPDES GROUND WATER DRINKING WATER IEPA UST RCRA OTHER		Site Location STATE: IL			

ITEM #	Section D Required Client Information	Valid Matrix Codes		MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED				SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives								Analysis Test Y/N	N	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																					
		MATRIX	CODE			DATE	TIME	DATE	TIME			H ₂ SO ₄	HNO ₃	HCl	NaOH	Na ₂ S ₂ O ₃	Methanol	Other																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																										
		DRINKING WATER DW WATER WT WASTE WATER WW PRODUCT P SOIL/SOLID SL OIL OL WIPE WP AIR AR OTHER OT TISSUE TS																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																										</

ADDITIONAL COMMENTS Please email report to both Ernie Stanisewski at XDD and Bill Johnson of Solutia. See JOB SPECIFIC LIST		RELINQUISHED BY / AFFILIATION Date: 12/5/12 Time: 1400 Signature: [Signature]		ACCEPTED BY / AFFILIATION Date: 12/6/12 Time: 0920 Signature: [Signature]		SAMPLE CONDITIONS Temp in °C Received on Custody Sealed Cooler Samples Intact	
SAMPLE NAME AND SIGNATURE PRINT Name of SAMPLER: [Signature] SIGNATURE of SAMPLER: [Signature]		DATE Signed (MM/DD/YY): 12/5/12					

2013 Soil Vapor Laboratory Reports

January 23, 2013

Erin Stanisewski
XDD, LLC
22 Marin Way #3
Stratham, NH 03885

RE: Project: SVE SYSTEM - BIG MO
Pace Project No.: 60136808

Dear Erin Stanisewski:

Enclosed are the analytical results for sample(s) received by the laboratory on January 11, 2013. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Jamie Church

jamie.church@pacelabs.com
Project Manager

Enclosures

cc: William Johnson, Solutia, Inc.



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: SVE SYSTEM - BIG MO

Pace Project No.: 60136808

Minnesota Certification IDs

1700 Elm Street SE Suite 200, Minneapolis, MN 55414

A2LA Certification #: 2926.01

Alaska Certification #: UST-078

Alaska Certification #MN00064

Arizona Certification #: AZ-0014

Arkansas Certification #: 88-0680

California Certification #: 01155CA

Colorado Certification #Pace

Connecticut Certification #: PH-0256

EPA Region 8 Certification #: Pace

Florida/NELAP Certification #: E87605

Georgia Certification #: 959

Hawaii Certification #Pace

Idaho Certification #: MN00064

Illinois Certification #: 200011

Kansas Certification #: E-10167

Louisiana Certification #: 03086

Louisiana Certification #: LA080009

Maine Certification #: 2007029

Maryland Certification #: 322

Michigan DEQ Certification #: 9909

Minnesota Certification #: 027-053-137

Mississippi Certification #: Pace

Montana Certification #: MT CERT0092

Nevada Certification #: MN_00064

Nebraska Certification #: Pace

New Jersey Certification #: MN-002

New York Certification #: 11647

North Carolina Certification #: 530

North Dakota Certification #: R-036

North Dakota Certification #: R-036A

Ohio VAP Certification #: CL101

Oklahoma Certification #: 9507

Oregon Certification #: MN200001

Oregon Certification #: MN300001

Pennsylvania Certification #: 68-00563

Puerto Rico Certification

Tennessee Certification #: 02818

Texas Certification #: T104704192

Utah Certification #: MN00064

Virginia/DCLS Certification #: 002521

Virginia/VELAP Certification #: 460163

Washington Certification #: C754

West Virginia Certification #: 382

Wisconsin Certification #: 999407970

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: SVE SYSTEM - BIG MO

Pace Project No.: 60136808

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60136808001	WGKBIGMO2000scfmTOXSTA-011013	Air	01/10/13 12:40	01/11/13 14:06
60136808002	WGKBIGMO2000scfmTOXIN-011013	Air	01/10/13 12:45	01/11/13 14:06

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: SVE SYSTEM - BIG MO

Pace Project No.: 60136808

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60136808001	WGKBIGMO2000scfmTOXSTA-011013	TO-14M Ambient Air	DR1	7	PASI-M
60136808002	WGKBIGMO2000scfmTOXIN-011013	TO-14M Ambient Air	DR1	7	PASI-M

REPORT OF LABORATORY ANALYSIS

Page 4 of 11

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PROJECT NARRATIVE

Project: SVE SYSTEM - BIG MO

Pace Project No.: 60136808

Method: TO-14M Ambient Air

Description: TO-14M MSV AIR - Ambient

Client: XDD_SOLUTION, LLC

Date: January 23, 2013

General Information:

2 samples were analyzed for TO-14M Ambient Air. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

A4: Sample was transferred from a sampling bag into a Summa Canister within 48 hours of collection.

- WGKBIGMO2000scfmTOXIN-011013 (Lab ID: 60136808002)
- WGKBIGMO2000scfmTOXSTA-011013 (Lab ID: 60136808001)

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

Surrogates:

All surrogates were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

Analyte Comments:

QC Batch: AIR/16630

A3: The sample was analyzed by serial dilution.

- WGKBIGMO2000scfmTOXSTA-011013 (Lab ID: 60136808001)
 - 1,4-Dichlorobenzene
 - Chlorobenzene

E: Analyte concentration exceeded the calibration range. The reported result is estimated.

- WGKBIGMO2000scfmTOXIN-011013 (Lab ID: 60136808002)
 - Benzene
 - Chlorobenzene

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: SVE SYSTEM - BIG MO

Pace Project No.: 60136808

Method: TO-14M Ambient Air

Description: TO-14M MSV AIR - Ambient

Client: XDD_SOLUTION, LLC

Date: January 23, 2013

This data package has been reviewed for quality and completeness and is approved for release.

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: SVE SYSTEM - BIG MO

Pace Project No.: 60136808

Sample: WGKBIGMO2000scfmTOX **Lab ID:** 60136808001 Collected: 01/10/13 12:40 Received: 01/11/13 14:06 Matrix: Air
STA-011013

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
TO-14M MSV AIR - Ambient									
Analytical Method: TO-14M Ambient Air									
Benzene	675	ppbv	32.6	16.3	65.18		01/19/13 07:57	71-43-2	A4
Chlorobenzene	1370	ppbv	77.6	38.8	155.2		01/22/13 22:59	108-90-7	A3
1,4-Dichlorobenzene	1340	ppbv	77.6	38.8	155.2		01/22/13 22:59	106-46-7	A3
Ethylbenzene	ND	ppbv	32.6	16.3	65.18		01/19/13 07:57	100-41-4	
Toluene	671	ppbv	32.6	16.3	65.18		01/19/13 07:57	108-88-3	
m&p-Xylene	ND	ppbv	65.2	32.6	65.18		01/19/13 07:57	179601-23-1	
o-Xylene	ND	ppbv	32.6	16.3	65.18		01/19/13 07:57	95-47-6	

ANALYTICAL RESULTS

Project: SVE SYSTEM - BIG MO

Pace Project No.: 60136808

Sample: WGKBIGMO2000scfmTOXI **Lab ID:** 60136808002 Collected: 01/10/13 12:45 Received: 01/11/13 14:06 Matrix: Air
N-011013

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
TO-14M MSV AIR - Ambient									
Analytical Method: TO-14M Ambient Air									
Benzene	10000000	ppbv	7480	3740	14966.		01/19/13 08:26	71-43-2	A4,E
Chlorobenzene	1190000	ppbv	7480	3740	14966.		01/19/13 08:26	108-90-7	E
1,4-Dichlorobenzene	8140	ppbv	7480	3740	14966.		01/19/13 08:26	106-46-7	
Ethylbenzene	ND	ppbv	7480	3740	14966.		01/19/13 08:26	100-41-4	
Toluene	6370J	ppbv	7480	3740	14966.		01/19/13 08:26	108-88-3	
m&p-Xylene	ND	ppbv	15000	7480	14966.		01/19/13 08:26	179601-23-1	
o-Xylene	ND	ppbv	7480	3740	14966.		01/19/13 08:26	95-47-6	

QUALITY CONTROL DATA

Project: SVE SYSTEM - BIG MO

Pace Project No.: 60136808

QC Batch:	AIR/16630	Analysis Method:	TO-14M Ambient Air
QC Batch Method:	TO-14M Ambient Air	Analysis Description:	TO14 MSV AIR - AMBIENT
Associated Lab Samples:	60136808001, 60136808002		

METHOD BLANK: 1366291 Matrix: Air

Associated Lab Samples: 60136808001, 60136808002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,4-Dichlorobenzene	ppbv	ND	0.50	01/18/13 21:44	
Benzene	ppbv	ND	0.50	01/18/13 21:44	
Chlorobenzene	ppbv	ND	0.50	01/18/13 21:44	
Ethylbenzene	ppbv	ND	0.50	01/18/13 21:44	
m&p-Xylene	ppbv	ND	1.0	01/18/13 21:44	
o-Xylene	ppbv	ND	0.50	01/18/13 21:44	
Toluene	ppbv	ND	0.50	01/18/13 21:44	

LABORATORY CONTROL SAMPLE: 1366292

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,4-Dichlorobenzene	ppbv	10	10.0	100	66-134	
Benzene	ppbv	10	10.6	106	72-136	
Chlorobenzene	ppbv	10	9.9	99	65-135	
Ethylbenzene	ppbv	10	10.2	102	74-136	
m&p-Xylene	ppbv	10	10.3	103	72-135	
o-Xylene	ppbv	10	10.3	103	74-135	
Toluene	ppbv	10	9.2	92	71-134	

QUALIFIERS

Project: SVE SYSTEM - BIG MO

Pace Project No.: 60136808

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PRL - Pace Reporting Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

LABORATORIES

PASI-M Pace Analytical Services - Minneapolis

ANALYTE QUALIFIERS

A3 The sample was analyzed by serial dilution.

A4 Sample was transferred from a sampling bag into a Summa Canister within 48 hours of collection.

E Analyte concentration exceeded the calibration range. The reported result is estimated.

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: SVE SYSTEM - BIG MO

Pace Project No.: 60136808

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60136808001	WGKBIGMO2000scfmTOXSTA-011013	TO-14M Ambient Air	AIR/16630		
60136808002	WGKBIGMO2000scfmTOXIN-011013	TO-14M Ambient Air	AIR/16630		

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Direct ship 11674

April 08, 2013

Erin Stanisewski
XDD, LLC
22 Marin Way #3
Stratham, NH 03885

RE: Project: BIG MO SVE SYSTEM
Pace Project No.: 60141100

Dear Erin Stanisewski:

Enclosed are the analytical results for sample(s) received by the laboratory on March 25, 2013. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Jamie Church

jamie.church@pacelabs.com
Project Manager

Enclosures

cc: William Johnson, Solutia, Inc.



REPORT OF LABORATORY ANALYSIS

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Page 1 of 10

CERTIFICATIONS

Project: BIG MO SVE SYSTEM

Pace Project No.: 60141100

Minnesota Certification IDs

1700 Elm Street SE Suite 200, Minneapolis, MN 55414

A2LA Certification #: 2926.01

Alaska Certification #: UST-078

Alaska Certification #MN00064

Arizona Certification #: AZ-0014

Arkansas Certification #: 88-0680

California Certification #: 01155CA

Colorado Certification #Pace

Connecticut Certification #: PH-0256

EPA Region 8 Certification #: Pace

Florida/NELAP Certification #: E87605

Georgia Certification #: 959

Hawaii Certification #Pace

Idaho Certification #: MN00064

Illinois Certification #: 200011

Kansas Certification #: E-10167

Louisiana Certification #: 03086

Louisiana Certification #: LA080009

Maine Certification #: 2007029

Maryland Certification #: 322

Michigan DEQ Certification #: 9909

Minnesota Certification #: 027-053-137

Mississippi Certification #: Pace

Montana Certification #: MT CERT0092

Nevada Certification #: MN_00064

Nebraska Certification #: Pace

New Jersey Certification #: MN-002

New York Certification #: 11647

North Carolina Certification #: 530

North Dakota Certification #: R-036

North Dakota Certification #: R-036A

Ohio VAP Certification #: CL101

Oklahoma Certification #: 9507

Oregon Certification #: MN200001

Oregon Certification #: MN300001

Pennsylvania Certification #: 68-00563

Puerto Rico Certification

Tennessee Certification #: 02818

Texas Certification #: T104704192

Utah Certification #: MN00064

Virginia/DCLS Certification #: 002521

Virginia/VELAP Certification #: 460163

Washington Certification #: C754

West Virginia Certification #: 382

Wisconsin Certification #: 999407970

REPORT OF LABORATORY ANALYSIS

Page 2 of 10

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SAMPLE SUMMARY

Project: BIG MO SVE SYSTEM

Pace Project No.: 60141100

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60141100001	WGKBIGMO2000scfmTOXIN-032013	Air	03/20/13 12:30	03/25/13 09:15
60141100002	WGKBIGMO2000scfmTOXSTA-032013	Air	03/20/13 12:15	03/25/13 09:15

REPORT OF LABORATORY ANALYSIS

Page 3 of 10

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SAMPLE ANALYTE COUNT

Project: BIG MO SVE SYSTEM

Pace Project No.: 60141100

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60141100001	WGKBIGMO2000scfmTOXIN-032013	TO-14M Ambient Air	CJR	7	PASI-M
60141100002	WGKBIGMO2000scfmTOXSTA-032013	TO-14M Ambient Air	CJR	7	PASI-M

REPORT OF LABORATORY ANALYSIS

Page 4 of 10

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PROJECT NARRATIVE

Project: BIG MO SVE SYSTEM

Pace Project No.: 60141100

Method: TO-14M Ambient Air

Description: TO-14M MSV AIR - Ambient

Client: XDD_SOLUTION, LLC

Date: April 08, 2013

General Information:

2 samples were analyzed for TO-14M Ambient Air. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

Surrogates:

All surrogates were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

Sample Comments:

A3: The sample was analyzed by serial dilution.

- WGKBIGMO2000scfmTOXIN-032013 (Lab ID: 60141100001)
- WGKBIGMO2000scfmTOXSTA-032013 (Lab ID: 60141100002)

Analyte Comments:

QC Batch: AIR/17065

E: Analyte concentration exceeded the calibration range. The reported result is estimated.

- WGKBIGMO2000scfmTOXIN-032013 (Lab ID: 60141100001)
- Benzene

This data package has been reviewed for quality and completeness and is approved for release.

REPORT OF LABORATORY ANALYSIS

Page 5 of 10

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ANALYTICAL RESULTS

Project: BIG MO SVE SYSTEM

Pace Project No.: 60141100

Sample: **WGKBIGMO2000scfmTOXI N-032013** Lab ID: **60141100001** Collected: 03/20/13 12:30 Received: 03/25/13 09:15 Matrix: Air

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
TO-14M MSV AIR - Ambient Analytical Method: TO-14M Ambient Air									
Benzene	2730000	ppbv	4320	2160	8644.6 1		04/05/13 07:52	71-43-2	E
Chlorobenzene	175000	ppbv	4320	2160	8644.6 1		04/05/13 07:52	108-90-7	
1,4-Dichlorobenzene	5710	ppbv	4320	2160	8644.6 1		04/05/13 07:52	106-46-7	
Ethylbenzene	ND	ppbv	4320	2160	8644.6 1		04/05/13 07:52	100-41-4	
Toluene	7620	ppbv	4320	2160	8644.6 1		04/05/13 07:52	108-88-3	
m&p-Xylene	ND	ppbv	8640	4320	8644.6 1		04/05/13 07:52	179601-23-1	
o-Xylene	ND	ppbv	4320	2160	8644.6 1		04/05/13 07:52	95-47-6	

ANALYTICAL RESULTS

Project: BIG MO SVE SYSTEM

Pace Project No.: 60141100

Sample: WGKBIGMO2000scfmTOX **Lab ID:** 60141100002 Collected: 03/20/13 12:15 Received: 03/25/13 09:15 Matrix: Air
STA-032013

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
TO-14M MSV AIR - Ambient		Analytical Method: TO-14M Ambient Air							
Benzene	526	ppbv	107	53.6	214.4		04/05/13 09:49	71-43-2	
Chlorobenzene	2360	ppbv	107	53.6	214.4		04/05/13 09:49	108-90-7	
1,4-Dichlorobenzene	515	ppbv	107	53.6	214.4		04/05/13 09:49	106-46-7	
Ethylbenzene	ND	ppbv	107	53.6	214.4		04/05/13 09:49	100-41-4	
Toluene	1010	ppbv	107	53.6	214.4		04/05/13 09:49	108-88-3	
m&p-Xylene	ND	ppbv	214	107	214.4		04/05/13 09:49	179601-23-1	
o-Xylene	ND	ppbv	107	53.6	214.4		04/05/13 09:49	95-47-6	

QUALITY CONTROL DATA

Project: BIG MO SVE SYSTEM

Pace Project No.: 60141100

QC Batch:	AIR/17065	Analysis Method:	TO-14M Ambient Air
QC Batch Method:	TO-14M Ambient Air	Analysis Description:	TO14 MSV AIR - AMBIENT
Associated Lab Samples:	60141100001, 60141100002		

METHOD BLANK: 1403778 Matrix: Air

Associated Lab Samples: 60141100001, 60141100002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,4-Dichlorobenzene	ppbv	ND	0.50	04/04/13 15:06	
Benzene	ppbv	ND	0.50	04/04/13 15:06	
Chlorobenzene	ppbv	ND	0.50	04/04/13 15:06	
Ethylbenzene	ppbv	ND	0.50	04/04/13 15:06	
m&p-Xylene	ppbv	ND	1.0	04/04/13 15:06	
o-Xylene	ppbv	ND	0.50	04/04/13 15:06	
Toluene	ppbv	ND	0.50	04/04/13 15:06	

LABORATORY CONTROL SAMPLE: 1403779

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,4-Dichlorobenzene	ppbv	10	11.0	110	66-134	
Benzene	ppbv	10	11.1	111	72-136	
Chlorobenzene	ppbv	10	9.7	97	65-135	
Ethylbenzene	ppbv	10	10.5	105	74-136	
m&p-Xylene	ppbv	10	10.5	105	72-135	
o-Xylene	ppbv	10	10.7	107	74-135	
Toluene	ppbv	10	11.6	116	71-134	

QUALIFIERS

Project: BIG MO SVE SYSTEM

Pace Project No.: 60141100

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PRL - Pace Reporting Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

LABORATORIES

PASI-M Pace Analytical Services - Minneapolis

SAMPLE QUALIFIERS

Sample: 60141100001

[1] The sample was analyzed by serial dilution.

Sample: 60141100002

[1] The sample was analyzed by serial dilution.

ANALYTE QUALIFIERS

E Analyte concentration exceeded the calibration range. The reported result is estimated.

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: BIG MO SVE SYSTEM

Pace Project No.: 60141100

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60141100001	WGKBIGMO2000scfmTOXIN-032013	TO-14M Ambient Air	AIR/17065		
60141100002	WGKBIGMO2000scfmTOXSTA-032013	TO-14M Ambient Air	AIR/17065		

	Document Name:	Document Revised: 28Jan2013
	Air Sample Condition Upon Receipt	Page 1 of 1
	Document No.: F-MN-A-106-rev.07	Issuing Authority: Pace Minnesota Quality Office

Air Sample Condition
Upon Receipt

Client Name:

Project #:

Courier: ☒ Fed Ex ☐ UPS ☐ USPS ☐ Client
☐ Commercial ☐ Pace ☐ Other:

Tracking Number: 045 7603 1809 7104

Custody Seal on Cooler/Box Present? ☐ Yes ☒ No Seals Intact? ☐ Yes ☒ No

Optional: Proj. Due Date: Proj. Name:

Packing Material: ☐ Bubble Wrap ☐ Bubble Bags ☐ Foam ☒ None ☐ Other:

Temp. (TO17 and TO13 samples only) (°C): 22.0 Corrected Temp (°C):
 Temp should be above freezing to 6°C Correction Factor:

Thermom. Used: ☐ 888A912167504 ☐ 80514447 ☐ 72337080
 Date & Initials of Person Examining Contents: 3-25-13

Comments:

Chain of Custody Present?	☒ Yes ☐ No ☐ N/A	1.
Chain of Custody Filled Out?	☒ Yes ☐ No ☐ N/A	2.
Chain of Custody Relinquished?	☒ Yes ☐ No ☐ N/A	3.
Sampler Name and/or Signature on COC?	☒ Yes ☐ No ☐ N/A	4.
Samples Arrived within Hold Time?	☒ Yes ☐ No ☐ N/A	5.
Short Hold Time Analysis (<72 hr)?	☐ Yes ☒ No ☐ N/A	6.
Rush Turn Around Time Requested?	☐ Yes ☒ No ☐ N/A	7.
Sufficient Volume?	☒ Yes ☐ No ☐ N/A	8.
Correct Containers Used?	☒ Yes ☐ No ☐ N/A	9.
-Pace Containers Used?	☒ Yes ☐ No ☐ N/A	
Containers Intact?	☒ Yes ☐ No ☐ N/A	10.
Media: <u>2 cans</u>		11.
Sample Labels Match COC?	☒ Yes ☐ No ☐ N/A	12.

Samples Received:

Canisters		Flow Controllers		Stand Alone G	
Sample Number	Can ID	Sample Number	Can ID	Sample Number	Can ID
<u>WGR BGM 101A</u>	<u>Pace 1714</u>				
<u>17 Joxack</u>	<u>11 1618</u>				

CLIENT NOTIFICATION/RESOLUTION

Field Data Required? ☐ Yes ☐ No

Person Contacted:

Date/Time:

Comments/Resolution:

Project Manager Review:

Date: 3/25/13

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)

April 18, 2013

Erin Stanisewski
XDD, LLC
22 Marin Way #3
Stratham, NH 03885

RE: Project: SVE SYSTEM
Pace Project No.: 60141904

Dear Erin Stanisewski:

Enclosed are the analytical results for sample(s) received by the laboratory on April 04, 2013. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Jamie Church

jamie.church@pacelabs.com
Project Manager

Enclosures

cc: William Johnson, Solutia, Inc.



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: SVE SYSTEM

Pace Project No.: 60141904

Minnesota Certification IDs

1700 Elm Street SE Suite 200, Minneapolis, MN 55414

A2LA Certification #: 2926.01

Alaska Certification #: UST-078

Alaska Certification #MN00064

Arizona Certification #: AZ-0014

Arkansas Certification #: 88-0680

California Certification #: 01155CA

Colorado Certification #Pace

Connecticut Certification #: PH-0256

EPA Region 8 Certification #: Pace

Florida/NELAP Certification #: E87605

Georgia Certification #: 959

Hawaii Certification #Pace

Idaho Certification #: MN00064

Illinois Certification #: 200011

Kansas Certification #: E-10167

Louisiana Certification #: 03086

Louisiana Certification #: LA080009

Maine Certification #: 2007029

Maryland Certification #: 322

Michigan DEQ Certification #: 9909

Minnesota Certification #: 027-053-137

Mississippi Certification #: Pace

Montana Certification #: MT CERT0092

Nevada Certification #: MN_00064

Nebraska Certification #: Pace

New Jersey Certification #: MN-002

New York Certification #: 11647

North Carolina Certification #: 530

North Dakota Certification #: R-036

North Dakota Certification #: R-036A

Ohio VAP Certification #: CL101

Oklahoma Certification #: 9507

Oregon Certification #: MN200001

Oregon Certification #: MN300001

Pennsylvania Certification #: 68-00563

Puerto Rico Certification

Tennessee Certification #: 02818

Texas Certification #: T104704192

Utah Certification #: MN00064

Virginia/DCLS Certification #: 002521

Virginia/VELAP Certification #: 460163

Washington Certification #: C754

West Virginia Certification #: 382

Wisconsin Certification #: 999407970

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: SVE SYSTEM

Pace Project No.: 60141904

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60141904001	WGKBIGMO2000scfmTOXIN-040313	Air	04/03/13 13:30	04/04/13 09:14
60141904002	WGKBIGMO2000scfmTOXSTA-040313	Air	04/03/13 13:15	04/04/13 09:14

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: SVE SYSTEM

Pace Project No.: 60141904

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60141904001	WGKBIGMO2000scfmTOXIN-040313	TO-14M Ambient Air	DR1	7	PASI-M
60141904002	WGKBIGMO2000scfmTOXSTA-040313	TO-14M Ambient Air	DR1	7	PASI-M

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: SVE SYSTEM

Pace Project No.: 60141904

Method: TO-14M Ambient Air

Description: TO-14M MSV AIR - Ambient

Client: XDD_SOLUTIONIA, LLC

Date: April 18, 2013

General Information:

2 samples were analyzed for TO-14M Ambient Air. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

Surrogates:

All surrogates were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

Sample Comments:

A3: The sample was analyzed by serial dilution.

- WGKBIGMO2000scfmTOXIN-040313 (Lab ID: 60141904001)
- WGKBIGMO2000scfmTOXSTA-040313 (Lab ID: 60141904002)

Analyte Comments:

QC Batch: AIR/17149

E: Analyte concentration exceeded the calibration range. The reported result is estimated.

- WGKBIGMO2000scfmTOXIN-040313 (Lab ID: 60141904001)
- Benzene

This data package has been reviewed for quality and completeness and is approved for release.

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: SVE SYSTEM

Pace Project No.: 60141904

Sample: WGKBIGMO2000scfmTOXI **Lab ID:** 60141904001 Collected: 04/03/13 13:30 Received: 04/04/13 09:14 Matrix: Air
N-040313

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
TO-14M MSV AIR - Ambient									
Analytical Method: TO-14M Ambient Air									
Benzene	1580000	ppbv	3430	1720	6860.8		04/17/13 06:54	71-43-2	E
Chlorobenzene	230000	ppbv	3430	1720	6860.8		04/17/13 06:54	108-90-7	
1,4-Dichlorobenzene	ND	ppbv	3430	1720	6860.8		04/17/13 06:54	106-46-7	
Ethylbenzene	ND	ppbv	3430	1720	6860.8		04/17/13 06:54	100-41-4	
Toluene	ND	ppbv	3430	1720	6860.8		04/17/13 06:54	108-88-3	
m&p-Xylene	ND	ppbv	6860	3430	6860.8		04/17/13 06:54	179601-23-1	
o-Xylene	ND	ppbv	3430	1720	6860.8		04/17/13 06:54	95-47-6	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: SVE SYSTEM

Pace Project No.: 60141904

Sample: WGKBIGMO2000scfmTOX **Lab ID:** 60141904002 Collected: 04/03/13 13:15 Received: 04/04/13 09:14 Matrix: Air
STA-040313

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
TO-14M MSV AIR - Ambient									
Analytical Method: TO-14M Ambient Air									
Benzene	ND	ppbv	12.6	6.3	25.2		04/17/13 11:23	71-43-2	
Chlorobenzene	344	ppbv	12.6	6.3	25.2		04/17/13 11:23	108-90-7	
1,4-Dichlorobenzene	102	ppbv	12.6	6.3	25.2		04/17/13 11:23	106-46-7	
Ethylbenzene	ND	ppbv	12.6	6.3	25.2		04/17/13 11:23	100-41-4	
Toluene	ND	ppbv	12.6	6.3	25.2		04/17/13 11:23	108-88-3	
m&p-Xylene	ND	ppbv	25.2	12.6	25.2		04/17/13 11:23	179601-23-1	
o-Xylene	ND	ppbv	12.6	6.3	25.2		04/17/13 11:23	95-47-6	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: SVE SYSTEM

Pace Project No.: 60141904

QC Batch:	AIR/17149	Analysis Method:	TO-14M Ambient Air
QC Batch Method:	TO-14M Ambient Air	Analysis Description:	TO14 MSV AIR - AMBIENT
Associated Lab Samples:	60141904001, 60141904002		

METHOD BLANK: 1410562 Matrix: Air

Associated Lab Samples: 60141904001, 60141904002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,4-Dichlorobenzene	ppbv	ND	0.50	04/16/13 19:56	
Benzene	ppbv	ND	0.50	04/16/13 19:56	
Chlorobenzene	ppbv	ND	0.50	04/16/13 19:56	
Ethylbenzene	ppbv	ND	0.50	04/16/13 19:56	
m&p-Xylene	ppbv	ND	1.0	04/16/13 19:56	
o-Xylene	ppbv	ND	0.50	04/16/13 19:56	
Toluene	ppbv	ND	0.50	04/16/13 19:56	

LABORATORY CONTROL SAMPLE: 1410563

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,4-Dichlorobenzene	ppbv	10	10.1	101	66-134	
Benzene	ppbv	10	7.7	77	72-136	
Chlorobenzene	ppbv	10	9.8	98	65-135	
Ethylbenzene	ppbv	10	9.3	93	74-136	
m&p-Xylene	ppbv	10	9.7	97	72-135	
o-Xylene	ppbv	10	9.3	93	74-135	
Toluene	ppbv	10	9.9	99	71-134	

REPORT OF LABORATORY ANALYSIS

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without the written consent of Pace Analytical Services, Inc..

QUALIFIERS

Project: SVE SYSTEM
Pace Project No.: 60141904

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PRL - Pace Reporting Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

LABORATORIES

PASI-M Pace Analytical Services - Minneapolis

SAMPLE QUALIFIERS

Sample: 60141904001

[1] The sample was analyzed by serial dilution.

Sample: 60141904002

[1] The sample was analyzed by serial dilution.

ANALYTE QUALIFIERS

E Analyte concentration exceeded the calibration range. The reported result is estimated.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: SVE SYSTEM

Pace Project No.: 60141904

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60141904001	WGKBIGMO2000scfmTOXIN-040313	TO-14M Ambient Air	AIR/17149		
60141904002	WGKBIGMO2000scfmTOXSTA-040313	TO-14M Ambient Air	AIR/17149		

REPORT OF LABORATORY ANALYSIS

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without the written consent of Pace Analytical Services, Inc..

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Section A
Required Client Information:

Company: XDD, LLC
Address: 22 Marin Way #3
Stratham, NH 03885
Email To: stanisewski@xdd-llc.com
Phone: 603-418-3132 Fax: 603-778-2421
Requested Due Date/TAT: standard

Section B
Required Project Information:

Report To: stanisewski@xdd-llc.com
Copy To: wjohn@solutia.com
Purchase Order No.: 4504001018
Project Name: SVE System
Project Number: 11002

Section C
Invoice Information:

Attention: Solutia, Inc. - Bill Johnson
Company Name: 575 Maryville Centre Drive
Address: St. Louis, MO 63141
Pace Quote Reference: 6658
Pace Project Manager: Jamie Church
Pace Profile #:

REGULATORY AGENCY

NPDES GROUND WATER DRINKING WATER
UST RCRA OTHER IEPA

Site Location
STATE: IL

ITEM #	Valid Matrix Codes		COLLECTED		SAMPLE TEMP AT COLLECTION		# OF CONTAINERS		Preservatives		Analysis Test		Requested Analysis Filtered (Y/N)		Pace Project No./ Lab I.D.	
	MATRIX	CODE	DATE	TIME	DATE	TIME	DATE	TIME	Unpreserved	H ₂ SO ₄	HNO ₃	HCl	NaOH	Na ₂ S ₂ O ₃	Methanol	Other
1	WGKBIGMO2000scfmTOXIN-040313	AR	G	---	04/03/13	1330	1	1								
2	WGKBIGMO2000scfmTOXSTACK-040313	AR	G	---	04/03/13	1315	1	1								
3																
4																
5																
6																
7																
8																
9																
10																
11																
12																

ADDITIONAL COMMENTS

Please email report to both Erin Stanisewski of XDD and Bill Johnson of Solutia.
* job specific list: 1,4-dichlorobenzene, benzene, chlorobenzene, ethylbenzene, m-xylene, p-xylene, o-xylene, toluene

RELINQUISHED BY / AFFILIATION

Reginald Gardner 4/3/13 1500

DATE

4/3/13 0744

TIME

ACCEPTED BY / AFFILIATION

Reginald Gardner

DATE

4/3/13

TIME

SAMPLE CONDITIONS

Received on Ice (Y/N) Custody Sealed Cooler (Y/N) Samples Intact (Y/N)



Document Name:
Air Sample Condition Upon Receipt
Document No.:
F-MN-A-106-rev.07

Document Revised: 28Jan2013
Page 1 of 1
Issuing Authority:
Pace Minnesota Quality Office

Air Sample Condition
Upon Receipt

Client Name:

Project #:

Courier: ☒ Fed Ex ☐ UPS ☐ USPS ☐ Client
☐ Commercial ☐ Pace ☐ Other: _____

Tracking Number: 8000 4640 8500

Custody Seal on Cooler/Box Present? ☐ Yes ☒ No Seals Intact? ☐ Yes ☒ No

Optional: Proj. Due Date: Proj. Name:

Packing Material: ☒ Bubble Wrap ☐ Bubble Bags ☐ Foam ☐ None ☐ Other: _____

Temp. (TO17 and TO13 samples only) (°C): 0.0 Corrected Temp (°C): _____
Temp should be above freezing to 6°C Correction Factor: _____

Thermom. Used: ☐ B8BA912167504 ☐ 80512447 ☐ 72337080
Date & Initials of Person Examining Contents: 4/4/13

Comments:

Chain of Custody Present?	☒ Yes ☐ No ☐ N/A	1.
Chain of Custody Filled Out?	☒ Yes ☐ No ☐ N/A	2.
Chain of Custody Relinquished?	☒ Yes ☐ No ☐ N/A	3.
Sampler Name and/or Signature on COC?	☒ Yes ☐ No ☐ N/A	4. <u>Client COC only</u>
Samples Arrived within Hold Time?	☒ Yes ☐ No ☐ N/A	5.
Short Hold Time Analysis (<72 hr)?	☐ Yes ☒ No ☐ N/A	6.
Rush Turn Around Time Requested?	☐ Yes ☒ No ☐ N/A	7.
Sufficient Volume?	☒ Yes ☐ No ☐ N/A	8.
Correct Containers Used?	☒ Yes ☐ No ☐ N/A	9.
-Pace Containers Used?	☒ Yes ☐ No ☐ N/A	
Containers Intact?	☒ Yes ☐ No ☐ N/A	10.
Media: <u>2 can's</u>		11.
Sample Labels Match COC?	☒ Yes ☐ No ☐ N/A	12.

Samples Received:

Canisters		Flow Controllers		Stand Alone G	
Sample Number	Can ID	Sample Number	Can ID	Sample Number	Can ID
<u>Tox In</u>	<u>Pace 1665</u>				
<u>Tox Spec</u>	<u>11 1663</u>				

CLIENT NOTIFICATION/RESOLUTION

Field Data Required? ☐ Yes ☐ No

Person Contacted: _____ Date/Time: _____
Comments/Resolution: _____

Project Manager Review:

Date:

4/5/13

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)

June 14, 2013

Erin Stanisewski
XDD, LLC
22 Marin Way #3
Stratham, NH 03885

RE: Project: SVE SYSTEM
Pace Project No.: 60145742

Dear Erin Stanisewski:

Enclosed are the analytical results for sample(s) received by the laboratory on May 29, 2013. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Jamie Church

jamie.church@pacelabs.com
Project Manager

Enclosures

cc: William Johnson, Solutia, Inc.



REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
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CERTIFICATIONS

Project: SVE SYSTEM

Pace Project No.: 60145742

Minnesota Certification IDs

1700 Elm Street SE Suite 200, Minneapolis, MN 55414

A2LA Certification #: 2926.01

Alaska Certification #: UST-078

Alaska Certification #MN00064

Arizona Certification #: AZ-0014

Arkansas Certification #: 88-0680

California Certification #: 01155CA

Colorado Certification #Pace

Connecticut Certification #: PH-0256

EPA Region 8 Certification #: Pace

Florida/NELAP Certification #: E87605

Georgia Certification #: 959

Hawaii Certification #Pace

Idaho Certification #: MN00064

Illinois Certification #: 200011

Kansas Certification #: E-10167

Louisiana Certification #: 03086

Louisiana Certification #: LA080009

Maine Certification #: 2007029

Maryland Certification #: 322

Michigan DEQ Certification #: 9909

Minnesota Certification #: 027-053-137

Mississippi Certification #: Pace

Montana Certification #: MT CERT0092

Nevada Certification #: MN_00064

Nebraska Certification #: Pace

New Jersey Certification #: MN-002

New York Certification #: 11647

North Carolina Certification #: 530

North Dakota Certification #: R-036

North Dakota Certification #: R-036A

Ohio VAP Certification #: CL101

Oklahoma Certification #: 9507

Oregon Certification #: MN200001

Oregon Certification #: MN300001

Pennsylvania Certification #: 68-00563

Puerto Rico Certification

Tennessee Certification #: 02818

Texas Certification #: T104704192

Utah Certification #: MN00064

Virginia/DCLS Certification #: 002521

Virginia/VELAP Certification #: 460163

Washington Certification #: C754

West Virginia Certification #: 382

Wisconsin Certification #: 999407970

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: SVE SYSTEM

Pace Project No.: 60145742

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60145742001	WGKBIGMO2000scfmTOXIN-052313	Air	05/23/13 11:45	05/29/13 10:35
60145742002	WGKBIGMO2000scfmTOXSTAC-052313	Air	05/23/13 11:30	05/29/13 10:35

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: SVE SYSTEM

Pace Project No.: 60145742

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60145742001	WGKBIGMO2000scfmTOXIN-052313	TO-14M Ambient Air	CJR	7	PASI-M
60145742002	WGKBIGMO2000scfmTOXSTAC-052313	TO-14M Ambient Air	CJR	7	PASI-M

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: SVE SYSTEM

Pace Project No.: 60145742

Method: TO-14M Ambient Air

Description: TO-14M MSV AIR - Ambient

Client: XDD_SOLUTION, LLC

Date: June 14, 2013

General Information:

2 samples were analyzed for TO-14M Ambient Air. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

Surrogates:

All surrogates were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

Sample Comments:

A3: The sample was analyzed by serial dilution.

- WGKBIGMO2000scfmTOXIN-052313 (Lab ID: 60145742001)

This data package has been reviewed for quality and completeness and is approved for release.

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: SVE SYSTEM

Pace Project No.: 60145742

Sample: WGKBIGMO2000scfmTOXI **Lab ID:** 60145742001 Collected: 05/23/13 11:45 Received: 05/29/13 10:35 Matrix: Air
N-052313

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
TO-14M MSV AIR - Ambient									
Analytical Method: TO-14M Ambient Air									
Benzene	155000	ppbv	2560	1280	5120		06/13/13 20:33	71-43-2	
Chlorobenzene	ND	ppbv	2560	1280	5120		06/13/13 20:33	108-90-7	
1,4-Dichlorobenzene	ND	ppbv	2560	1280	5120		06/13/13 20:33	106-46-7	
Ethylbenzene	ND	ppbv	2560	1280	5120		06/13/13 20:33	100-41-4	
Toluene	ND	ppbv	2560	1280	5120		06/13/13 20:33	108-88-3	
m&p-Xylene	ND	ppbv	5120	2560	5120		06/13/13 20:33	179601-23-1	
o-Xylene	ND	ppbv	2560	1280	5120		06/13/13 20:33	95-47-6	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: SVE SYSTEM

Pace Project No.: 60145742

Sample: WGKBIGMO2000scfmTOX **Lab ID:** 60145742002 Collected: 05/23/13 11:30 Received: 05/29/13 10:35 Matrix: Air
STAC-052313

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
TO-14M MSV AIR - Ambient									
Analytical Method: TO-14M Ambient Air									
Benzene	ND	ppbv	16.8	8.4	33.6		06/13/13 20:07	71-43-2	
Chlorobenzene	58.3	ppbv	16.8	8.4	33.6		06/13/13 20:07	108-90-7	
1,4-Dichlorobenzene	67.4	ppbv	16.8	8.4	33.6		06/13/13 20:07	106-46-7	
Ethylbenzene	ND	ppbv	16.8	8.4	33.6		06/13/13 20:07	100-41-4	
Toluene	ND	ppbv	16.8	8.4	33.6		06/13/13 20:07	108-88-3	
m&p-Xylene	ND	ppbv	33.6	16.8	33.6		06/13/13 20:07	179601-23-1	
o-Xylene	ND	ppbv	16.8	8.4	33.6		06/13/13 20:07	95-47-6	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: SVE SYSTEM

Pace Project No.: 60145742

QC Batch:	AIR/17526	Analysis Method:	TO-14M Ambient Air
QC Batch Method:	TO-14M Ambient Air	Analysis Description:	TO14 MSV AIR - AMBIENT
Associated Lab Samples:	60145742001, 60145742002		

METHOD BLANK: 1453769 Matrix: Air

Associated Lab Samples: 60145742001, 60145742002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,4-Dichlorobenzene	ppbv	ND	0.50	06/13/13 15:02	
Benzene	ppbv	ND	0.50	06/13/13 15:02	
Chlorobenzene	ppbv	ND	0.50	06/13/13 15:02	
Ethylbenzene	ppbv	ND	0.50	06/13/13 15:02	
m&p-Xylene	ppbv	ND	1.0	06/13/13 15:02	
o-Xylene	ppbv	ND	0.50	06/13/13 15:02	
Toluene	ppbv	ND	0.50	06/13/13 15:02	

LABORATORY CONTROL SAMPLE: 1453770

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,4-Dichlorobenzene	ppbv	10	9.9	99	66-134	
Benzene	ppbv	10	11.3	113	72-136	
Chlorobenzene	ppbv	10	11.0	110	65-135	
Ethylbenzene	ppbv	10	13.3	133	74-136	
m&p-Xylene	ppbv	10	9.8	98	72-135	
o-Xylene	ppbv	10	9.0	90	74-135	
Toluene	ppbv	10	11.8	118	71-134	

REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: SVE SYSTEM
Pace Project No.: 60145742

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PRL - Pace Reporting Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

LABORATORIES

PASI-M Pace Analytical Services - Minneapolis

SAMPLE QUALIFIERS

Sample: 60145742001

[1] The sample was analyzed by serial dilution.

REPORT OF LABORATORY ANALYSIS

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without the written consent of Pace Analytical Services, Inc..

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: SVE SYSTEM

Pace Project No.: 60145742

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60145742001	WGKBIGMO2000scfmTOXIN-052313	TO-14M Ambient Air	AIR/17526		
60145742002	WGKBIGMO2000scfmTOXSTAC-052313	TO-14M Ambient Air	AIR/17526		

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

	Document Name: Air Sample Condition Upon Receipt	Document Revised: 28Jan2013 Page 1 of 1
	Document No.: F-MN-A-105-rev.07	Issuing Authority: Pace Minnesota Quality Office

**Air Sample Condition
Upon Receipt**

Client Name:

Project #:

Courier: ☒ Fed Ex ☐ UPS ☐ USPS ☐ Client
☐ Commercial ☐ Pace ☐ Other: _____

Tracking Number: 7957 8359 6399

60145742

Custody Seal on Cooler/Box Present? ☐ Yes ☒ No **Seals Intact?** ☐ Yes ☒ No

Optional: **Proj. Due Date:** _____ **Proj. Name:** _____

Packing Material: ☒ Bubble Wrap ☐ Bubble Bags ☐ Foam ☐ None ☐ Other: _____

Temp. (TO17 and TO13 samples only) (°C): 2.9 **Corrected Temp (°C):** _____
 Temp should be above freezing to 6°C **Correction Factor:** _____

Thermom. Used: ☐ B88A912167504 ☐ 80512447 ☐ 72337080
Date & Initials of Person Examining Contents: 5/29

Comments:

Chain of Custody Present?	☒ Yes ☐ No ☐ N/A	1.
Chain of Custody Filled Out?	☒ Yes ☐ No ☐ N/A	2.
Chain of Custody Relinquished?	☒ Yes ☐ No ☐ N/A	3.
Sampler Name and/or Signature on COC?	☒ Yes ☐ No ☐ N/A	4.
Samples Arrived within Hold Time?	☒ Yes ☐ No ☐ N/A	5.
Short Hold Time Analysis (<72 hr)?	☐ Yes ☒ No ☐ N/A	6.
Rush Turn Around Time Requested?	☐ Yes ☒ No ☐ N/A	7.
Sufficient Volume?	☒ Yes ☐ No ☐ N/A	8.
Correct Containers Used?	☒ Yes ☐ No ☐ N/A	9.
-Pace Containers Used?	☒ Yes ☐ No ☐ N/A	
Containers Intact?	☒ Yes ☐ No ☐ N/A	10.
Media: <u>2CCW75</u>		11.
Sample Labels Match COC?	☒ Yes ☐ No ☐ N/A	12.

Samples Received:					
Canisters		Flow Controllers		Stand Alone G	
Sample Number	Can ID	Sample Number	Can ID	Sample Number	Can ID
TOXIN	12 0995				
TOXSTACK	2571				

CLIENT NOTIFICATION/RESOLUTION

Field Data Required? ☐ Yes ☐ No

Person Contacted: _____ **Date/Time:** _____

Comments/Resolution: _____

12379

Jamie Church

5/30/13

Project Manager Review: _____

Date: _____

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Section A Required Client Information: Company: XDD, LLC Address: 22 Main Way #3 Stratham, NH 03885 Email To: stanisewski@xdd-llc.com Phone: 603-418-3132 Fax: 603-778-2121 Requested Due Date/TAT: standard		Section B Required Project Information: Report To: stanisewski@xdd-llc.com Copy To: wjohnn@solutia.com keane@xdd-llc.com Purchase Order No.: 4504001018 Project Name: SVE System Project Number: 11002		Section C Invoice Information: Attention: Solutia, Inc. - Bill Johnson Company Name: 575 Maryville Centre Drive Address: St. Louis, MO 63141 Pace Quote Reference: 6658 Pace Project Manager: Jamie Church Pace Profile #:		Page: 1 of 1										
Section D Required Client Information SAMPLE ID (A-Z, 0-9 /, -) Sample IDs MUST BE UNIQUE		Valid Matrix Codes MATRIX CODE DRINKING WATER DW WASTE WATER WT WASTE WATER PRODUCT P SOIL/SOLID SL OIL OL WPE WP AIR AR OTHER OT TISSUE TS		MATRIX CODE (see valid codes to left) SAMPLE TYPE (G=GRAB C=COMP) COLLECTED DATE TIME DATE TIME SAMPLE TEMP AT COLLECTION # OF CONTAINERS Preservatives H ₂ SO ₄ HNO ₃ HCl NaOH Na ₂ S ₂ O ₃ Methanol Other Analysis Test TO-14		Requested Analysis Filtered (Y/N) Temp in °C Received on Custody Sealed Cooler Samples Intact (Y/N)										
ITEM #	WGKBIGMO2000scfmTOXIN-052313	AR	G	05/23/13	11:45	1	1	Residual Chlorine (Y/N)	N							
2	WGKBIGMO2000scfmTOXSTACK-052313	AR	G	05/23/13	11:30	1	1									
3																
4																
5																
6																
7																
8																
9																
10																
11																
12																
ADDITIONAL COMMENTS Please email report to both Erin Stanisewski of XDD and Bill Johnson of Solutia. * Job specific list: 1,4-dichlorobenzene, benzene, chlorobenzene, ethylbenzene, m-xylene, p-xylene, o-xylene, toluene		RELINQUISHED BY / AFFILIATION Reginald Gardier		DATE 05/24/13 16:30		ACCEPTED BY / AFFILIATION [Signature]		DATE 5/24/13 5:00		SAMPLE CONDITIONS Ice (Y/N) N Sealed Cooler N Samples Intact (Y/N) Y						
Please report as a Level II data package and refer to project specific analysis instructions.		SIGNATURE of SAMPLER: [Signature] PRINT Name of SAMPLER: Reginald Gardier DATE Signed (MM/DD/YY): 05/24/13		SIGNATURE of SAMPLER: [Signature]		DATE Signed (MM/DD/YY): 05/24/13		Temp in °C Received on Custody Sealed Cooler Samples Intact (Y/N)								

July 12, 2013

Erin Stanisewski
XDD, LLC
22 Marin Way #3
Stratham, NH 03885

RE: Project: SVE SYSTEM
Pace Project No.: 60147733

Dear Erin Stanisewski:

Enclosed are the analytical results for sample(s) received by the laboratory on June 26, 2013. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Jamie Church

jamie.church@pacelabs.com
Project Manager

Enclosures

cc: William Johnson, Solutia, Inc.



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: SVE SYSTEM

Pace Project No.: 60147733

Minnesota Certification IDs

1700 Elm Street SE Suite 200, Minneapolis, MN 55414

A2LA Certification #: 2926.01

Alaska Certification #: UST-078

Alaska Certification #MN00064

Arizona Certification #: AZ-0014

Arkansas Certification #: 88-0680

California Certification #: 01155CA

Colorado Certification #Pace

Connecticut Certification #: PH-0256

EPA Region 8 Certification #: Pace

Florida/NELAP Certification #: E87605

Georgia Certification #: 959

Hawaii Certification #Pace

Idaho Certification #: MN00064

Illinois Certification #: 200011

Kansas Certification #: E-10167

Louisiana Certification #: 03086

Louisiana Certification #: LA080009

Maine Certification #: 2007029

Maryland Certification #: 322

Michigan DEQ Certification #: 9909

Minnesota Certification #: 027-053-137

Mississippi Certification #: Pace

Montana Certification #: MT CERT0092

Nebraska Certification #: Pace

Nevada Certification #: MN_00064

New Jersey Certification #: MN-002

New York Certification #: 11647

North Carolina Certification #: 530

North Dakota Certification #: R-036

Ohio VAP Certification #: CL101

Oklahoma Certification #: 9507

Oregon Certification #: MN200001

Oregon Certification #: MN300001

Pennsylvania Certification #: 68-00563

Puerto Rico Certification

Tennessee Certification #: 02818

Texas Certification #: T104704192

Utah Certification #: MN00064

Virginia/DCLS Certification #: 002521

Virginia/VELAP Certification #: 460163

Washington Certification #: C754

West Virginia Certification #: 382

Wisconsin Certification #: 999407970

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: SVE SYSTEM

Pace Project No.: 60147733

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60147733001	WGKBIGMO2000scfmTOXIN-062513	Air	06/25/13 14:00	06/26/13 09:55
60147733002	WGKBIGMO2000scfmTOXSTAC-062513	Air	06/25/13 13:45	06/26/13 09:55

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: SVE SYSTEM

Pace Project No.: 60147733

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60147733001	WGKBIGMO2000scfmTOXIN-062513	TO-14M Ambient Air	CJR	7	PASI-M
60147733002	WGKBIGMO2000scfmTOXSTAC-062513	TO-14M Ambient Air	CJR	7	PASI-M

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: SVE SYSTEM

Pace Project No.: 60147733

Method: TO-14M Ambient Air

Description: TO-14M MSV AIR - Ambient

Client: XDD_SOLUTION, LLC

Date: July 12, 2013

General Information:

2 samples were analyzed for TO-14M Ambient Air. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

Surrogates:

All surrogates were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

Sample Comments:

- A3: The sample was analyzed by serial dilution.
- WGKBIGMO2000scfmTOXIN-062513 (Lab ID: 60147733001)

Analyte Comments:

QC Batch: AIR/17768

- E: Analyte concentration exceeded the calibration range. The reported result is estimated.
- WGKBIGMO2000scfmTOXIN-062513 (Lab ID: 60147733001)
 - Benzene

This data package has been reviewed for quality and completeness and is approved for release.

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: SVE SYSTEM

Pace Project No.: 60147733

Sample: WGKBIGMO2000scfmTOXI **Lab ID:** 60147733001 **Collected:** 06/25/13 14:00 **Received:** 06/26/13 09:55 **Matrix:** Air
N-062513

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
TO-14M MSV AIR - Ambient									
Analytical Method: TO-14M Ambient Air									
Benzene	450000	ppbv	3740	1870	7483.3 9		07/11/13 02:51	71-43-2	E
Chlorobenzene	ND	ppbv	3740	1870	7483.3 9		07/11/13 02:51	108-90-7	
1,4-Dichlorobenzene	ND	ppbv	3740	1870	7483.3 9		07/11/13 02:51	106-46-7	
Ethylbenzene	ND	ppbv	3740	1870	7483.3 9		07/11/13 02:51	100-41-4	
Toluene	ND	ppbv	3740	1870	7483.3 9		07/11/13 02:51	108-88-3	
m&p-Xylene	ND	ppbv	7480	3740	7483.3 9		07/11/13 02:51	179601-23-1	
o-Xylene	ND	ppbv	3740	1870	7483.3 9		07/11/13 02:51	95-47-6	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: SVE SYSTEM

Pace Project No.: 60147733

Sample: WGKBIGMO2000scfmTOX **Lab ID:** 60147733002 Collected: 06/25/13 13:45 Received: 06/26/13 09:55 Matrix: Air
STAC-062513

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
TO-14M MSV AIR - Ambient									
Analytical Method: TO-14M Ambient Air									
Benzene	35.5	ppbv	18.0	9.0	36		07/11/13 02:26	71-43-2	
Chlorobenzene	95.2	ppbv	18.0	9.0	36		07/11/13 02:26	108-90-7	
1,4-Dichlorobenzene	25.0	ppbv	18.0	9.0	36		07/11/13 02:26	106-46-7	
Ethylbenzene	ND	ppbv	18.0	9.0	36		07/11/13 02:26	100-41-4	
Toluene	26.3	ppbv	18.0	9.0	36		07/11/13 02:26	108-88-3	
m&p-Xylene	ND	ppbv	36.0	18.0	36		07/11/13 02:26	179601-23-1	
o-Xylene	ND	ppbv	18.0	9.0	36		07/11/13 02:26	95-47-6	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: SVE SYSTEM

Pace Project No.: 60147733

QC Batch:	AIR/17768	Analysis Method:	TO-14M Ambient Air
QC Batch Method:	TO-14M Ambient Air	Analysis Description:	TO14 MSV AIR - AMBIENT
Associated Lab Samples:	60147733001, 60147733002		

METHOD BLANK: 1474734 Matrix: Air

Associated Lab Samples: 60147733001, 60147733002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,4-Dichlorobenzene	ppbv	ND	0.50	07/11/13 02:02	
Benzene	ppbv	ND	0.50	07/11/13 02:02	
Chlorobenzene	ppbv	ND	0.50	07/11/13 02:02	
Ethylbenzene	ppbv	ND	0.50	07/11/13 02:02	
m&p-Xylene	ppbv	ND	1.0	07/11/13 02:02	
o-Xylene	ppbv	ND	0.50	07/11/13 02:02	
Toluene	ppbv	ND	0.50	07/11/13 02:02	

LABORATORY CONTROL SAMPLE: 1474735

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,4-Dichlorobenzene	ppbv	10	8.4	84	66-134	
Benzene	ppbv	10	7.3	73	72-136	
Chlorobenzene	ppbv	10	8.7	87	65-135	
Ethylbenzene	ppbv	10	7.9	79	74-136	
m&p-Xylene	ppbv	10	7.8	78	72-135	
o-Xylene	ppbv	10	7.7	77	74-135	
Toluene	ppbv	10	7.3	73	71-134	

REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: SVE SYSTEM
Pace Project No.: 60147733

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PRL - Pace Reporting Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

LABORATORIES

PASI-M Pace Analytical Services - Minneapolis

SAMPLE QUALIFIERS

Sample: 60147733001

[1] The sample was analyzed by serial dilution.

ANALYTE QUALIFIERS

E Analyte concentration exceeded the calibration range. The reported result is estimated.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: SVE SYSTEM

Pace Project No.: 60147733

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60147733001	WGKBIGMO2000scfmTOXIN-062513	TO-14M Ambient Air	AIR/17768		
60147733002	WGKBIGMO2000scfmTOXSTAC-062513	TO-14M Ambient Air	AIR/17768		

REPORT OF LABORATORY ANALYSIS

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	Document Name: Air Sample Condition Upon Receipt	Document Revised: 28Jan2013 Page 1 of 1
	Document No.: F-MN-A-106-rev.07	Issuing Authority: Pace Minnesota Quality Office

Air Sample Condition
Upon Receipt

Client Name:

Project #:

XLP / Pace RS

60147733

Courier: ☒ Fed Ex ☐ UPS ☐ USPS ☐ Client
☐ Commercial ☐ Pace ☐ Other: _____

Tracking Number: 8000 4640 8392

Custody Seal on Cooler/Box Present? ☐ Yes ☒ No Seals Intact? ☐ Yes ☒ No

Optional: Proj. Due Date: _____ Proj. Name: _____

Packing Material: ☒ Bubble Wrap ☐ Bubble Bags ☐ Foam ☐ None ☐ Other: _____

Temp. (TO17 and TO13 samples only) (°C): 0.0 Corrected Temp (°C): _____
Temp should be above freezing to 6°C Correction Factor: _____

Thermom. Used: ☐ 888A912167504 ☐ 80912447 ☐ 72337080
Date & Initials of Person Examining Contents: 6/26/13

Comments:

Chain of Custody Present?	☒ Yes ☐ No ☐ N/A	1.
Chain of Custody Filled Out?	☒ Yes ☐ No ☐ N/A	2.
Chain of Custody Relinquished?	☒ Yes ☐ No ☐ N/A	3.
Sampler Name and/or Signature on COC?	☒ Yes ☐ No ☐ N/A	4.
Samples Arrived within Hold Time?	☒ Yes ☐ No ☐ N/A	5.
Short Hold Time Analysis (<72 hr)?	☐ Yes ☒ No ☐ N/A	6.
Rush Turn Around Time Requested?	☐ Yes ☒ No ☐ N/A	7.
Sufficient Volume?	☒ Yes ☐ No ☐ N/A	8.
Correct Containers Used?	☒ Yes ☐ No ☐ N/A	9.
-Pace Containers Used?	☒ Yes ☐ No ☐ N/A	
Containers Intact?	☒ Yes ☐ No ☐ N/A	10.
Media: <u>2 Cans</u>		11.
Sample Labels Match COC?	☒ Yes ☐ No ☐ N/A	12.

Canisters		Flow Controllers		Stand Alone G	
Sample Number	Can ID	Sample Number	Can ID	Sample Number	Can ID
<u>Bigmotxin</u>	<u>Pace 2413</u>				
<u>11</u>	<u>1173</u>				

CLIENT NOTIFICATION/RESOLUTION

Field Data Required? ☐ Yes ☐ No

Person Contacted: _____ Date/Time: _____

Comments/Resolution: 12530

Jami Church

6/27/13

Project Manager Review:

Date: _____

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

60147733

Page: 1 of 1

Section A

Required Client Information:

Company:	XDD, LLC
Address:	22 Marin Way #3 Stratham, NH 03885
Email To:	stanisewski@xdd-llc.com
Phone:	603-418-3132
Requested Due Date/TAT:	standard
Report To:	stanisewski@xdd-llc.com
Copy To:	walch@solulia.com
Purchase Order No.:	4504001018
Project Name:	SVE System
Project Number:	11002

Section B

Required Project Information:

Attention:	Solutia, Inc. - Bill Johnson
Company Name:	575 Maryville Centre Drive St. Louis, MO 63141
Address:	6658
Pace Guide Reference:	Jamie Church
Pace Project Manager:	
Pace Profile #:	

Section C

Invoice Information:

REGULATORY AGENCY	NPDES	GROUND WATER	RCRA	DRINKING WATER	OTHER	EPA
UST						
Site Location	IL					

ITEM #	Section D Required Client Information	Valid Matrix Codes MATRIX CODE DRINKING WATER DW WASTE WATER WT WATER PRODUCT P SOLIDS OIL WASTE WASTE AIR OTHER TISSUE TS	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED			SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives Unpreserved H ₂ SO ₄ HNO ₃ HCl NaOH Na ₂ S ₂ O ₃ Methanol Other	Analysis Test TO-14*	Y/N	N	Requested Analysis Filtered (Y/N)	Pace Project No./ Lab I.D.
					DATE	TIME	DATE								
1	WGKBIGMO2000scfmTOXIN- 062513		AR	G	06/25/13	1400		1	1						
2	WGKBIGMO2000scfmTOXSTACK- 062513		AR	G	06/25/13	1345		1	1						
3															
4															
5															
6															
7															
8															
9															
10															
11															
12															
ADDITIONAL COMMENTS Please email report to both Erin Stanisewski of XDD and Bill Johnson of Solutia. * job specific list: 1, 4-dichlorobenzene, benzene, chlorobenzene, ethylbenzene, m-xylene, p-xylene, o-xylene, toluene															
Please report as a Level II data package and refer to project specific analysis instructions.															
RELINQUISHED BY / AFFILIATION Reginald Gardner DATE: 6/25/13 TIME: 1630 ACCEPTED BY / AFFILIATION Stanisewski DATE: 6/26/13 TIME: 0955															
SAMPLE CONDITIONS Received on ice (Y/N) N Custody Sealed Cooler (Y/N) N Samples Intact (Y/N) Y															
Temp in °C DATE Signed (MM/DD/YY): 06/25/13 PRINT Name of SAMPLER: Reginald Gardner SIGNATURE OF SAMPLER: [Signature]															

July 22, 2013

Erin Stanisewski
XDD, LLC
22 Marin Way #3
Stratham, NH 03885

RE: Project: SVE SYSTEM
Pace Project No.: 60148498

Dear Erin Stanisewski:

Enclosed are the analytical results for sample(s) received by the laboratory on July 09, 2013. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Mary Jane Walls for
Jamie Church
jamie.church@pacelabs.com
Project Manager

Enclosures

cc: William Johnson, Solutia, Inc.



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: SVE SYSTEM

Pace Project No.: 60148498

Minnesota Certification IDs

1700 Elm Street SE Suite 200, Minneapolis, MN 55414

A2LA Certification #: 2926.01

Alaska Certification #: UST-078

Alaska Certification #MN00064

Arizona Certification #: AZ-0014

Arkansas Certification #: 88-0680

California Certification #: 01155CA

Colorado Certification #Pace

Connecticut Certification #: PH-0256

EPA Region 8 Certification #: Pace

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Idaho Certification #: MN00064

Illinois Certification #: 200011

Kansas Certification #: E-10167

Louisiana Certification #: 03086

Louisiana Certification #: LA080009

Maine Certification #: 2007029

Maryland Certification #: 322

Michigan DEQ Certification #: 9909

Minnesota Certification #: 027-053-137

Mississippi Certification #: Pace

Montana Certification #: MT CERT0092

Nebraska Certification #: Pace

Nevada Certification #: MN_00064

New Jersey Certification #: MN-002

New York Certification #: 11647

North Carolina Certification #: 530

North Dakota Certification #: R-036

Ohio VAP Certification #: CL101

Oklahoma Certification #: 9507

Oregon Certification #: MN200001

Oregon Certification #: MN300001

Pennsylvania Certification #: 68-00563

Puerto Rico Certification

Tennessee Certification #: 02818

Texas Certification #: T104704192

Utah Certification #: MN00064

Virginia/DCLS Certification #: 002521

Virginia/VELAP Certification #: 460163

Washington Certification #: C754

West Virginia Certification #: 382

Wisconsin Certification #: 999407970

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: SVE SYSTEM

Pace Project No.: 60148498

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60148498001	WGKBIGMO2000scfmTOXIN-070813	Air	07/08/13 12:00	07/09/13 12:48
60148498002	WGKBIGMO2000scfmTOXSTAC-070813	Air	07/08/13 12:15	07/09/13 12:48

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: SVE SYSTEM

Pace Project No.: 60148498

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60148498001	WGKBIGMO2000scfmTOXIN-070813	TO-14M Ambient Air	DR1	7	PASI-M
60148498002	WGKBIGMO2000scfmTOXSTAC-070813	TO-14M Ambient Air	DR1	7	PASI-M

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: SVE SYSTEM

Pace Project No.: 60148498

Method: TO-14M Ambient Air

Description: TO-14M MSV AIR - Ambient

Client: XDD_SOLUTION, LLC

Date: July 22, 2013

General Information:

2 samples were analyzed for TO-14M Ambient Air. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

Surrogates:

All surrogates were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

Sample Comments:

A3: The sample was analyzed by serial dilution.

- WGKBIGMO2000scfmTOXIN-070813 (Lab ID: 60148498001)

This data package has been reviewed for quality and completeness and is approved for release.

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: SVE SYSTEM

Pace Project No.: 60148498

Sample: **WGKBIGMO2000scfmTOXI** Lab ID: **60148498001** Collected: 07/08/13 12:00 Received: 07/09/13 12:48 Matrix: Air
N-070813

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
TO-14M MSV AIR - Ambient		Analytical Method: TO-14M Ambient Air							
Benzene	39500	ppbv	4450	2230	8908.8		07/18/13 05:59	71-43-2	
Chlorobenzene	ND	ppbv	4450	2230	8908.8		07/18/13 05:59	108-90-7	
1,4-Dichlorobenzene	ND	ppbv	4450	2230	8908.8		07/18/13 05:59	106-46-7	
Ethylbenzene	ND	ppbv	4450	2230	8908.8		07/18/13 05:59	100-41-4	
Toluene	ND	ppbv	4450	2230	8908.8		07/18/13 05:59	108-88-3	
m&p-Xylene	ND	ppbv	8910	4450	8908.8		07/18/13 05:59	179601-23-1	
o-Xylene	ND	ppbv	4450	2230	8908.8		07/18/13 05:59	95-47-6	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: SVE SYSTEM

Pace Project No.: 60148498

Sample: **WGKBIGMO2000scfmTOX** Lab ID: **60148498002** Collected: 07/08/13 12:15 Received: 07/09/13 12:48 Matrix: Air
STAC-070813

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
TO-14M MSV AIR - Ambient									
Analytical Method: TO-14M Ambient Air									
Benzene	9.8J	ppbv	18.0	9.0	36		07/18/13 05:32	71-43-2	
Chlorobenzene	ND	ppbv	18.0	9.0	36		07/18/13 05:32	108-90-7	
1,4-Dichlorobenzene	ND	ppbv	18.0	9.0	36		07/18/13 05:32	106-46-7	
Ethylbenzene	ND	ppbv	18.0	9.0	36		07/18/13 05:32	100-41-4	
Toluene	301	ppbv	18.0	9.0	36		07/18/13 05:32	108-88-3	
m&p-Xylene	ND	ppbv	36.0	18.0	36		07/18/13 05:32	179601-23-1	
o-Xylene	ND	ppbv	18.0	9.0	36		07/18/13 05:32	95-47-6	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: SVE SYSTEM

Pace Project No.: 60148498

QC Batch:	AIR/17817	Analysis Method:	TO-14M Ambient Air
QC Batch Method:	TO-14M Ambient Air	Analysis Description:	TO14 MSV AIR - AMBIENT
Associated Lab Samples:	60148498001, 60148498002		

METHOD BLANK: 1480664 Matrix: Air

Associated Lab Samples: 60148498001, 60148498002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,4-Dichlorobenzene	ppbv	ND	0.50	07/17/13 19:06	
Benzene	ppbv	ND	0.50	07/17/13 19:06	
Chlorobenzene	ppbv	ND	0.50	07/17/13 19:06	
Ethylbenzene	ppbv	ND	0.50	07/17/13 19:06	
m&p-Xylene	ppbv	ND	1.0	07/17/13 19:06	
o-Xylene	ppbv	ND	0.50	07/17/13 19:06	
Toluene	ppbv	ND	0.50	07/17/13 19:06	

LABORATORY CONTROL SAMPLE: 1480665

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,4-Dichlorobenzene	ppbv	10	9.9	99	66-134	
Benzene	ppbv	10	10.0	100	72-136	
Chlorobenzene	ppbv	10	10.1	101	65-135	
Ethylbenzene	ppbv	10	9.8	98	74-136	
m&p-Xylene	ppbv	10	9.8	98	72-135	
o-Xylene	ppbv	10	9.6	96	74-135	
Toluene	ppbv	10	9.9	99	71-134	

REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: SVE SYSTEM

Pace Project No.: 60148498

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PRL - Pace Reporting Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

LABORATORIES

PASI-M Pace Analytical Services - Minneapolis

SAMPLE QUALIFIERS

Sample: 60148498001

[1] The sample was analyzed by serial dilution.

REPORT OF LABORATORY ANALYSIS

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without the written consent of Pace Analytical Services, Inc..

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: SVE SYSTEM

Pace Project No.: 60148498

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60148498001	WGKBIGMO2000scfmTOXIN-070813	TO-14M Ambient Air	AIR/17817		
60148498002	WGKBIGMO2000scfmTOXSTAC-070813	TO-14M Ambient Air	AIR/17817		

REPORT OF LABORATORY ANALYSIS

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Air Sample Condition Upon Receipt

Client Name:

Project #:

Courier: ☒ Fed Ex ☐ UPS ☐ USPS ☐ Client
☐ Commercial ☐ Pace ☐ Other:

60148498

Tracking Number: 8000 4640 8916

Custody Seal on Cooler/Box Present? ☐ Yes ☒ No Seals Intact? ☐ Yes ☒ No

Packing Material: ☒ Bubble Wrap ☐ Bubble Bags ☐ Foam ☐ None ☐ Other:

Temp. (TO17 and TO13 samples only) (°C): 22.0 Corrected Temp (°C): Thermom. Used: ☐ B88A912167504 ☐ 80512447 ☐ 72337080
 Temp should be above freezing to 6°C Correction Factor: Date & Initials of Person Examining Contents: 7/9/13

Comments:

Chain of Custody Present?	☒ Yes ☐ No ☐ N/A	1.
Chain of Custody Filled Out?	☒ Yes ☐ No ☐ N/A	2.
Chain of Custody Relinquished?	☒ Yes ☐ No ☐ N/A	3.
Sampler Name and/or Signature on COC?	☒ Yes ☐ No ☐ N/A	4.
Samples Arrived within Hold Time?	☒ Yes ☐ No ☐ N/A	5.
Short Hold Time Analysis (<72 hr)?	☐ Yes ☒ No ☐ N/A	6.
Rush Turn Around Time Requested?	☐ Yes ☒ No ☐ N/A	7.
Sufficient Volume?	☒ Yes ☐ No ☐ N/A	8.
Correct Containers Used?	☒ Yes ☐ No ☐ N/A	9.
-Pace Containers Used?	☒ Yes ☐ No ☐ N/A	
Containers Intact?	☒ Yes ☐ No ☐ N/A	10.
Media: 2-Cons		11.
Sample Labels Match COC?	☒ Yes ☐ No ☐ N/A	12.

Samples Received:

Canisters		Flow Controllers		Stand Alone G	
Sample Number	Can ID	Sample Number	Can ID	Sample Number	Can ID
TOXIN	Pace 1414				
TOXSTACK	11 1436				

CLIENT NOTIFICATION/RESOLUTION

Field Data Required? ☐ Yes ☐ No

Person Contacted: Date/Time:

Comments/Resolution:

12625

Jamie Church

7/10/13

Project Manager Review:

Date:

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Page: 1 of 1

IL

ITEM #	Section D Required Client Information	Valid Matrix Codes MATRIX CODE DRINKING WATER DW WATER WT WASTE WATER WW PRODUCT P SOIL/SOLID SL OIL OL WIPE WP AIR AR OTHER OT TISSUE TS	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED				SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives							Requested Analysis Filtered (Y/N)												Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
					DATE	TIME	DATE	TIME			Unpreserved	H ₂ SO ₄	HNO ₃	HCl	NaOH	Na ₂ S ₂ O ₃	Methanol	Other	Analysis Test	T0-14*																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																			

August 20, 2013

Erin Stanisewski
XDD, LLC
22 Marin Way #3
Stratham, NH 03885

RE: Project: SVE SYSTEM
Pace Project No.: 60150587

Dear Erin Stanisewski:

Enclosed are the analytical results for sample(s) received by the laboratory on August 07, 2013. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Jamie Church

jamie.church@pacelabs.com
Project Manager

Enclosures

cc: William Johnson, Solutia, Inc.



REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
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CERTIFICATIONS

Project: SVE SYSTEM

Pace Project No.: 60150587

Minnesota Certification IDs

1700 Elm Street SE Suite 200, Minneapolis, MN 55414

A2LA Certification #: 2926.01

Alaska Certification #: UST-078

Alaska Certification #MN00064

Arizona Certification #: AZ-0014

Arkansas Certification #: 88-0680

California Certification #: 01155CA

Colorado Certification #Pace

Connecticut Certification #: PH-0256

EPA Region 8 Certification #: Pace

Florida/NELAP Certification #: E87605

Georgia Certification #: 959

Hawaii Certification #Pace

Idaho Certification #: MN00064

Illinois Certification #: 200011

Kansas Certification #: E-10167

Louisiana Certification #: 03086

Louisiana Certification #: LA080009

Maine Certification #: 2007029

Maryland Certification #: 322

Michigan DEQ Certification #: 9909

Minnesota Certification #: 027-053-137

Mississippi Certification #: Pace

Montana Certification #: MT CERT0092

Nebraska Certification #: Pace

Nevada Certification #: MN_00064

New Jersey Certification #: MN-002

New York Certification #: 11647

North Carolina Certification #: 530

North Dakota Certification #: R-036

Ohio VAP Certification #: CL101

Oklahoma Certification #: 9507

Oregon Certification #: MN200001

Oregon Certification #: MN300001

Pennsylvania Certification #: 68-00563

Puerto Rico Certification

Tennessee Certification #: 02818

Texas Certification #: T104704192

Utah Certification #: MN00064

Virginia/DCLS Certification #: 002521

Virginia/VELAP Certification #: 460163

Washington Certification #: C754

West Virginia Certification #: 382

Wisconsin Certification #: 999407970

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: SVE SYSTEM

Pace Project No.: 60150587

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60150587001	WGKBIGMO2000scfmTOXIN-080613	Air	08/06/13 11:15	08/07/13 09:11
60150587002	WGKBIGMO2000scfmTOXSTAC-080613	Air	08/06/13 11:20	08/07/13 09:11

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: SVE SYSTEM

Pace Project No.: 60150587

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60150587001	WGKBIGMO2000scfmTOXIN-080613	TO-14M Ambient Air	CJR	7	PASI-M
60150587002	WGKBIGMO2000scfmTOXSTAC-080613	TO-14M Ambient Air	CJR	7	PASI-M

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: SVE SYSTEM

Pace Project No.: 60150587

Method: TO-14M Ambient Air

Description: TO-14M MSV AIR - Ambient

Client: XDD_SOLUTION, LLC

Date: August 20, 2013

General Information:

2 samples were analyzed for TO-14M Ambient Air. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

Surrogates:

All surrogates were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

Analyte Comments:

QC Batch: AIR/18019

A3: The sample was analyzed by serial dilution.

- WGKBIGMO2000scfmTOXSTAC-080613 (Lab ID: 60150587002)
- Chlorobenzene

QC Batch: AIR/18033

A3: The sample was analyzed by serial dilution.

- WGKBIGMO2000scfmTOXIN-080613 (Lab ID: 60150587001)
- Benzene
- Chlorobenzene

This data package has been reviewed for quality and completeness and is approved for release.

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: SVE SYSTEM

Pace Project No.: 60150587

Sample: WGKBIGMO2000scfmTOXI **Lab ID:** 60150587001 Collected: 08/06/13 11:15 Received: 08/07/13 09:11 Matrix: Air
N-080613

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
TO-14M MSV AIR - Ambient									
Analytical Method: TO-14M Ambient Air									
Benzene	54600	ppbv	2230	1110	4454.4		08/20/13 13:52	71-43-2	A3
Chlorobenzene	9380	ppbv	2230	1110	4454.4		08/20/13 13:52	108-90-7	A3
1,4-Dichlorobenzene	ND	ppbv	17.4	8.7	34.8		08/19/13 16:52	106-46-7	
Ethylbenzene	ND	ppbv	17.4	8.7	34.8		08/19/13 16:52	100-41-4	
Toluene	12.9J	ppbv	17.4	8.7	34.8		08/19/13 16:52	108-88-3	
m&p-Xylene	ND	ppbv	34.8	17.4	34.8		08/19/13 16:52	179601-23-1	
o-Xylene	ND	ppbv	17.4	8.7	34.8		08/19/13 16:52	95-47-6	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: SVE SYSTEM

Pace Project No.: 60150587

Sample: WGKBIGMO2000scfmTOX **Lab ID:** 60150587002 Collected: 08/06/13 11:20 Received: 08/07/13 09:11 Matrix: Air
STAC-080613

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
TO-14M MSV AIR - Ambient									
Analytical Method: TO-14M Ambient Air									
Benzene	241	ppbv	17.4	8.7	34.8		08/17/13 01:10	71-43-2	
Chlorobenzene	7720	ppbv	468	234	935.42		08/20/13 04:09	108-90-7	A3
1,4-Dichlorobenzene	ND	ppbv	17.4	8.7	34.8		08/17/13 01:10	106-46-7	
Ethylbenzene	ND	ppbv	17.4	8.7	34.8		08/17/13 01:10	100-41-4	
Toluene	ND	ppbv	17.4	8.7	34.8		08/17/13 01:10	108-88-3	
m&p-Xylene	ND	ppbv	34.8	17.4	34.8		08/17/13 01:10	179601-23-1	
o-Xylene	ND	ppbv	17.4	8.7	34.8		08/17/13 01:10	95-47-6	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: SVE SYSTEM

Pace Project No.: 60150587

QC Batch:	AIR/18019	Analysis Method:	TO-14M Ambient Air
QC Batch Method:	TO-14M Ambient Air	Analysis Description:	TO14 MSV AIR - AMBIENT
Associated Lab Samples:	60150587002		

METHOD BLANK: 1503767 Matrix: Air

Associated Lab Samples: 60150587002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,4-Dichlorobenzene	ppbv	ND	0.50	08/16/13 09:38	
Benzene	ppbv	ND	0.50	08/16/13 09:38	
Chlorobenzene	ppbv	ND	0.50	08/16/13 09:38	
Ethylbenzene	ppbv	ND	0.50	08/16/13 09:38	
m&p-Xylene	ppbv	ND	1.0	08/16/13 09:38	
o-Xylene	ppbv	ND	0.50	08/16/13 09:38	
Toluene	ppbv	ND	0.50	08/16/13 09:38	

LABORATORY CONTROL SAMPLE: 1503768

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,4-Dichlorobenzene	ppbv	10	12.6	126	66-134	
Benzene	ppbv	10	10.2	102	72-136	
Chlorobenzene	ppbv	10	11.6	116	65-135	
Ethylbenzene	ppbv	10	11.5	115	74-136	
m&p-Xylene	ppbv	10	11.5	115	72-135	
o-Xylene	ppbv	10	11.6	116	74-135	
Toluene	ppbv	10	10.5	105	71-134	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: SVE SYSTEM

Pace Project No.: 60150587

QC Batch:	AIR/18033	Analysis Method:	TO-14M Ambient Air
QC Batch Method:	TO-14M Ambient Air	Analysis Description:	TO14 MSV AIR - AMBIENT
Associated Lab Samples:	60150587001		

METHOD BLANK: 1505520 Matrix: Air

Associated Lab Samples: 60150587001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,4-Dichlorobenzene	ppbv	ND	0.50	08/19/13 16:23	
Benzene	ppbv	ND	0.50	08/19/13 16:23	
Chlorobenzene	ppbv	ND	0.50	08/19/13 16:23	
Ethylbenzene	ppbv	ND	0.50	08/19/13 16:23	
m&p-Xylene	ppbv	ND	1.0	08/19/13 16:23	
o-Xylene	ppbv	ND	0.50	08/19/13 16:23	
Toluene	ppbv	ND	0.50	08/19/13 16:23	

LABORATORY CONTROL SAMPLE: 1505521

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,4-Dichlorobenzene	ppbv	10	10.7	107	66-134	
Benzene	ppbv	10	10.6	106	72-136	
Chlorobenzene	ppbv	10	10.8	108	65-135	
Ethylbenzene	ppbv	10	10.7	107	74-136	
m&p-Xylene	ppbv	10	10.8	108	72-135	
o-Xylene	ppbv	10	10.7	107	74-135	
Toluene	ppbv	10	11.2	112	71-134	

REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: SVE SYSTEM
Pace Project No.: 60150587

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PRL - Pace Reporting Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

LABORATORIES

PASI-M Pace Analytical Services - Minneapolis

ANALYTE QUALIFIERS

A3 The sample was analyzed by serial dilution.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: SVE SYSTEM

Pace Project No.: 60150587

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60150587001	WGKBIGMO2000scfmTOXIN-080613	TO-14M Ambient Air	AIR/18033		
60150587002	WGKBIGMO2000scfmTOXSTAC-080613	TO-14M Ambient Air	AIR/18019		

REPORT OF LABORATORY ANALYSIS

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	Document Name: Air Sample Condition Upon Receipt	Document Revised: 28Jan2013 Page 1 of 1
	Document No.: F-MN-A-106-rev.07	Issuing Authority: Pace Minnesota Quality Office

**Air Sample Condition
Upon Receipt**

Client Name:

Project #:

Courier: ☒ Fed Ex ☐ UPS ☐ USPS ☐ Client
☐ Commercial ☐ Pace ☐ Other:

Tracking Number: 8000 4640 8430

60150587

Custody Seal on Cooler/Box Present? ☐ Yes ☒ No Seals Intact? ☐ Yes ☒ No

Optional: Proj. Due Date: Proj. Name:

Packing Material: ☒ Bubble Wrap ☐ Bubble Bags ☐ Foam ☐ None ☐ Other:

Temp. (TO17 and TO13 samples only) (°C): amb Corrected Temp (°C):
 Temp should be above freezing to 6°C Correction Factor:

Thermom. Used: ☐ B88A912167504 ☐ 80512447 ☐ 72337080
 Date & Initials of Person Examining Contents: 8/7/13

Comments:

Chain of Custody Present?	☒ Yes ☐ No ☐ N/A	1.
Chain of Custody Filled Out?	☒ Yes ☐ No ☐ N/A	2.
Chain of Custody Relinquished?	☒ Yes ☐ No ☐ N/A	3.
Sampler Name and/or Signature on COC?	☒ Yes ☐ No ☐ N/A	4.
Samples Arrived within Hold Time?	☒ Yes ☐ No ☐ N/A	5.
Short Hold Time Analysis (<72 hr)?	☐ Yes ☒ No ☐ N/A	6.
Rush Turn Around Time Requested?	☐ Yes ☒ No ☐ N/A	7.
Sufficient Volume?	☒ Yes ☐ No ☐ N/A	8.
Correct Containers Used?	☒ Yes ☐ No ☐ N/A	9.
-Pace Containers Used?	☒ Yes ☐ No ☐ N/A	
Containers Intact?	☒ Yes ☐ No ☐ N/A	10.
Media: <u>2 cons</u>		11.
Sample Labels Match COC?	☐ Yes ☐ No ☐ N/A	12.

Samples Received:

Canisters		Flow Controllers		Stand Alone G	
Sample Number	Can ID	Sample Number	Can ID	Sample Number	Can ID
<u>Big 11 TOXSTAR</u>	<u>face 1020</u>				
	<u>11 2490</u>				

CLIENT NOTIFICATION/RESOLUTION

Field Data Required? ☐ Yes ☐ No

Person Contacted: _____ Date/Time: _____

Comments/Resolution: _____

12194

Jami Church

8/8/13

Project Manager Review:

Date:

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)

September 04, 2013

Erin Stanisewski
XDD, LLC
22 Marin Way #3
Stratham, NH 03885

RE: Project: SVE SYSTEM
Pace Project No.: 60151885

Dear Erin Stanisewski:

Enclosed are the analytical results for sample(s) received by the laboratory on August 28, 2013. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Jamie Church

jamie.church@pacelabs.com
Project Manager

Enclosures

cc: William Johnson, Solutia, Inc.



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: SVE SYSTEM

Pace Project No.: 60151885

Minnesota Certification IDs

1700 Elm Street SE Suite 200, Minneapolis, MN 55414

A2LA Certification #: 2926.01

Alaska Certification #: UST-078

Alaska Certification #MN00064

Arizona Certification #: AZ-0014

Arkansas Certification #: 88-0680

California Certification #: 01155CA

Colorado Certification #Pace

Connecticut Certification #: PH-0256

EPA Region 8 Certification #: Pace

Florida/NELAP Certification #: E87605

Georgia Certification #: 959

Hawaii Certification #Pace

Idaho Certification #: MN00064

Illinois Certification #: 200011

Kansas Certification #: E-10167

Louisiana Certification #: 03086

Louisiana Certification #: LA080009

Maine Certification #: 2007029

Maryland Certification #: 322

Michigan DEQ Certification #: 9909

Minnesota Certification #: 027-053-137

Mississippi Certification #: Pace

Montana Certification #: MT CERT0092

Nebraska Certification #: Pace

Nevada Certification #: MN_00064

New Jersey Certification #: MN-002

New York Certification #: 11647

North Carolina Certification #: 530

North Dakota Certification #: R-036

Ohio VAP Certification #: CL101

Oklahoma Certification #: 9507

Oregon Certification #: MN200001

Oregon Certification #: MN300001

Pennsylvania Certification #: 68-00563

Puerto Rico Certification

Tennessee Certification #: 02818

Texas Certification #: T104704192

Utah Certification #: MN00064

Virginia/DCLS Certification #: 002521

Virginia/VELAP Certification #: 460163

Washington Certification #: C754

West Virginia Certification #: 382

Wisconsin Certification #: 999407970

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: SVE SYSTEM

Pace Project No.: 60151885

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60151885001	WGKBIGMO2000scfmTOXIN-082713	Air	08/27/13 12:30	08/28/13 07:35
60151885002	WGKBIGMO2000scfmTOXSTAC-082713	Air	08/27/13 12:25	08/28/13 07:35

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: SVE SYSTEM

Pace Project No.: 60151885

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60151885001	WGKBIGMO2000scfmTOXIN-082713	TO-15	AH2, DR1	7	PASI-M
60151885002	WGKBIGMO2000scfmTOXSTAC-082713	TO-15	DR1	7	PASI-M

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: SVE SYSTEM
Pace Project No.: 60151885

Method: TO-15
Description: TO15 MSV AIR
Client: XDD_SOLUTION, LLC
Date: September 04, 2013

General Information:

2 samples were analyzed for TO-15. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

- A4: Sample was transferred from a sampling bag into a Summa Canister within 48 hours of collection.
- WGKBIGMO2000scfmTOXIN-082713 (Lab ID: 60151885001)

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

Surrogates:

All surrogates were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

Analyte Comments:

QC Batch: AIR/18145

- A3: The sample was analyzed by serial dilution.
- WGKBIGMO2000scfmTOXIN-082713 (Lab ID: 60151885001)
 - Benzene
 - Chlorobenzene

E: Analyte concentration exceeded the calibration range. The reported result is estimated.

- WGKBIGMO2000scfmTOXIN-082713 (Lab ID: 60151885001)
- Benzene

This data package has been reviewed for quality and completeness and is approved for release.

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: SVE SYSTEM

Pace Project No.: 60151885

Sample: WGKBIGMO2000scfmTOXI **Lab ID:** 60151885001 **Collected:** 08/27/13 12:30 **Received:** 08/28/13 07:35 **Matrix:** Air
N-082713

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR									
Analytical Method: TO-15									
Benzene	118000	ppbv	903	452	1806.3 4		08/29/13 10:39	71-43-2	A3,E
Chlorobenzene	20900	ppbv	903	452	1806.3 4		08/29/13 10:39	108-90-7	A3
1,4-Dichlorobenzene	ND	ppbv	16.8	8.4	33.6		08/29/13 00:10	106-46-7	
Ethylbenzene	ND	ppbv	16.8	8.4	33.6		08/29/13 00:10	100-41-4	
Toluene	72.1	ppbv	16.8	8.4	33.6		08/29/13 00:10	108-88-3	
m&p-Xylene	ND	ppbv	33.6	16.8	33.6		08/29/13 00:10	179601-23-1	
o-Xylene	ND	ppbv	16.8	8.4	33.6		08/29/13 00:10	95-47-6	

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ANALYTICAL RESULTS

Project: SVE SYSTEM

Pace Project No.: 60151885

Sample: **WGKBIGMO2000scfmTOX** Lab ID: **60151885002** Collected: 08/27/13 12:25 Received: 08/28/13 07:35 Matrix: Air
STAC-082713

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR									
Analytical Method: TO-15									
Benzene	25.4	ppbv	10.0	5.0	20		08/28/13 23:43	71-43-2	
Chlorobenzene	35.9	ppbv	10.0	5.0	20		08/28/13 23:43	108-90-7	
1,4-Dichlorobenzene	25.5	ppbv	10.0	5.0	20		08/28/13 23:43	106-46-7	
Ethylbenzene	ND	ppbv	10.0	5.0	20		08/28/13 23:43	100-41-4	
Toluene	ND	ppbv	10.0	5.0	20		08/28/13 23:43	108-88-3	
m&p-Xylene	ND	ppbv	20.0	10.0	20		08/28/13 23:43	179601-23-1	
o-Xylene	ND	ppbv	10.0	5.0	20		08/28/13 23:43	95-47-6	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: SVE SYSTEM

Pace Project No.: 60151885

QC Batch: AIR/18145

Analysis Method: TO-15

QC Batch Method: TO-15

Analysis Description: TO15 MSV AIR

Associated Lab Samples: 60151885001, 60151885002

METHOD BLANK: 1516016

Matrix: Air

Associated Lab Samples: 60151885001, 60151885002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,4-Dichlorobenzene	ppbv	ND	0.50	08/28/13 13:01	
Benzene	ppbv	ND	0.50	08/28/13 13:01	
Chlorobenzene	ppbv	ND	0.50	08/28/13 13:01	
Ethylbenzene	ppbv	ND	0.50	08/28/13 13:01	
m&p-Xylene	ppbv	ND	1.0	08/28/13 13:01	
o-Xylene	ppbv	ND	0.50	08/28/13 13:01	
Toluene	ppbv	ND	0.50	08/28/13 13:01	

LABORATORY CONTROL SAMPLE: 1516017

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,4-Dichlorobenzene	ppbv	10	10.2	102	66-134	
Benzene	ppbv	10	9.8	98	72-136	
Chlorobenzene	ppbv	10	10.6	106	65-135	
Ethylbenzene	ppbv	10	11.0	110	74-136	
m&p-Xylene	ppbv	10	11.1	111	72-135	
o-Xylene	ppbv	10	11.5	115	74-135	
Toluene	ppbv	10	10.4	104	71-134	

REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: SVE SYSTEM

Pace Project No.: 60151885

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PRL - Pace Reporting Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

LABORATORIES

PASI-M Pace Analytical Services - Minneapolis

ANALYTE QUALIFIERS

A3 The sample was analyzed by serial dilution.

E Analyte concentration exceeded the calibration range. The reported result is estimated.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: SVE SYSTEM

Pace Project No.: 60151885

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60151885001	WGKBIGMO2000scfmTOXIN-082713	TO-15	AIR/18145		
60151885002	WGKBIGMO2000scfmTOXSTAC-082713	TO-15	AIR/18145		

REPORT OF LABORATORY ANALYSIS

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CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Section A Required Client Information: Company: XDD, LLC Address: 22 Marin Way #3 Stratham, NH 03885 Email To: stanisewski@xdd-llc.com Phone: 603-418-3132 Fax: 603-778-2121 Requested Due Date/TAT: <u>See Attached TAT upon receipt in MN 24 hrs</u>		Section B Required Project Information: Report To: stanisewski@xdd-llc.com Copy To: wjohn@solutia.com keane@xdd-llc.com Purchase Order No.: 4504001018 Project Name: SVE System Project Number: 11002		Section C Invoice Information: Attention: Solutia, Inc. - Bill Johnson Company Name: 575 Maryville Centre Drive Address: St. Louis, MO 63141 Pace Quote Reference: 6658 Pace Project Manager: Jamie Church Pace Profile #:	
Regulatory Agency NPDES GROUND WATER DRINKING WATER IEPA UST RCRA OTHER		Site Location STATE: IL		Page: 1 of 1	

ITEM #	Section D Required Client Information	Valid Matrix Codes MATRIX CODE DW DRINKING WATER WT WASTE WATER WW WASTE WATER P PRODUCT SL SOIL/SOLID OL OIL WP WIPE AR AIR OT OTHER TS TISSUE	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED			SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives						Analysis Test Y/N	TO-14*	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.		
					DATE	TIME	DATE			TIME	DATE	TIME	DATE	TIME	DATE					TIME	
1	WGKBIGMO2000scfmTOXIN-082713		AR	G	---	---	08/27/13	1230	2	Unpreserved	H ₂ SO ₄	HNO ₃	HCl	NaOH	Na ₂ S ₂ O ₃	Methanol	Other	1	N	N	24 hr TAT
2	WGKBIGMO2000scfmTOXSTACK-082713		AR	G	---	---	08/27/13	1225	1									1	N	N	Pace # 1431
3																					
4																					
5																					
6																					
7																					
8																					
9																					
10																					
11																					
12																					

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION		DATE		TIME		ACCEPTED BY / AFFILIATION		DATE		TIME		SAMPLE CONDITIONS	
	NAME	SIGNATURE	NAME	SIGNATURE	NAME	SIGNATURE	NAME	SIGNATURE	NAME	SIGNATURE	NAME	SIGNATURE	NAME	SIGNATURE
Please email report to both Erin Stanisewski of XDD and Bill Johnson of Solutia. * job specific list: 1,4-dichlorobenzene, benzene, chlorobenzene, ethylbenzene, m-xylene, p-xylene, o-xylene, toluene	Reginald Gardner		Reginald Gardner		8/27/13		1600		8/28/13		0735		N	N
Please report as a Level II data package and refer to project specific analysis instructions.														

SAMPLER NAME AND SIGNATURE PRINT Name of SAMPLER: Reginald Gardner SIGNATURE of SAMPLER:		DATE Signed (MM/DD/YY): 8/27/13	Temp In °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
--	--	---------------------------------	------------	-----------------------	-----------------------------	----------------------



Document Name:
Air Sample Condition Upon Receipt
Document No.:
F-MN-A-106-rev.07

Document Revised: 28Jan2013
Page 1 of 1
Issuing Authority:
Pace Minnesota Quality Office

Air Sample Condition
Upon Receipt

Client Name:

Project #:

WO#: 10240091



Courier: ☒ Fed Ex ☐ UPS ☐ USPS ☐ Client
☐ Commercial ☐ Pace ☐ Other: _____

Tracking Number: 801534564987

Custody Seal on Cooler/Box Present? ☒ Yes ☐ No Seals Intact? ☒ Yes ☐ No

Optional: Proj. Due Date: Proj. Name:

Packing Material: ☒ Bubble Wrap ☒ Bubble Bags ☐ Foam ☐ None ☐ Other: _____

Temp. (TO17 and TO13 samples only) (°C): _____ Corrected Temp (°C): _____
Temp should be above freezing to 6°C Correction Factor: _____

Thermom. Used: ☐ B88A912167504 ☐ 80512447 ☐ 72337080
Date & Initials of Person Examining Contents: 8/28/13

Comments:

Chain of Custody Present?	☒ Yes ☐ No ☐ N/A	1.
Chain of Custody Filled Out?	☒ Yes ☐ No ☐ N/A	2.
Chain of Custody Relinquished?	☒ Yes ☐ No ☐ N/A	3.
Sampler Name and/or Signature on COC?	☒ Yes ☐ No ☐ N/A	4.
Samples Arrived within Hold Time?	☒ Yes ☐ No ☐ N/A	5.
Short Hold Time Analysis (<72 hr)?	☒ Yes ☐ No ☐ N/A	6. T-BAG
Rush Turn Around Time Requested?	☒ Yes ☐ No ☐ N/A	7. 24 hours
Sufficient Volume?	☒ Yes ☐ No ☐ N/A	8.
Correct Containers Used?	☒ Yes ☐ No ☐ N/A	9.
-Pace Containers Used?	☒ Yes ☐ No ☐ N/A	
Containers Intact?	☒ Yes ☐ No ☐ N/A	10.
Media: air bag / air can		11.
Sample Labels Match COC?	☒ Yes ☐ No ☐ N/A	12.

Samples Received: 2 Air Bag 1 Air Can					
Canisters		Flow Controllers		Stand Alone G	
Sample Number	Can ID	Sample Number	Can ID	Sample Number	Can ID
TOX Stack	1431				pace 229

CLIENT NOTIFICATION/RESOLUTION

Field Data Required? ☐ Yes ☐ No

Person Contacted: _____ Date/Time: _____

Comments/Resolution: _____

Project Manager Review:

Date: 28 AUG 2013

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)

September 10, 2013

Erin Stanisewski
XDD, LLC
22 Marin Way #3
Stratham, NH 03885

RE: Project: BIG MO
Pace Project No.: 60152423

Dear Erin Stanisewski:

Enclosed are the analytical results for sample(s) received by the laboratory on September 05, 2013. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Jamie Church

jamie.church@pacelabs.com
Project Manager

Enclosures

cc: William Johnson, Solutia, Inc.
Dennis Keane, XDD_SOLUTIA, LLC



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: BIG MO
Pace Project No.: 60152423

Minnesota Certification IDs

1700 Elm Street SE Suite 200, Minneapolis, MN 55414
A2LA Certification #: 2926.01
Alaska Certification #: UST-078
Alaska Certification #MN00064
Arizona Certification #: AZ-0014
Arkansas Certification #: 88-0680
California Certification #: 01155CA
Colorado Certification #Pace
Connecticut Certification #: PH-0256
EPA Region 8 Certification #: Pace
Florida/NELAP Certification #: E87605
Georgia Certification #: 959
Hawaii Certification #Pace
Idaho Certification #: MN00064
Illinois Certification #: 200011
Kansas Certification #: E-10167
Louisiana Certification #: 03086
Louisiana Certification #: LA080009
Maine Certification #: 2007029
Maryland Certification #: 322
Michigan DEQ Certification #: 9909
Minnesota Certification #: 027-053-137

Mississippi Certification #: Pace
Montana Certification #: MT CERT0092
Nebraska Certification #: Pace
Nevada Certification #: MN_00064
New Jersey Certification #: MN-002
New York Certification #: 11647
North Carolina Certification #: 530
North Dakota Certification #: R-036
Ohio VAP Certification #: CL101
Oklahoma Certification #: 9507
Oregon Certification #: MN200001
Oregon Certification #: MN300001
Pennsylvania Certification #: 68-00563
Puerto Rico Certification
Tennessee Certification #: 02818
Texas Certification #: T104704192
Utah Certification #: MN00064
Virginia/DCLS Certification #: 002521
Virginia/VELAP Certification #: 460163
Washington Certification #: C754
West Virginia Certification #: 382
Wisconsin Certification #: 999407970

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: BIG MO
Pace Project No.: 60152423

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60152423001	WGKBIGMO2000scfmTOXIN-090413	Air	09/04/13 12:25	09/05/13 08:57
60152423002	WGKBIGMO2000scfmTOXSTAC-090413	Air	09/04/13 12:15	09/05/13 08:57

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SAMPLE ANALYTE COUNT

Project: BIG MO
Pace Project No.: 60152423

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60152423001	WGKBIGMO2000scfmTOXIN-090413	TO-15	AH2	7	PASI-M
60152423002	WGKBIGMO2000scfmTOXSTAC-090413	TO-15	AH2	7	PASI-M

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: BIG MO
Pace Project No.: 60152423

Method: TO-15
Description: TO15 MSV AIR
Client: XDD_SOLUTIONIA, LLC
Date: September 10, 2013

General Information:

2 samples were analyzed for TO-15. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

Surrogates:

All surrogates were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

Sample Comments:

- A3: The sample was analyzed by serial dilution.
- WGKBIGMO2000scfmTOXIN-090413 (Lab ID: 60152423001)

This data package has been reviewed for quality and completeness and is approved for release.

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BIG MO

Pace Project No.: 60152423

Sample: **WGKBIGMO2000scfmTOXI** Lab ID: **60152423001** Collected: 09/04/13 12:25 Received: 09/05/13 08:57 Matrix: Air
N-090413

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR									
Analytical Method: TO-15									
Benzene	135000	ppbv	4450	2230	8908.8		09/07/13 17:09	71-43-2	
Chlorobenzene	30000	ppbv	1110	557	2227.2		09/06/13 21:49	108-90-7	
1,4-Dichlorobenzene	ND	ppbv	1110	557	2227.2		09/06/13 21:49	106-46-7	
Ethylbenzene	ND	ppbv	1110	557	2227.2		09/06/13 21:49	100-41-4	
Toluene	ND	ppbv	1110	557	2227.2		09/06/13 21:49	108-88-3	
m&p-Xylene	ND	ppbv	2230	1110	2227.2		09/06/13 21:49	179601-23-1	
o-Xylene	ND	ppbv	1110	557	2227.2		09/06/13 21:49	95-47-6	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BIG MO
Pace Project No.: 60152423

Sample: WGKBIGMO2000scfmTOX **Lab ID:** 60152423002 Collected: 09/04/13 12:15 Received: 09/05/13 08:57 Matrix: Air
STAC-090413

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR									
Analytical Method: TO-15									
Benzene	57.7	ppbv	9.0	4.5	18		09/06/13 21:24	71-43-2	
Chlorobenzene	33.3	ppbv	9.0	4.5	18		09/06/13 21:24	108-90-7	
1,4-Dichlorobenzene	ND	ppbv	9.0	4.5	18		09/06/13 21:24	106-46-7	
Ethylbenzene	ND	ppbv	9.0	4.5	18		09/06/13 21:24	100-41-4	
Toluene	7.8J	ppbv	9.0	4.5	18		09/06/13 21:24	108-88-3	
m&p-Xylene	ND	ppbv	18.0	9.0	18		09/06/13 21:24	179601-23-1	
o-Xylene	ND	ppbv	9.0	4.5	18		09/06/13 21:24	95-47-6	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BIG MO
Pace Project No.: 60152423

QC Batch: AIR/18173 Analysis Method: TO-15
QC Batch Method: TO-15 Analysis Description: TO15 MSV AIR
Associated Lab Samples: 60152423001, 60152423002

METHOD BLANK: 1518924 Matrix: Air
Associated Lab Samples: 60152423001, 60152423002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,4-Dichlorobenzene	ppbv	ND	0.50	09/06/13 11:50	
Benzene	ppbv	ND	0.50	09/06/13 11:50	
Chlorobenzene	ppbv	ND	0.50	09/06/13 11:50	
Ethylbenzene	ppbv	ND	0.50	09/06/13 11:50	
m&p-Xylene	ppbv	ND	1.0	09/06/13 11:50	
o-Xylene	ppbv	ND	0.50	09/06/13 11:50	
Toluene	ppbv	ND	0.50	09/06/13 11:50	

LABORATORY CONTROL SAMPLE: 1518925

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,4-Dichlorobenzene	ppbv	10	11.0	110	66-134	
Benzene	ppbv	10	10.9	109	72-136	
Chlorobenzene	ppbv	10	11.2	112	65-135	
Ethylbenzene	ppbv	10	10.9	109	74-136	
m&p-Xylene	ppbv	10	10.8	108	72-135	
o-Xylene	ppbv	10	10.6	106	74-135	
Toluene	ppbv	10	11.1	111	71-134	

REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: BIG MO
Pace Project No.: 60152423

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PRL - Pace Reporting Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

LABORATORIES

PASI-M Pace Analytical Services - Minneapolis

SAMPLE QUALIFIERS

Sample: 60152423001

[1] The sample was analyzed by serial dilution.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: BIG MO

Pace Project No.: 60152423

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60152423001	WGKBIGMO2000scfmTOXIN-090413	TO-15	AIR/18173		
60152423002	WGKBIGMO2000scfmTOXSTAC-090413	TO-15	AIR/18173		

REPORT OF LABORATORY ANALYSIS

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CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

10240926

Page: 1 of 1

Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:	
Company: XDD, LLC		Report To: stanisewski@xdd-llc.com		Attention: Solutia, Inc. - Bill Johnson	
Address: 22 Marin Way #3		Copy To: wjohn@solutia.com		Company Name: 575 Maryville Centre Drive	
Stratham, NH 03885		keane@xdd-llc.com		Address: St. Louis, MO 63141	
Email To: stanisewski@xdd-llc.com		Purchase Order No.: 4504001018		Pace Quote Reference: 6658	
Phone: 603-418-3132 Fax: 603-778-2121		Project Name: BIG MO		Pace Project Manager: Jamie Church	
Requested Due Date/TAT: 3-day TAT upon receipt in MN		Project Number: 11002		Pace Profile #:	

ITEM #	Section D Required Client Information	Valid Matrix Codes MATRIX CODE DRINKING WATER DW WATER WT WASTE WATER WW PRODUCT L SOLID S OIL OL WIRE WP AIR AR OTHER OT TISSUE TS	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED		SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives		Analysis Test	Y/N	N	Requested Analysis Filtered (Y/N)	Pace Project No./ Lab I.D.
					DATE	TIME			DATE	TIME					
1	WGKBIGMO2000scfm TOXIN- 090413		AR	G	---	---	09/04/13	1225	1	1					N
2	WGKBIGMO2000scfm TOXSTACK- 090413		AR	G	---	---	09/04/13	1215	1	1					N
3															
4															
5															
6															
7															
8															
9															
10															
11															
12															

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION		ACCEPTED BY / AFFILIATION		SAMPLE CONDITIONS	
	DATE	TIME	DATE	TIME	Received on	Temp in °C
Please email report to Erin Stanisewski and Dennis Kean of XDD and Bill Johnson of Solutia. * job specific list: 1,4-dichlorobenzene, benzene, chlorobenzene, ethylbenzene, m-xylene, p-xylene, o-xylene, toluene	9/4/13	1330	9/4/13	0857	N	N
Please report as a Level II data package and refer to project specific analysis instructions.						

SAMPLER NAME AND SIGNATURE		Sealed Cooler (Y/N)	Custody (Y/N)	Samples Intact (Y/N)
PRINT Name of SAMPLER: Reginald Gardner	DATE Signed (MM/DD/YY): 9/4/13			
SIGNATURE of SAMPLER: <i>Reginald Gardner</i>				

	Document Name:	Document Revised: 28Jan2013
	Air Sample Condition Upon Receipt	Page 1 of 1
	Document No.: F-MN-A-106-rev.07	Issuing Authority: Pace Minnesota Quality Office

Air Sample Condition
Upon Receipt

Client Name:

Project #:

WO#: 10240926



Courier: ☒ Fed Ex ☐ UPS ☐ USPS ☐ Client
☐ Commercial ☐ Pace ☐ Other: _____

Tracking Number: 6000 4640 8484

Custody Seal on Cooler/Box Present? ☐ Yes ☒ No Seals Intact? ☐ Yes ☒ No

Optional: Proj. Due Date: Proj. Name:

Packing Material: ☒ Bubble Wrap ☒ Bubble Bags ☐ Foam ☐ None ☐ Other: _____

Temp. (TO17 and TO13 samples only) (°C): air Corrected Temp (°C): _____
 Temp should be above freezing to 6°C Correction Factor: _____

Thermom. Used: ☐ B88A912167504 ☐ 80112447 ☐ 72337080
 Date & Initials of Person Examining Contents: 10/9/13

Comments:

Chain of Custody Present?	☒ Yes ☐ No ☐ N/A	1.
Chain of Custody Filled Out?	☒ Yes ☐ No ☐ N/A	2.
Chain of Custody Relinquished?	☒ Yes ☐ No ☐ N/A	3.
Sampler Name and/or Signature on COC?	☒ Yes ☐ No ☐ N/A	4.
Samples Arrived within Hold Time?	☒ Yes ☐ No ☐ N/A	5.
Short Hold Time Analysis (<72 hr)?	☐ Yes ☒ No ☐ N/A	6.
Rush Turn Around Time Requested?	☒ Yes ☐ No ☐ N/A	7.
Sufficient Volume?	☒ Yes ☐ No ☐ N/A	8.
Correct Containers Used?	☒ Yes ☐ No ☐ N/A	9.
-Pace Containers Used?	☒ Yes ☐ No ☐ N/A	
Containers Intact?	☒ Yes ☐ No ☐ N/A	10.
Media: <u>2 Coors 1 Vac gauge</u>		11.
Sample Labels Match COC?	☒ Yes ☐ No ☐ N/A	12.

Canisters		Flow Controllers		Stand Alone G	
Sample Number	Can ID	Sample Number	Can ID	Sample Number	Can ID
WGRB's MO Toxin	Pace 1448				
11 11 Toxin	11 1401				

CLIENT NOTIFICATION/RESOLUTION

Field Data Required? ☐ Yes ☐ No

Person Contacted: _____ Date/Time: _____

Comments/Resolution: _____

Project Manager Review:

Date: 09/06/13

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)

October 15, 2013

Erin Stanisewski
XDD, LLC
22 Marin Way #3
Stratham, NH 03885

RE: Project: BIG MO
Pace Project No.: 60155294

Dear Erin Stanisewski:

Enclosed are the analytical results for sample(s) received by the laboratory on October 09, 2013. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Jamie Church

jamie.church@pacelabs.com
Project Manager

Enclosures

cc: William Johnson, Solutia, Inc.
Dennis Keane, XDD_SOLUTIA, LLC



REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
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CERTIFICATIONS

Project: BIG MO
Pace Project No.: 60155294

Minnesota Certification IDs

1700 Elm Street SE Suite 200, Minneapolis, MN 55414
A2LA Certification #: 2926.01
Alaska Certification #: UST-078
Alaska Certification #MN00064
Arizona Certification #: AZ-0014
Arkansas Certification #: 88-0680
California Certification #: 01155CA
Colorado Certification #Pace
Connecticut Certification #: PH-0256
EPA Region 8 Certification #: Pace
Florida/NELAP Certification #: E87605
Georgia Certification #: 959
Hawaii Certification #Pace
Idaho Certification #: MN00064
Illinois Certification #: 200011
Kansas Certification #: E-10167
Louisiana Certification #: 03086
Louisiana Certification #: LA080009
Maine Certification #: 2007029
Maryland Certification #: 322
Michigan DEQ Certification #: 9909
Minnesota Certification #: 027-053-137

Mississippi Certification #: Pace
Montana Certification #: MT CERT0092
Nebraska Certification #: Pace
Nevada Certification #: MN_00064
New Jersey Certification #: MN-002
New York Certification #: 11647
North Carolina Certification #: 530
North Dakota Certification #: R-036
Ohio VAP Certification #: CL101
Oklahoma Certification #: 9507
Oregon Certification #: MN200001
Oregon Certification #: MN300001
Pennsylvania Certification #: 68-00563
Puerto Rico Certification
Tennessee Certification #: 02818
Texas Certification #: T104704192
Utah Certification #: MN00064
Virginia/DCLS Certification #: 002521
Virginia/VELAP Certification #: 460163
Washington Certification #: C754
West Virginia Certification #: 382
Wisconsin Certification #: 999407970

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: BIG MO
Pace Project No.: 60155294

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60155294001	WGKBIGMO2000scfmTOXIN-10072013	Air	10/07/13 15:15	10/09/13 09:32
60155294002	WGKBIGMO2000scfmTOXST-10072013	Air	10/07/13 15:00	10/09/13 09:32

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: BIG MO
Pace Project No.: 60155294

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60155294001	WGKBIGMO2000scfmTOXIN-10072013	TO-15	AH2	7	PASI-M
60155294002	WGKBIGMO2000scfmTOXST-10072013	TO-15	AH2	7	PASI-M

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: BIG MO
Pace Project No.: 60155294

Method: TO-15
Description: TO15 MSV AIR
Client: XDD_SOLUTION, LLC
Date: October 15, 2013

General Information:

2 samples were analyzed for TO-15. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

Surrogates:

All surrogates were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

Sample Comments:

- A3: The sample was analyzed by serial dilution.
- WGKBIGMO2000scfmTOXIN-10072013 (Lab ID: 60155294001)

This data package has been reviewed for quality and completeness and is approved for release.

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BIG MO
Pace Project No.: 60155294

Sample: WGKBIGMO2000scfmTOXI **Lab ID:** 60155294001 Collected: 10/07/13 15:15 Received: 10/09/13 09:32 Matrix: Air
N-10072013

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR									
Analytical Method: TO-15									
Benzene	34000	ppbv	935	468	1870.8 5		10/12/13 09:18	71-43-2	
Chlorobenzene	16400	ppbv	935	468	1870.8 5		10/12/13 09:18	108-90-7	
1,4-Dichlorobenzene	ND	ppbv	935	468	1870.8 5		10/12/13 09:18	106-46-7	
Ethylbenzene	ND	ppbv	935	468	1870.8 5		10/12/13 09:18	100-41-4	
Toluene	ND	ppbv	935	468	1870.8 5		10/12/13 09:18	108-88-3	
m&p-Xylene	ND	ppbv	1870	935	1870.8 5		10/12/13 09:18	179601-23-1	
o-Xylene	ND	ppbv	935	468	1870.8 5		10/12/13 09:18	95-47-6	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BIG MO
Pace Project No.: 60155294

Sample: WGKBIGMO2000scfmTOX **Lab ID:** 60155294002 Collected: 10/07/13 15:00 Received: 10/09/13 09:32 Matrix: Air
ST-10072013

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR									
Analytical Method: TO-15									
Benzene	12.7	ppbv	0.87	0.44	1.74		10/13/13 04:38	71-43-2	
Chlorobenzene	8.1	ppbv	0.87	0.44	1.74		10/13/13 04:38	108-90-7	
1,4-Dichlorobenzene	16.0	ppbv	0.87	0.44	1.74		10/13/13 04:38	106-46-7	
Ethylbenzene	ND	ppbv	0.87	0.44	1.74		10/13/13 04:38	100-41-4	
Toluene	2.1	ppbv	0.87	0.44	1.74		10/13/13 04:38	108-88-3	
m&p-Xylene	ND	ppbv	1.7	0.87	1.74		10/13/13 04:38	179601-23-1	
o-Xylene	ND	ppbv	0.87	0.44	1.74		10/13/13 04:38	95-47-6	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BIG MO
Pace Project No.: 60155294

QC Batch:	AIR/18455	Analysis Method:	TO-15
QC Batch Method:	TO-15	Analysis Description:	TO15 MSV AIR
Associated Lab Samples:	60155294001		

METHOD BLANK:	1551438	Matrix:	Air
Associated Lab Samples:	60155294001		

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,4-Dichlorobenzene	ppbv	ND	0.50	10/11/13 18:18	
Benzene	ppbv	ND	0.50	10/11/13 18:18	
Chlorobenzene	ppbv	ND	0.50	10/11/13 18:18	
Ethylbenzene	ppbv	ND	0.50	10/11/13 18:18	
m&p-Xylene	ppbv	ND	1.0	10/11/13 18:18	
o-Xylene	ppbv	ND	0.50	10/11/13 18:18	
Toluene	ppbv	ND	0.50	10/11/13 18:18	

LABORATORY CONTROL SAMPLE: 1551439

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,4-Dichlorobenzene	ppbv	10	7.7	77	66-134	
Benzene	ppbv	10	8.3	83	72-136	
Chlorobenzene	ppbv	10	9.3	93	65-135	
Ethylbenzene	ppbv	10	9.2	92	74-136	
m&p-Xylene	ppbv	10	9.7	97	72-135	
o-Xylene	ppbv	10	9.4	94	74-135	
Toluene	ppbv	10	8.1	81	71-134	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BIG MO
Pace Project No.: 60155294

QC Batch:	AIR/18467	Analysis Method:	TO-15
QC Batch Method:	TO-15	Analysis Description:	TO15 MSV AIR
Associated Lab Samples:	60155294002		

METHOD BLANK:	1551717	Matrix:	Air
Associated Lab Samples:	60155294002		

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,4-Dichlorobenzene	ppbv	ND	0.50	10/12/13 21:28	
Benzene	ppbv	ND	0.50	10/12/13 21:28	
Chlorobenzene	ppbv	ND	0.50	10/12/13 21:28	
Ethylbenzene	ppbv	ND	0.50	10/12/13 21:28	
m&p-Xylene	ppbv	ND	1.0	10/12/13 21:28	
o-Xylene	ppbv	ND	0.50	10/12/13 21:28	
Toluene	ppbv	ND	0.50	10/12/13 21:28	

LABORATORY CONTROL SAMPLE: 1551718

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,4-Dichlorobenzene	ppbv	10	10	100	66-134	
Benzene	ppbv	10	10.0	100	72-136	
Chlorobenzene	ppbv	10	9.8	98	65-135	
Ethylbenzene	ppbv	10	10.0	100	74-136	
m&p-Xylene	ppbv	10	10.0	100	72-135	
o-Xylene	ppbv	10	9.9	99	74-135	
Toluene	ppbv	10	9.9	99	71-134	

REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: BIG MO
Pace Project No.: 60155294

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PRL - Pace Reporting Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

LABORATORIES

PASI-M Pace Analytical Services - Minneapolis

SAMPLE QUALIFIERS

Sample: 60155294001

[1] The sample was analyzed by serial dilution.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: BIG MO
Pace Project No.: 60155294

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60155294001	WGKBIGMO2000scfmTOXIN-10072013	TO-15	AIR/18455		
60155294002	WGKBIGMO2000scfmTOXST-10072013	TO-15	AIR/18467		

REPORT OF LABORATORY ANALYSIS

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CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

10245438

Section A Required Client Information: Company: XDD, LLC Address: 22 Marin Way #3 Stratham, NH 03885 Email To: stanisewski@xdd-llc.com Phone: 603-418-3132 Fax: 603-778-2121 Requested Due Date/TAT: 3-day TAT upon receipt in MN		Section B Required Project Information: Report To: stanisewski@xdd-llc.com Copy To: wgiohn@solutia.com keane@xdd-llc.com Purchase Order No.: 4504001018 Project Name: BIG MO Project Number: 11002		Section C Invoice Information: Attention: Solutia, Inc. - Bill Johnson Company Name: 575 Maryville Centre Drive Address: St. Louis, MO 63141 Pace Quote Reference: 6658 Pace Project Manager: Jamie Church Pace Profile #:	
Page: 1 of 1		REGULATORY AGENCY NPDES GROUND WATER DRINKING WATER UST RCRA OTHER IEPA			
Site Location STATE: IL					

ITEM #	Valid Matrix Codes MATRIX CODE DRINKING WATER DW WASTE WATER WT WATER PRODUCT P SOIL/SOLID SL OIL OL WIPE WIP AIR AR OTHER OT TISSUE TS	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED			SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives Unpreserved H ₂ SO ₄ HNO ₃ HCl NaOH Na ₂ S ₂ O ₃ Methanol Other	Analysis Test TO-15*	Requested Analysis Filtered (Y/N)	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D. -30"HG at start. Pace #0922 -30"HG at start. Pace #2425
				DATE	TIME	DATE							
1	WGKBIGMO2000scfmTOXIN-10072013	AR	G	10/07/13	1515			1					
2	WGKBIGMO2000scfmTOXSTACK-10072013	AR	G	10/07/13	1500			1					
3													
4													
5													
6													
7													
8													
9													
10													
11													
12													

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
Please email report to Erin Stanisewski and Dennis Kean of XDD and Bill Johnson of Solutia. * job specific list: 1,4-dichlorobenzene, benzene, chlorobenzene, ethylbenzene, m-xylene, p-xylene, o-xylene, toluene	Reginald Gardner	10/7/13	1835	<i>Reginald Gardner</i>	10/9/13	0932	N N Y
Please report as a Level II data package and refer to project specific analysis instructions.							

SAMPLER NAME AND SIGNATURE		Temp in °C	Received on	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
PRINT Name of SAMPLER: Reginald Gardner SIGNATURE of SAMPLER: <i>Reginald Gardner</i>			10/7/13		

	Document Name:	Document Revised: 19Sep2013
	Air Sample Condition Upon Receipt	Page 1 of 1
	Document No.: F-MN-A-106-rev.08	Issuing Authority: Pace Minnesota Quality Office

Air Sample Condition Upon Receipt

Client Name:

Project #:

NO#: 10245438



Courier: ☐ Fed Ex ☐ UPS ☐ USPS ☐ Client
☐ Commercial ☐ Pace ☐ Other:

Tracking Number: 7968 5799 0102

Custody Seal on Cooler/Box Present? ☐ Yes ☒ No Seals Intact? ☐ Yes ☒ No

Optional: Proj. Due Date: Proj. Name:

Packing Material: ☐ Bubble Wrap ☒ Bubble Bags ☐ Foam ☐ None ☐ Other:

Temp. (TO17 and TO13 samples only) (°C): Corrected Temp (°C):

Thermom. Used: ☐ B88A912167504 ☐ 72337080
☐ B88A9132521491 ☒ 80517447

Temp should be above freezing to 6°C Correction Factor: 1.00

Date & Initials of Person Examining Contents: C. J. 10/9/13

Comments:

Chain of Custody Present?	☒ Yes ☐ No ☐ N/A	1.
Chain of Custody Filled Out?	☒ Yes ☐ No ☐ N/A	2.
Chain of Custody Relinquished?	☒ Yes ☐ No ☐ N/A	3.
Sampler Name and/or Signature on COC?	☒ Yes ☐ No ☐ N/A	4.
Samples Arrived within Hold Time?	☒ Yes ☐ No ☐ N/A	5.
Short Hold Time Analysis (<72 hr)?	☐ Yes ☒ No ☐ N/A	6.
Rush Turn Around Time Requested?	☒ Yes ☐ No ☐ N/A	7.
Sufficient Volume?	☒ Yes ☐ No ☐ N/A	8.
Correct Containers Used?	☒ Yes ☐ No ☐ N/A	9.
-Pace Containers Used?	☒ Yes ☐ No ☐ N/A	
Containers Intact?	☒ Yes ☐ No ☐ N/A	10.
Media: Air Can		11.
Sample Labels Match COC?	☒ Yes ☐ No ☐ N/A	12.

Samples Received: 2 cans, 1 gauge					
Canisters		Flow Controllers		Stand Alone G	
Sample Number	Can ID	Sample Number	Can ID	Sample Number	Can ID
BIG-TOXIN	922				Pace 214
BIG-TOXIN STACK	2425				

CLIENT NOTIFICATION/RESOLUTION

Field Data Required? ☐ Yes ☐ No

Person Contacted: Date/Time:

Comments/Resolution:

Project Manager Review:

Date: 10/11/13

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)

November 04, 2013

Erin Stanisewski
XDD, LLC
22 Marin Way #3
Stratham, NH 03885

RE: Project: BIG MO
Pace Project No.: 60156586

Dear Erin Stanisewski:

Enclosed are the analytical results for sample(s) received by the laboratory on October 30, 2013. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Jamie Church

jamie.church@pacelabs.com
Project Manager

Enclosures

cc: William Johnson, Solutia, Inc.
Dennis Keane, XDD_SOLUTIA, LLC



REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
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CERTIFICATIONS

Project: BIG MO
Pace Project No.: 60156586

Minnesota Certification IDs

1700 Elm Street SE Suite 200, Minneapolis, MN 55414
A2LA Certification #: 2926.01
Alaska Certification #: UST-078
Alaska Certification #MN00064
Arizona Certification #: AZ-0014
Arkansas Certification #: 88-0680
California Certification #: 01155CA
Colorado Certification #Pace
Connecticut Certification #: PH-0256
EPA Region 8 Certification #: Pace
Florida/NELAP Certification #: E87605
Georgia Certification #: 959
Hawaii Certification #Pace
Idaho Certification #: MN00064
Illinois Certification #: 200011
Kansas Certification #: E-10167
Louisiana Certification #: 03086
Louisiana Certification #: LA080009
Maine Certification #: 2007029
Maryland Certification #: 322
Michigan DEQ Certification #: 9909
Minnesota Certification #: 027-053-137

Mississippi Certification #: Pace
Montana Certification #: MT CERT0092
Nebraska Certification #: Pace
Nevada Certification #: MN_00064
New Jersey Certification #: MN-002
New York Certification #: 11647
North Carolina Certification #: 530
North Dakota Certification #: R-036
Ohio VAP Certification #: CL101
Oklahoma Certification #: 9507
Oregon Certification #: MN200001
Oregon Certification #: MN300001
Pennsylvania Certification #: 68-00563
Puerto Rico Certification
Tennessee Certification #: 02818
Texas Certification #: T104704192
Utah Certification #: MN00064
Virginia/DCLS Certification #: 002521
Virginia/VELAP Certification #: 460163
Washington Certification #: C754
West Virginia Certification #: 382
Wisconsin Certification #: 999407970

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: BIG MO
Pace Project No.: 60156586

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60156586001	WGKBIGMO2000scfmTOXIN-102313	Air	10/23/13 10:05	10/30/13 12:20

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: BIG MO
Pace Project No.: 60156586

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60156586001	WGKBIGMO2000scfmTOXIN-102313	TO-15	AH2	7	PASI-M

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: BIG MO
Pace Project No.: 60156586

Method: TO-15
Description: TO15 MSV AIR
Client: XDD_SOLUTION, LLC
Date: November 04, 2013

General Information:

1 sample was analyzed for TO-15. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

Surrogates:

All surrogates were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

Sample Comments:

- A3: The sample was analyzed by serial dilution.
• WGKBIGMO2000scfmTOXIN-102313 (Lab ID: 60156586001)

This data package has been reviewed for quality and completeness and is approved for release.

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BIG MO
Pace Project No.: 60156586

Sample: WGKBIGMO2000scfmTOXI **Lab ID:** 60156586001 Collected: 10/23/13 10:05 Received: 10/30/13 12:20 Matrix: Air
N-102313

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR									
Analytical Method: TO-15									
Benzene	43800	ppbv	2010	1000	4019.2		11/01/13 12:27	71-43-2	
Chlorobenzene	12200	ppbv	251	126	502.4		11/01/13 04:28	108-90-7	
1,4-Dichlorobenzene	ND	ppbv	251	126	502.4		11/01/13 04:28	106-46-7	
Ethylbenzene	ND	ppbv	251	126	502.4		11/01/13 04:28	100-41-4	
Toluene	ND	ppbv	251	126	502.4		11/01/13 04:28	108-88-3	
m&p-Xylene	ND	ppbv	502	251	502.4		11/01/13 04:28	179601-23-1	
o-Xylene	ND	ppbv	251	126	502.4		11/01/13 04:28	95-47-6	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BIG MO
Pace Project No.: 60156586

QC Batch:	AIR/18614	Analysis Method:	TO-15
QC Batch Method:	TO-15	Analysis Description:	TO15 MSV AIR
Associated Lab Samples:	60156586001		

METHOD BLANK:	1566076	Matrix:	Air
Associated Lab Samples:	60156586001		

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,4-Dichlorobenzene	ppbv	ND	0.50	10/31/13 20:24	
Benzene	ppbv	ND	0.50	10/31/13 20:24	
Chlorobenzene	ppbv	ND	0.50	10/31/13 20:24	
Ethylbenzene	ppbv	ND	0.50	10/31/13 20:24	
m&p-Xylene	ppbv	ND	1.0	10/31/13 20:24	
o-Xylene	ppbv	ND	0.50	10/31/13 20:24	
Toluene	ppbv	ND	0.50	10/31/13 20:24	

LABORATORY CONTROL SAMPLE: 1566077

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,4-Dichlorobenzene	ppbv	10	8.4	84	66-134	
Benzene	ppbv	10	9.9	99	72-136	
Chlorobenzene	ppbv	10	8.9	89	65-135	
Ethylbenzene	ppbv	10	10.1	101	74-136	
m&p-Xylene	ppbv	10	10.2	102	72-135	
o-Xylene	ppbv	10	9.6	96	74-135	
Toluene	ppbv	10	9.7	97	71-134	

REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: BIG MO
Pace Project No.: 60156586

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PRL - Pace Reporting Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

LABORATORIES

PASI-M Pace Analytical Services - Minneapolis

SAMPLE QUALIFIERS

Sample: 60156586001

[1] The sample was analyzed by serial dilution.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: BIG MO
Pace Project No.: 60156586

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60156586001	WGKBIGMO2000scfmTOXIN-102313	TO-15	AIR/18614		

REPORT OF LABORATORY ANALYSIS

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	Document Name: Air Sample Condition Upon Receipt	Document Revised: 19Sep2013 Page 1 of 1
	Document No.: F-MN-A-106-rev.08	Issuing Authority: Pace Minnesota Quality Office

**Air Sample Condition
Upon Receipt**

Client Name:

Project #:

LO# : 10247736



Courier: ☒ Fed Ex ☐ UPS ☐ USPS ☐ Client
☐ Commercial ☐ Pace ☐ Other: _____

Tracking Number: 7970 0824 7923

Custody Seal on Cooler/Box Present? ☐ Yes ☒ No **Seals Intact?** ☐ Yes ☐ No

Optional: Proj. Due Date: _____ Proj. Name: _____

Packing Material: ☒ Bubble Wrap ☐ Bubble Bags ☐ Foam ☐ None ☐ Other: _____

Temp. (TO17 and TO13 samples only) (°C): _____ **Corrected Temp (°C):** AMB **Thermom. Used:** ☐ B88A912167504 ☐ 72337080
☐ B88A9132521491 ☐ 80512447

Temp should be above freezing to 6°C **Correction Factor:** _____

Date & Initials of Person Examining Contents: 10/30/13 AS

Comments:

Chain of Custody Present?	☒ Yes ☐ No ☐ N/A	1.
Chain of Custody Filled Out?	☒ Yes ☐ No ☐ N/A	2.
Chain of Custody Relinquished?	☒ Yes ☐ No ☐ N/A	3.
Sampler Name and/or Signature on COC?	☒ Yes ☐ No ☐ N/A	4.
Samples Arrived within Hold Time?	☒ Yes ☐ No ☐ N/A	5.
Short Hold Time Analysis (<72 hr)?	☐ Yes ☒ No ☐ N/A	6.
Rush Turn Around Time Requested?	☒ Yes ☐ No ☐ N/A	7. <u>3-day</u>
Sufficient Volume?	☒ Yes ☐ No ☐ N/A	8.
Correct Containers Used?	☒ Yes ☐ No ☐ N/A	9.
-Pace Containers Used?	☒ Yes ☐ No ☐ N/A	
Containers Intact?	☒ Yes ☐ No ☐ N/A	10.
Media: <u>Air</u>		11.
Sample Labels Match COC?	☒ Yes ☐ No ☐ N/A	12.

Samples Received: <u>1 can, 1 gauge</u>					
Canisters		Flow Controllers		Stand Alone G	
Sample Number	Can ID	Sample Number	Can ID	Sample Number	Can ID
<u>WGKBIG</u>	<u>1433</u>				<u>Pace 219</u>

CLIENT NOTIFICATION/RESOLUTION

Field Data Required? ☐ Yes ☐ No

Person Contacted: _____ **Date/Time:** _____

Comments/Resolution: _____

Project Manager Review: _____

Date: 10/31/13

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)

November 15, 2013

Erin Stanisewski
XDD, LLC
22 Marin Way #3
Stratham, NH 03885

RE: Project: BIG MO
Pace Project No.: 60157355

Dear Erin Stanisewski:

Enclosed are the analytical results for sample(s) received by the laboratory on November 11, 2013. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Jamie Church

jamie.church@pacelabs.com
Project Manager

Enclosures

cc: William Johnson, Solutia, Inc.
Dennis Keane, XDD_SOLUTIA, LLC



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: BIG MO
Pace Project No.: 60157355

Minnesota Certification IDs

1700 Elm Street SE Suite 200, Minneapolis, MN 55414
A2LA Certification #: 2926.01
Alabama Dept of Environmental Management #40770
Alaska Certification #: UST-078
Alaska Certification #MN00064
Arizona Certification #: AZ-0014
Arkansas Certification #: 88-0680
California Certification #: 01155CA
Colorado Certification #Pace
Connecticut Certification #: PH-0256
EPA Region 8 Certification #: Pace
EPA Region 5 #WD-15J
Florida/NELAP Certification #: E87605
Georgia Certification #: 959
Hawaii Certification #Pace
Idaho Certification #: MN00064
Illinois Certification #: 200011
Indiana Certification#C-MN-01
Iowa Certification #: 368
Kansas Certification #: E-10167
Kentucky Dept of Envi. Protection - DW #90062
Louisiana Certification #: 03086
Louisiana Certification #: LA080009
Maine Certification #: 2007029
Maryland Certification #: 322

Michigan DEQ Certification #: 9909
Minnesota Certification #: 027-053-137
Mississippi Certification #: Pace
Montana Certification #: MT CERT0092
Nebraska Certification #: Pace
Nevada Certification #: MN_00064
New Jersey Certification #: MN-002
New York Certification #: 11647
North Carolina Certification #: 530
North Dakota Certification #: R-036
Ohio VAP Certification #: CL101
Oklahoma Certification #: 9507
Oregon Certification #: MN200001
Oregon Certification #: MN300001
Pennsylvania Certification #: 68-00563
Puerto Rico Certification
Tennessee Certification #: 02818
Texas Certification #: T104704192
Utah Certification #: MN00064
Virginia/DCLS Certification #: 002521
Virginia/VELAP Certification #: 460163
Washington Certification #: C754
West Virginia Certification #: 382
Wisconsin Certification #: 999407970

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: BIG MO
Pace Project No.: 60157355

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60157355001	WGKBIGMO2000scfmTOXIN-110713	Air	11/07/13 12:30	11/11/13 12:07
60157355002	WGKBIGMO2000scfmTOXST-11072013	Air	11/07/13 12:40	11/11/13 12:07

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: BIG MO
Pace Project No.: 60157355

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60157355001	WGKBIGMO2000scfmTOXIN-110713	TO-15	DR1	7	PASI-M
60157355002	WGKBIGMO2000scfmTOXST-11072013	TO-15	DR1	7	PASI-M

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: BIG MO
Pace Project No.: 60157355

Method: TO-15
Description: TO15 MSV AIR
Client: XDD_SOLUTIONIA, LLC
Date: November 15, 2013

General Information:

2 samples were analyzed for TO-15. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

Surrogates:

All surrogates were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

Analyte Comments:

QC Batch: AIR/18699

E: Analyte concentration exceeded the calibration range. The reported result is estimated.

- WGKBIGMO2000scfmTOXIN-110713 (Lab ID: 60157355001)
- Benzene

This data package has been reviewed for quality and completeness and is approved for release.

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BIG MO
Pace Project No.: 60157355

Sample: WGKBIGMO2000scfmTOXI **Lab ID:** 60157355001 Collected: 11/07/13 12:30 Received: 11/11/13 12:07 Matrix: Air
N-110713

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR									
Analytical Method: TO-15									
Benzene	680000	ppbv	4300	2150	8601.6		11/12/13 22:58	71-43-2	E
Chlorobenzene	78100	ppbv	4300	2150	8601.6		11/12/13 22:58	108-90-7	
1,4-Dichlorobenzene	ND	ppbv	4300	2150	8601.6		11/12/13 22:58	106-46-7	
Ethylbenzene	ND	ppbv	4300	2150	8601.6		11/12/13 22:58	100-41-4	
Toluene	ND	ppbv	4300	2150	8601.6		11/12/13 22:58	108-88-3	
m&p-Xylene	ND	ppbv	8600	4300	8601.6		11/12/13 22:58	179601-23-1	
o-Xylene	ND	ppbv	4300	2150	8601.6		11/12/13 22:58	95-47-6	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BIG MO
Pace Project No.: 60157355

Sample: WGKBIGMO2000scfmTOX **Lab ID:** 60157355002 Collected: 11/07/13 12:40 Received: 11/11/13 12:07 Matrix: Air
ST-11072013

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR									
Analytical Method: TO-15									
Benzene	273	ppbv	8.7	4.4	17.4		11/12/13 22:33	71-43-2	
Chlorobenzene	32.6	ppbv	8.7	4.4	17.4		11/12/13 22:33	108-90-7	
1,4-Dichlorobenzene	ND	ppbv	8.7	4.4	17.4		11/12/13 22:33	106-46-7	
Ethylbenzene	ND	ppbv	8.7	4.4	17.4		11/12/13 22:33	100-41-4	
Toluene	4.5J	ppbv	8.7	4.4	17.4		11/12/13 22:33	108-88-3	
m&p-Xylene	ND	ppbv	17.4	8.7	17.4		11/12/13 22:33	179601-23-1	
o-Xylene	ND	ppbv	8.7	4.4	17.4		11/12/13 22:33	95-47-6	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BIG MO
Pace Project No.: 60157355

QC Batch: AIR/18699 Analysis Method: TO-15
QC Batch Method: TO-15 Analysis Description: TO15 MSV AIR
Associated Lab Samples: 60157355001, 60157355002

METHOD BLANK: 1575287 Matrix: Air
Associated Lab Samples: 60157355001, 60157355002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,4-Dichlorobenzene	ppbv	ND	0.50	11/12/13 11:59	
Benzene	ppbv	ND	0.50	11/12/13 11:59	
Chlorobenzene	ppbv	ND	0.50	11/12/13 11:59	
Ethylbenzene	ppbv	ND	0.50	11/12/13 11:59	
m&p-Xylene	ppbv	ND	1.0	11/12/13 11:59	
o-Xylene	ppbv	ND	0.50	11/12/13 11:59	
Toluene	ppbv	ND	0.50	11/12/13 11:59	

LABORATORY CONTROL SAMPLE: 1575288

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,4-Dichlorobenzene	ppbv	10	11.7	117	66-134	
Benzene	ppbv	10	11.3	113	72-136	
Chlorobenzene	ppbv	10	11.1	111	65-135	
Ethylbenzene	ppbv	10	11.4	114	74-136	
m&p-Xylene	ppbv	10	11.0	110	72-135	
o-Xylene	ppbv	10	10.7	107	74-135	
Toluene	ppbv	10	11.4	114	71-134	

REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: BIG MO
Pace Project No.: 60157355

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PRL - Pace Reporting Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

LABORATORIES

PASI-M Pace Analytical Services - Minneapolis

ANALYTE QUALIFIERS

E Analyte concentration exceeded the calibration range. The reported result is estimated.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: BIG MO
Pace Project No.: 60157355

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60157355001	WGKBIGMO2000scfmTOXIN-110713	TO-15	AIR/18699		
60157355002	WGKBIGMO2000scfmTOXST-11072013	TO-15	AIR/18699		

REPORT OF LABORATORY ANALYSIS

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CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Section A Required Client Information: Company: XDD, LLC Address: 22 Marin Way #3 Stratham, NH 03885 Email To: stanisewski@xdd-llc.com Phone: 603-418-3132 Fax: 603-778-2121 Requested Due Date/TAT: 3-day TAT upon receipt in MN		Section B Required Project Information: Report To: stanisewski@xdd-llc.com Copy To: keane@eastman.com Purchase Order No.: 4504001018 Project Name: BIG MO Project Number: 11002		Section C Invoice Information: Attention: Solutia, Inc. - Bill Johnson Company Name: 575 Maryville Centre Drive Address: St. Louis, MO 63141 Pace Quote Reference: 6658 Pace Project Manager: Jamie Church Pace Profile #:		REGULATORY AGENCY NPDES GROUND WATER DRINKING WATER UST RCRA OTHER IEPA Site Location IL STATE:	
---	--	---	--	---	--	--	--

ITEM #	Section D Required Client Information	Valid Matrix Codes		MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED				SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives												Analysis Test Y/N	TO-15*	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																									
		MATRIX	CODE			DATE	TIME	DATE	TIME			Unpreserved	H ₂ SO ₄	HNO ₃	HCl	NaOH	Na ₂ S ₂ O ₃	Methanol	Other																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																	
1		WGKBIGMO2000scfmTOXIN- 11072013		AR	G	--	--	4/7/13	1230		1	1																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
Please email report to Erin Stanisewski and Dennis Kean of XDD and Bill Johnson of Solutia. * job specific list 1, 4-dichlorobenzene, benzene, chlorobenzene, ethylbenzene, m-xylene, p-xylene, o-xylene, toluene	Reginald Gardner	4/7/13	1700	<i>[Signature]</i>	4/7/13	1200	Received on Ice (Y/N) ☒ Custody Sealed Cooler (Y/N) ☒ Samples Intact (Y/N) ☒
Please report as a Level II data package and refer to project specific analysis instructions.							

SAMPLER NAME AND SIGNATURE PRINT Name of SAMPLER: Reginald Gardner SIGNATURE of SAMPLER: <i>[Signature]</i>		DATE Signed (MM/DD/YY): 4/7/13
---	--	---------------------------------------

	Document Name: Air Sample Condition Upon Receipt	Document Revised: 19Sep2013 Page 1 of 1
	Document No.: F-MN-A-106-rev.08	Issuing Authority: Pace Minnesota Quality Office

**Air Sample Condition
Upon Receipt**

Client Name: Pace KS **Project #:** _____

WO# : 10248880



10248880

Courier: ☒ Fed Ex ☐ UPS ☐ USPS ☐ Client
☐ Commercial ☐ Pace ☐ Other: _____

Tracking Number: 7971 0925 2500

Custody Seal on Cooler/Box Present? ☐ Yes ☒ No **Seals Intact?** ☐ Yes ☐ No **Optional:** ☐ Proj. Due Date: _____ ☐ Proj. Name: _____

Packing Material: ☒ Bubble Wrap ☐ Bubble Bags ☐ Foam ☐ None ☐ Other: _____

Temp. (TO17 and TO13 samples only) (°C): AMB **Corrected Temp (°C):** _____ **Thermom. Used:** ☐ B88A912167504 ☐ 72337080
☐ B88A9132521491 ☐ 80512447
Temp should be above freezing to 6°C **Correction Factor:** _____ **Date & Initials of Person Examining Contents:** 11-11-13 JF

Comments:

Chain of Custody Present?	☒ Yes ☐ No ☐ N/A	1.
Chain of Custody Filled Out?	☒ Yes ☐ No ☐ N/A	2.
Chain of Custody Relinquished?	☒ Yes ☐ No ☐ N/A	3.
Sampler Name and/or Signature on COC?	☒ Yes ☐ No ☐ N/A	4.
Samples Arrived within Hold Time?	☒ Yes ☐ No ☐ N/A	5.
Short Hold Time Analysis (<72 hr)?	☐ Yes ☒ No ☐ N/A	6.
Rush Turn Around Time Requested?	☒ Yes ☐ No ☐ N/A	7. <u>3 Day</u>
Sufficient Volume?	☒ Yes ☐ No ☐ N/A	8.
Correct Containers Used?	☒ Yes ☐ No ☐ N/A	9.
-Pace Containers Used?	☒ Yes ☐ No ☐ N/A	
Containers Intact?	☒ Yes ☐ No ☐ N/A	10.
Media: <u>ARR (Caw)</u>		11.
Sample Labels Match COC?	☒ Yes ☐ No ☐ N/A	12.

Samples Received: <u>2 CANS</u>					
Canisters		Flow Controllers		Stand Alone G	
Sample Number	Can ID	Sample Number	Can ID	Sample Number	Can ID
<u>W6KDIGMOTOXIN</u>	<u>1328</u>				
<u>W6KDIGMOTOXSTACK</u>	<u>1330</u>				

CLIENT NOTIFICATION/RESOLUTION **Field Data Required?** ☐ Yes ☐ No

Person Contacted: _____ **Date/Time:** _____

Comments/Resolution: _____

Project Manager Review: CTM **Date:** 11/12/13

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e out of hold, incorrect preservative, out of temp, incorrect containers)

November 15, 2013

Erin Stanisewski
XDD, LLC
22 Marin Way #3
Stratham, NH 03885

RE: Project: BIG MO
Pace Project No.: 60157386

Dear Erin Stanisewski:

Enclosed are the analytical results for sample(s) received by the laboratory on November 12, 2013. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Jamie Church

jamie.church@pacelabs.com
Project Manager

Enclosures

cc: William Johnson, Solutia, Inc.
Dennis Keane, XDD_SOLUTIA, LLC



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: BIG MO
Pace Project No.: 60157386

Minnesota Certification IDs

1700 Elm Street SE Suite 200, Minneapolis, MN 55414
A2LA Certification #: 2926.01
Alabama Dept of Environmental Management #40770
Alaska Certification #: UST-078
Alaska Certification #MN00064
Arizona Certification #: AZ-0014
Arkansas Certification #: 88-0680
California Certification #: 01155CA
Colorado Certification #Pace
Connecticut Certification #: PH-0256
EPA Region 8 Certification #: Pace
EPA Region 5 #WD-15J
Florida/NELAP Certification #: E87605
Georgia Certification #: 959
Hawaii Certification #Pace
Idaho Certification #: MN00064
Illinois Certification #: 200011
Indiana Certification#C-MN-01
Iowa Certification #: 368
Kansas Certification #: E-10167
Kentucky Dept of Envi. Protection - DW #90062
Louisiana Certification #: 03086
Louisiana Certification #: LA080009
Maine Certification #: 2007029
Maryland Certification #: 322

Michigan DEQ Certification #: 9909
Minnesota Certification #: 027-053-137
Mississippi Certification #: Pace
Montana Certification #: MT CERT0092
Nebraska Certification #: Pace
Nevada Certification #: MN_00064
New Jersey Certification #: MN-002
New York Certification #: 11647
North Carolina Certification #: 530
North Dakota Certification #: R-036
Ohio VAP Certification #: CL101
Oklahoma Certification #: 9507
Oregon Certification #: MN200001
Oregon Certification #: MN300001
Pennsylvania Certification #: 68-00563
Puerto Rico Certification
Tennessee Certification #: 02818
Texas Certification #: T104704192
Utah Certification #: MN00064
Virginia/DCLS Certification #: 002521
Virginia/VELAP Certification #: 460163
Washington Certification #: C754
West Virginia Certification #: 382
Wisconsin Certification #: 999407970

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: BIG MO
Pace Project No.: 60157386

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60157386001	WGKBIGMO2000scfmTOXIN-11112013	Air	11/11/13 13:00	11/12/13 09:45

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: BIG MO
Pace Project No.: 60157386

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60157386001	WGKBIGMO2000scfmTOXIN-11112013	TO-15	AH2	7	PASI-M

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: BIG MO
Pace Project No.: 60157386

Method: TO-15
Description: TO15 MSV AIR
Client: XDD_SOLUTIONIA, LLC
Date: November 15, 2013

General Information:

1 sample was analyzed for TO-15. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

- A4: Sample was transferred from a sampling bag into a Summa Canister within 48 hours of collection.
- WGKBIGMO2000scfmTOXIN-11112013 (Lab ID: 60157386001)

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

Surrogates:

All surrogates were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

Sample Comments:

- A3: The sample was analyzed by serial dilution.
- WGKBIGMO2000scfmTOXIN-11112013 (Lab ID: 60157386001)

Analyte Comments:

QC Batch: AIR/18712

- E: Analyte concentration exceeded the calibration range. The reported result is estimated.
- WGKBIGMO2000scfmTOXIN-11112013 (Lab ID: 60157386001)
 - Benzene

This data package has been reviewed for quality and completeness and is approved for release.

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BIG MO
Pace Project No.: 60157386

Sample: WGKBIGMO2000scfmTOXI **Lab ID:** 60157386001 **Collected:** 11/11/13 13:00 **Received:** 11/12/13 09:45 **Matrix:** Air
N-11112013

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR									
Analytical Method: TO-15									
Benzene	1970000	ppbv	6480	3240	12953. 6		11/15/13 06:39	71-43-2	A4,E
Chlorobenzene	133000	ppbv	6480	3240	12953. 6		11/15/13 06:39	108-90-7	
1,4-Dichlorobenzene	ND	ppbv	6480	3240	12953. 6		11/15/13 06:39	106-46-7	
Ethylbenzene	ND	ppbv	6480	3240	12953. 6		11/15/13 06:39	100-41-4	
Toluene	ND	ppbv	6480	3240	12953. 6		11/15/13 06:39	108-88-3	
m&p-Xylene	ND	ppbv	13000	6480	12953. 6		11/15/13 06:39	179601-23-1	
o-Xylene	ND	ppbv	6480	3240	12953. 6		11/15/13 06:39	95-47-6	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BIG MO
Pace Project No.: 60157386

QC Batch:	AIR/18712	Analysis Method:	TO-15
QC Batch Method:	TO-15	Analysis Description:	TO15 MSV AIR
Associated Lab Samples:	60157386001		

METHOD BLANK:	1577111	Matrix:	Air
Associated Lab Samples:	60157386001		

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,4-Dichlorobenzene	ppbv	ND	0.50	11/14/13 20:38	
Benzene	ppbv	ND	0.50	11/14/13 20:38	
Chlorobenzene	ppbv	ND	0.50	11/14/13 20:38	
Ethylbenzene	ppbv	ND	0.50	11/14/13 20:38	
m&p-Xylene	ppbv	ND	1.0	11/14/13 20:38	
o-Xylene	ppbv	ND	0.50	11/14/13 20:38	
Toluene	ppbv	ND	0.50	11/14/13 20:38	

LABORATORY CONTROL SAMPLE: 1577112

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,4-Dichlorobenzene	ppbv	10	10.4	104	66-134	
Benzene	ppbv	10	10.5	105	72-136	
Chlorobenzene	ppbv	10	10.4	104	65-135	
Ethylbenzene	ppbv	10	11.7	117	74-136	
m&p-Xylene	ppbv	10	11.5	115	72-135	
o-Xylene	ppbv	10	10.9	109	74-135	
Toluene	ppbv	10	10.5	105	71-134	

REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: BIG MO
Pace Project No.: 60157386

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PRL - Pace Reporting Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

LABORATORIES

PASI-M Pace Analytical Services - Minneapolis

SAMPLE QUALIFIERS

Sample: 60157386001

[1] The sample was analyzed by serial dilution.

ANALYTE QUALIFIERS

A4 Sample was transferred from a sampling bag into a Summa Canister within 48 hours of collection.

E Analyte concentration exceeded the calibration range. The reported result is estimated.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: BIG MO
Pace Project No.: 60157386

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60157386001	WGKBIGMO2000scfmTOXIN-11112013	TO-15	AIR/18712		

REPORT OF LABORATORY ANALYSIS

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CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Section A Required Client Information: Company: XDD, LLC Address: 22 Marin Way #3 Stratham, NH 03885 Email To: stanisewski@xdd-llc.com Phone: 603-418-3132 Fax: 603-778-2121 Requested Due Date/TAT: 3-day TAT upon receipt in MN		Section B Required Project Information: Report To: stanisewski@xdd-llc.com Copy To: wgjohn@eastman.com Purchase Order No.: 4504001018 Project Name: BIG MO Project Number: 11002		Section C Invoice Information: Attention: Solutia, Inc. - Bill Johnson Company Name: 575 Maryville Centre Drive Address: St. Louis, MO 63141 Pace Quote Reference: 6658 Pace Project Manager: Jamie Church Pace Profile #:	
REGULATORY AGENCY NPDES GROUND WATER DRINKING WATER UST RCRA OTHER IEPA		Site Location STATE: IL		Page: 1 of 1	

ITEM #	Section D Required Client Information	Valid Matrix Codes MATRIX CODE DW DRINKING WATER WT WASTE WATER WW WASTE WATER P PRODUCT SL SOIL/SOLID OL OIL WP WIPE AR AIR OT OTHER TS TISSUE	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED			SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives			Analysis Test Y/N	Requested Analysis Filtered (Y/N)	Pace Project No./ Lab I.D.
					DATE	TIME	DATE			TIME	DATE	TIME			
1	WGKBIGMO2000scfmTOXIN-11112013		AR	G		11/14	1300		1						
2															
3															
4															
5															
6															
7															
8															
9															
10															
11															
12															
ADDITIONAL COMMENTS Please email report to Erin Stanisewski and Dennis Kean of XDD and Bill Johnson of Solutia. * job specific list: 1,4-dichlorobenzene, benzene, chlorobenzene, ethylbenzene, m-xylene, p-xylene, o-xylene, toluene		RELINQUISHED BY / AFFILIATION Reginald Gardner			DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS					
					11/14/13	1645	Reginald Gardner	11/13/13	09:45 AM	Received on Ice (Y/N) N Custody Sealed (Y/N) N Samples Intact (Y/N) N					
Please report as a Level II data package and refer to project specific analysis instructions.															
SAMPLER NAME AND SIGNATURE PRINT Name of SAMPLER: Reginald Gardner SIGNATURE of SAMPLER: <i>Reginald Gardner</i> DATE Signed (MM/DD/YY): 11/11/13															

December 23, 2013

Erin Stanisewski
XDD, LLC
22 Marin Way #3
Stratham, NH 03885

RE: Project: BIG MO
Pace Project No.: 60159260

Dear Erin Stanisewski:

Enclosed are the analytical results for sample(s) received by the laboratory on December 09, 2013. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Jamie Church

jamie.church@pacelabs.com
Project Manager

Enclosures

cc: William Johnson, Solutia, Inc.
Dennis Keane, XDD_SOLUTIA, LLC



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: BIG MO
Pace Project No.: 60159260

Minnesota Certification IDs

1700 Elm Street SE Suite 200, Minneapolis, MN 55414
A2LA Certification #: 2926.01
Alabama Dept of Environmental Management #40770
Alaska Certification #: UST-078
Alaska Certification #MN00064
Arizona Certification #: AZ-0014
Arkansas Certification #: 88-0680
California Certification #: 01155CA
Colorado Certification #Pace
Connecticut Certification #: PH-0256
EPA Region 8 Certification #: Pace
EPA Region 5 #WD-15J
Florida/NELAP Certification #: E87605
Georgia Certification #: 959
Hawaii Certification #Pace
Idaho Certification #: MN00064
Illinois Certification #: 200011
Indiana Certification#C-MN-01
Iowa Certification #: 368
Kansas Certification #: E-10167
Kentucky Dept of Envi. Protection - DW #90062
Louisiana Certification #: 03086
Louisiana Certification #: LA080009
Maine Certification #: 2007029
Maryland Certification #: 322

Michigan DEQ Certification #: 9909
Minnesota Certification #: 027-053-137
Mississippi Certification #: Pace
Montana Certification #: MT CERT0092
Nevada Certification #: MN_00064
Nebraska Certification #: Pace
New Jersey Certification #: MN-002
New York Certification #: 11647
North Carolina Certification #: 530
North Dakota Certification #: R-036
Ohio VAP Certification #: CL101
Oklahoma Certification #: 9507
Oregon Certification #: MN200001
Oregon Certification #: MN300001
Pennsylvania Certification #: 68-00563
Puerto Rico Certification
Tennessee Certification #: 02818
Texas Certification #: T104704192
Utah Certification #: MN00064
Virginia/DCLS Certification #: 002521
Virginia/VELAP Certification #: 460163
Washington Certification #: C754
West Virginia Certification #: 382
Wisconsin Certification #: 999407970

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: BIG MO
Pace Project No.: 60159260

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60159260001	WGKBIGMO2000scfmTOXIN-12052013	Air	12/05/13 13:30	12/09/13 14:44
60159260002	WGKBIGMO2000scfmTOXST-12052013	Air	12/05/13 13:15	12/09/13 14:44

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: BIG MO
Pace Project No.: 60159260

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60159260001	WGKBIGMO2000scfmTOXIN-12052013	TO-15	AH2	7	PASI-M
60159260002	WGKBIGMO2000scfmTOXST-12052013	TO-15	AH2	7	PASI-M

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: BIG MO
Pace Project No.: 60159260

Method: TO-15
Description: TO15 MSV AIR
Client: XDD_SOLUTIONIA, LLC
Date: December 23, 2013

General Information:

2 samples were analyzed for TO-15. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

Surrogates:

All surrogates were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

Sample Comments:

- A3: This result is reported from a serial dilution.
- WGKBIGMO2000scfmTOXIN-12052013 (Lab ID: 60159260001)

Analyte Comments:

QC Batch: AIR/18985

- E: Analyte concentration exceeded the calibration range. The reported result is estimated.
- WGKBIGMO2000scfmTOXIN-12052013 (Lab ID: 60159260001)
 - Benzene

QC Batch: AIR/18987

- A3: This result is reported from a serial dilution.
- WGKBIGMO2000scfmTOXST-12052013 (Lab ID: 60159260002)
 - Toluene

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: BIG MO
Pace Project No.: 60159260

Method: TO-15
Description: TO15 MSV AIR
Client: XDD_SOLUTIONIA, LLC
Date: December 23, 2013

This data package has been reviewed for quality and completeness and is approved for release.

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BIG MO
Pace Project No.: 60159260

Sample: WGKBIGMO2000scfmTOXI **Lab ID:** 60159260001 Collected: 12/05/13 13:30 Received: 12/09/13 14:44 Matrix: Air
N-12052013

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR									
Analytical Method: TO-15									
Benzene	936000	ppbv	4300	2150	8601.6		12/13/13 06:19	71-43-2	E
Chlorobenzene	127000	ppbv	4300	2150	8601.6		12/13/13 06:19	108-90-7	
1,4-Dichlorobenzene	ND	ppbv	4300	2150	8601.6		12/13/13 06:19	106-46-7	
Ethylbenzene	ND	ppbv	4300	2150	8601.6		12/13/13 06:19	100-41-4	
Toluene	ND	ppbv	4300	2150	8601.6		12/13/13 06:19	108-88-3	
m&p-Xylene	ND	ppbv	8600	4300	8601.6		12/13/13 06:19	179601-23-1	
o-Xylene	ND	ppbv	4300	2150	8601.6		12/13/13 06:19	95-47-6	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BIG MO
Pace Project No.: 60159260

Sample: WGKBIGMO2000scfmTOX **Lab ID:** 60159260002 Collected: 12/05/13 13:15 Received: 12/09/13 14:44 Matrix: Air
ST-12052013

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR									
Analytical Method: TO-15									
Benzene	315	ppbv	8.4	4.2	16.8		12/13/13 15:40	71-43-2	
Chlorobenzene	26.1	ppbv	8.4	4.2	16.8		12/13/13 15:40	108-90-7	
1,4-Dichlorobenzene	ND	ppbv	8.4	4.2	16.8		12/13/13 15:40	106-46-7	
Ethylbenzene	ND	ppbv	8.4	4.2	16.8		12/13/13 15:40	100-41-4	
Toluene	12900	ppbv	269	134	537.6		12/16/13 12:49	108-88-3	A3
m&p-Xylene	ND	ppbv	16.8	8.4	16.8		12/13/13 15:40	179601-23-1	
o-Xylene	ND	ppbv	8.4	4.2	16.8		12/13/13 15:40	95-47-6	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BIG MO
Pace Project No.: 60159260

QC Batch:	AIR/18985	Analysis Method:	TO-15
QC Batch Method:	TO-15	Analysis Description:	TO15 MSV AIR
Associated Lab Samples:	60159260001		

METHOD BLANK: 1599140 Matrix: Air
Associated Lab Samples: 60159260001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,4-Dichlorobenzene	ppbv	ND	0.50	12/12/13 19:53	
Benzene	ppbv	ND	0.50	12/12/13 19:53	
Chlorobenzene	ppbv	ND	0.50	12/12/13 19:53	
Ethylbenzene	ppbv	ND	0.50	12/12/13 19:53	
m&p-Xylene	ppbv	ND	1.0	12/12/13 19:53	
o-Xylene	ppbv	ND	0.50	12/12/13 19:53	
Toluene	ppbv	ND	0.50	12/12/13 19:53	

LABORATORY CONTROL SAMPLE: 1599141

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,4-Dichlorobenzene	ppbv	10	11.3	113	66-134	
Benzene	ppbv	10	10.5	105	72-136	
Chlorobenzene	ppbv	10	11.8	118	65-135	
Ethylbenzene	ppbv	10	11.9	119	74-136	
m&p-Xylene	ppbv	10	11.6	116	72-135	
o-Xylene	ppbv	10	11.6	116	74-135	
Toluene	ppbv	10	10.2	102	71-134	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BIG MO
Pace Project No.: 60159260

QC Batch:	AIR/18987	Analysis Method:	TO-15
QC Batch Method:	TO-15	Analysis Description:	TO15 MSV AIR
Associated Lab Samples:	60159260002		

METHOD BLANK: 1599151 Matrix: Air
Associated Lab Samples: 60159260002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,4-Dichlorobenzene	ppbv	ND	0.50	12/13/13 15:14	
Benzene	ppbv	ND	0.50	12/13/13 15:14	
Chlorobenzene	ppbv	ND	0.50	12/13/13 15:14	
Ethylbenzene	ppbv	ND	0.50	12/13/13 15:14	
m&p-Xylene	ppbv	ND	1.0	12/13/13 15:14	
o-Xylene	ppbv	ND	0.50	12/13/13 15:14	
Toluene	ppbv	ND	0.50	12/13/13 15:14	

LABORATORY CONTROL SAMPLE: 1599152

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,4-Dichlorobenzene	ppbv	10	12.8	128	66-134	
Benzene	ppbv	10	12.1	121	72-136	
Chlorobenzene	ppbv	10	12.5	125	65-135	
Ethylbenzene	ppbv	10	12.6	126	74-136	
m&p-Xylene	ppbv	10	12.5	125	72-135	
o-Xylene	ppbv	10	12.9	129	74-135	
Toluene	ppbv	10	12.0	120	71-134	

REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: BIG MO
Pace Project No.: 60159260

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PRL - Pace Reporting Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

LABORATORIES

PASI-M Pace Analytical Services - Minneapolis

SAMPLE QUALIFIERS

Sample: 60159260001

[1] This result is reported from a serial dilution.

ANALYTE QUALIFIERS

A3 This result is reported from a serial dilution.

E Analyte concentration exceeded the calibration range. The reported result is estimated.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: BIG MO
Pace Project No.: 60159260

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60159260001	WGKBIGMO2000scfmTOXIN-12052013	TO-15	AIR/18985		
60159260002	WGKBIGMO2000scfmTOXST-12052013	TO-15	AIR/18987		

REPORT OF LABORATORY ANALYSIS

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CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Section A Required Client Information: Company: XDD, LLC Address: 22 Marin Way #3 Stratham, NH 03885 Email To: stanisewski@xdd-llc.com Phone: 603-418-3132 Fax: 603-778-2121 Requested Due Date/TAT: 3-day TAT upon receipt in MN		Section B Required Project Information: Report To: stanisewski@xdd-llc.com Copy To: wjohn@eastman.com Purchase Order No.: 4504001018 Project Name: BIG MO Project Number: 11002		Section C Invoice Information: Attention: Solutia, Inc. - Bill Johnson Company Name: 575 Maryville Centre Drive Address: St. Louis, MO 63141 Pace Quote Reference: 6658 Pace Project Manager: Jamie Church Pace Profile #:		Page: 1 of 1	
Section D Required Client Information Valid Matrix Codes MATRIX CODE DW DRINKING WATER WT WASTE WATER WW WASTE WATER P PRODUCT SOL SOLID OIL OIL WIFE WIPE AIR AIR OT OTHER TS TISSUE SAMPLE ID (A-Z, 0-9 / , -) Sample IDs MUST BE UNIQUE		COLLECTED DATE TIME DATE TIME --- --- 12/05/13 1330 --- --- 12/05/13 1315		SAMPLE TEMP AT COLLECTION DATE TIME 12/05/13 1330 12/05/13 1315		MATRIX CODE (See valid codes to left) SAMPLE TYPE (G=GRAB C=COMP) AR G AR G	
ITEM #	Valid Matrix Codes	MATRIX CODE	SAMPLE TYPE	DATE	TIME	DATE	TIME
1	WQKBIGMO2000scfm TOXIN-12052013	AR G	12/05/13	1330	12/05/13	1330	1330
2	WQKBIGMO2000scfm TOXSTACK-12052013	AR G	12/05/13	1315	12/05/13	1315	1315
3							
4							
5							
6							
7							
8							
9							
10							
11							
12							
ADDITIONAL COMMENTS Please email report to Erin Stanisewski and Dennis Kean of XDD and Bill Johnson of Solutia. * job specific list: 1,4-dichlorobenzene, benzene, chlorobenzene, ethylbenzene, m-xylene, p-xylene, o-xylene, toluene		RELINQUISHED BY / AFFILIATION Reginald Gardner		DATE 12/5/13		TIME 1630	
ACCEPTED BY / AFFILIATION Chad Pace		DATE 12-9-13		TIME 1744		SAMPLE CONDITIONS Ice (Y/N) N Sealed Cooler (Y/N) N Custody (Y/N) N Samples Intact (Y/N) Y	
Please report as a Level II data package and refer to project specific analysis instructions.		SAMPLER NAME AND SIGNATURE PRINT Name of SAMPLER: Reginald Gardner SIGNATURE of SAMPLER: <i>Reginald Gardner</i>		DATE Signed (MM/DD/YY): 12/5/13		Temp in °C	

	Document Name:	Document Revised: 19Sep2013
	Air Sample Condition Upon Receipt	Page 1 of 1
	Document No.: F-MN-A-106-rev.08	Issuing Authority: Pace Minnesota Quality Office

Air Sample Condition Upon Receipt

Client Name:

Project #:

WO# : 10251786



Courier: ☒ Fed Ex ☐ UPS ☐ USPS ☐ Client
☐ Commercial ☐ Pace ☐ Other: _____

Tracking Number: 7973 2682 5370

Custody Seal on Cooler/Box Present? ☐ Yes ☒ No Seals Intact? ☐ Yes ☒ No

Optional: Proj. Due Date: _____ Proj. Name: _____

Packing Material: ☒ Bubble Wrap ☐ Bubble Bags ☐ Foam ☐ None ☐ Other: _____

Temp. (TO17 and TO13 samples only) (°C): _____ Corrected Temp (°C): _____

Thermom. Used: ☐ B88A912167504 ☐ B88A9132521491

☐ 72337080 ☒ 80512447

Temp should be above freezing to 6°C Correction Factor: _____

Date & Initials of Person Examining Contents: CW 12-9-13

Comments:

Chain of Custody Present?	☒ Yes ☐ No ☐ N/A	1.
Chain of Custody Filled Out?	☒ Yes ☐ No ☐ N/A	2.
Chain of Custody Relinquished?	☒ Yes ☐ No ☐ N/A	3.
Sampler Name and/or Signature on COC?	☒ Yes ☐ No ☐ N/A	4.
Samples Arrived within Hold Time?	☒ Yes ☐ No ☐ N/A	5.
Short Hold Time Analysis (<72 hr)?	☐ Yes ☒ No ☐ N/A	6.
Rush Turn Around Time Requested?	☒ Yes ☐ No ☐ N/A	7.
Sufficient Volume?	☒ Yes ☐ No ☐ N/A	8.
Correct Containers Used?	☒ Yes ☐ No ☐ N/A	9.
-Pace Containers Used?	☒ Yes ☐ No ☐ N/A	
Containers Intact?	☒ Yes ☐ No ☐ N/A	10.
Media: <u>Air Can</u>		11.
Sample Labels Match COC? <u>CW 12-9-13</u> ☒ Yes ☒ No ☐ N/A		12. <u>002 COC Can # 1338, Can Rec'd 1427</u>

Samples Received: <u>2 Air Can</u> <u>CW 12-9-13</u>					
Canisters		Flow Controllers		Stand Alone G	
Sample Number	Can ID	Sample Number	Can ID	Sample Number	Can ID
<u>Toxin</u>	<u>1419</u>				
<u>Tox Stack</u>	<u>1427</u>				

CLIENT NOTIFICATION/RESOLUTION

Field Data Required? ☐ Yes ☐ No

Person Contacted: _____ Date/Time: _____

Comments/Resolution: _____

Project Manager Review:

Date: 12/10/13

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)

2014 Soil Vapor Laboratory Reports

January 28, 2014

Erin Stanisewski
XDD, LLC
22 Marin Way #3
Stratham, NH 03885

RE: Project: BIG MO
Pace Project No.: 60161639

Dear Erin Stanisewski:

Enclosed are the analytical results for sample(s) received by the laboratory on January 21, 2014. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Jamie Church
jamie.church@pacelabs.com
Project Manager

Enclosures

cc: William Johnson, Solutia, Inc.
Dennis Keane, XDD_SOLUTIA, LLC



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: BIG MO
Pace Project No.: 60161639

Minnesota Certification IDs

1700 Elm Street SE Suite 200, Minneapolis, MN 55414
A2LA Certification #: 2926.01
Alabama Dept of Environmental Management #40770
Alaska Certification #: UST-078
Alaska Certification #MN00064
Arizona Certification #: AZ-0014
Arkansas Certification #: 88-0680
California Certification #: 01155CA
Colorado Certification #Pace
Connecticut Certification #: PH-0256
EPA Region 8 Certification #: Pace
EPA Region 5 #WD-15J
Florida/NELAP Certification #: E87605
Georgia Certification #: 959
Hawaii Certification #Pace
Idaho Certification #: MN00064
Illinois Certification #: 200011
Indiana Certification#C-MN-01
Iowa Certification #: 368
Kansas Certification #: E-10167
Kentucky Dept of Envi. Protection - DW #90062
Louisiana Certification #: 03086
Louisiana Certification #: LA080009
Maine Certification #: 2007029
Maryland Certification #: 322

Michigan DEQ Certification #: 9909
Minnesota Certification #: 027-053-137
Mississippi Certification #: Pace
Montana Certification #: MT CERT0092
Nevada Certification #: MN_00064
Nebraska Certification #: Pace
New Jersey Certification #: MN-002
New York Certification #: 11647
North Carolina Certification #: 530
North Dakota Certification #: R-036
Ohio VAP Certification #: CL101
Oklahoma Certification #: 9507
Oregon Certification #: MN200001
Oregon Certification #: MN300001
Pennsylvania Certification #: 68-00563
Puerto Rico Certification
Tennessee Certification #: 02818
Texas Certification #: T104704192
Utah Certification #: MN00064
Virginia/DCLS Certification #: 002521
Virginia/VELAP Certification #: 460163
Washington Certification #: C754
West Virginia Certification #: 382
Wisconsin Certification #: 999407970

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: BIG MO
Pace Project No.: 60161639

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60161639001	WGKBIGMO2000scfmTOXIN-01172014	Air	01/17/14 15:30	01/21/14 13:10
60161639002	WGKBIGMO2000scfmTOXST-01172014	Air	01/17/14 15:25	01/21/14 13:10

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: BIG MO
Pace Project No.: 60161639

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60161639001	WGKBIGMO2000scfmTOXIN-01172014	TO-15	DR1, JAM	7	PASI-M
60161639002	WGKBIGMO2000scfmTOXST-01172014	TO-15	DR1, JAM	7	PASI-M

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: BIG MO
Pace Project No.: 60161639

Method: TO-15
Description: TO15 MSV AIR
Client: XDD_SOLUTIONIA, LLC
Date: January 28, 2014

General Information:

2 samples were analyzed for TO-15. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

Surrogates:

All surrogates were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

QC Batch: AIR/19254

R1: RPD value was outside control limits.

- DUP (Lab ID: 1615682)
- Benzene

Additional Comments:

Sample Comments:

A3: This result is reported from a serial dilution.

- WGKBIGMO2000scfmTOXIN-01172014 (Lab ID: 60161639001)

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: BIG MO

Pace Project No.: 60161639

Method: TO-15

Description: TO15 MSV AIR

Client: XDD_SOLUTION, LLC

Date: January 28, 2014

Analyte Comments:

QC Batch: AIR/19254

E: Analyte concentration exceeded the calibration range. The reported result is estimated.

- DUP (Lab ID: 1615682)
 - Benzene
- WGKBIGMO2000scfmTOXIN-01172014 (Lab ID: 60161639001)
 - Benzene
 - Chlorobenzene

This data package has been reviewed for quality and completeness and is approved for release.

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BIG MO
Pace Project No.: 60161639

Sample: WGKBIGMO2000scfmTOXI **Lab ID:** 60161639001 Collected: 01/17/14 15:30 Received: 01/21/14 13:10 Matrix: Air
N-01172014

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR									
Analytical Method: TO-15									
Benzene	530000	ppbv	4020	2010	8038.4		01/28/14 00:22	71-43-2	E
Chlorobenzene	36000	ppbv	502	251	1004.8		01/27/14 01:19	108-90-7	E
1,4-Dichlorobenzene	ND	ppbv	502	251	1004.8		01/27/14 01:19	106-46-7	
Ethylbenzene	ND	ppbv	502	251	1004.8		01/27/14 01:19	100-41-4	
Toluene	ND	ppbv	502	251	1004.8		01/27/14 01:19	108-88-3	
m&p-Xylene	ND	ppbv	1000	502	1004.8		01/27/14 01:19	179601-23-1	
o-Xylene	ND	ppbv	502	251	1004.8		01/27/14 01:19	95-47-6	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BIG MO
Pace Project No.: 60161639

Sample: WGKBIGMO2000scfmTOX **Lab ID:** 60161639002 Collected: 01/17/14 15:25 Received: 01/21/14 13:10 Matrix: Air
ST-01172014

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR									
Analytical Method: TO-15									
Benzene	232	ppbv	13.2	6.6	26.38		01/27/14 23:57	71-43-2	
Chlorobenzene	16.3	ppbv	1.3	0.66	2.64		01/27/14 00:19	108-90-7	
1,4-Dichlorobenzene	ND	ppbv	1.3	0.66	2.64		01/27/14 00:19	106-46-7	
Ethylbenzene	ND	ppbv	1.3	0.66	2.64		01/27/14 00:19	100-41-4	
Toluene	2.1	ppbv	1.3	0.66	2.64		01/27/14 00:19	108-88-3	
m&p-Xylene	ND	ppbv	2.6	1.3	2.64		01/27/14 00:19	179601-23-1	
o-Xylene	ND	ppbv	1.3	0.66	2.64		01/27/14 00:19	95-47-6	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BIG MO
Pace Project No.: 60161639

QC Batch: AIR/19254 Analysis Method: TO-15
QC Batch Method: TO-15 Analysis Description: TO15 MSV AIR
Associated Lab Samples: 60161639001, 60161639002

METHOD BLANK: 1613762 Matrix: Air
Associated Lab Samples: 60161639001, 60161639002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,4-Dichlorobenzene	ppbv	ND	0.50	01/26/14 22:49	
Benzene	ppbv	ND	0.50	01/26/14 22:49	
Chlorobenzene	ppbv	ND	0.50	01/26/14 22:49	
Ethylbenzene	ppbv	ND	0.50	01/26/14 22:49	
m&p-Xylene	ppbv	ND	1.0	01/26/14 22:49	
o-Xylene	ppbv	ND	0.50	01/26/14 22:49	
Toluene	ppbv	ND	0.50	01/26/14 22:49	

LABORATORY CONTROL SAMPLE: 1613763

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,4-Dichlorobenzene	ppbv	10	11.8	118	65-142	
Benzene	ppbv	10	9.8	98	69-134	
Chlorobenzene	ppbv	10	10.5	105	72-137	
Ethylbenzene	ppbv	10	10.5	105	73-139	
m&p-Xylene	ppbv	10	10.5	105	73-139	
o-Xylene	ppbv	10	10.3	103	71-138	
Toluene	ppbv	10	9.2	92	67-133	

SAMPLE DUPLICATE: 1615682

Parameter	Units	60161639002 Result	Dup Result	RPD	Max RPD	Qualifiers
1,4-Dichlorobenzene	ppbv	ND	ND		25	
Benzene	ppbv	232	141	48	25	E,R1
Chlorobenzene	ppbv	16.3	16.6	2	25	
Ethylbenzene	ppbv	ND	ND		25	
m&p-Xylene	ppbv	ND	ND		25	
o-Xylene	ppbv	ND	ND		25	
Toluene	ppbv	2.1	2.2	4	25	

REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: BIG MO
Pace Project No.: 60161639

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PRL - Pace Reporting Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

LABORATORIES

PASI-M Pace Analytical Services - Minneapolis

SAMPLE QUALIFIERS

Sample: 60161639001

[1] This result is reported from a serial dilution.

ANALYTE QUALIFIERS

E Analyte concentration exceeded the calibration range. The reported result is estimated.

R1 RPD value was outside control limits.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: BIG MO
Pace Project No.: 60161639

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60161639001	WGKBIGMO2000scfmTOXIN-01172014	TO-15	AIR/19254		
60161639002	WGKBIGMO2000scfmTOXST-01172014	TO-15	AIR/19254		

REPORT OF LABORATORY ANALYSIS

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	Document Name: Air Sample Condition Upon Receipt	Document Revised: 26Dec2013 Page 1 of 1
	Document No.: F-MN-A-106-rev.09	Issuing Authority: Pace Minnesota Quality Office

**Air Sample Condition
Upon Receipt**

Client Name: XXD

Project #: WO# : 10255596

WO# : 10255596



Courier: ☒ Fed Ex ☐ UPS ☐ USPS ☐ Client
☐ Commercial ☐ Pace ☐ Other: _____

Tracking Number: 7976 6768 0274

Custody Seal on Cooler/Box Present? ☐ Yes ☒ No Seals Intact? ☐ Yes ☒ No

Optional: Proj. Due Date: _____ Proj. Name: _____

Packing Material: ☒ Bubble Wrap ☐ Bubble Bags ☐ Foam ☐ None ☐ Other: _____ Temp Blank rec: ☐ Yes ☐ No

Temp. (TO17 and TO13 samples only) (°C): _____ Corrected Temp (°C): _____ Thermom. Used: ☐ B88A912167504 ☐ 72357080
☐ B88A9132521491 ☒ 180512447
 Temp should be above freezing to 6°C Correction Factor: _____ Date & Initials of Person Examining Contents: C. L. 1-21-14

Type of ice Received ☐ Blue ☐ Wet ☐ None

Comments:

Chain of Custody Present?	☒ Yes ☐ No ☐ N/A	1.
Chain of Custody Filled Out?	☒ Yes ☐ No ☐ N/A	2.
Chain of Custody Relinquished?	☐ Yes ☐ No ☐ N/A	3.
Sampler Name and/or Signature on COC?	☒ Yes ☐ No ☐ N/A	4.
Samples Arrived within Hold Time?	☐ Yes ☐ No ☐ N/A	5.
Short Hold Time Analysis (<72 hr)?	☐ Yes ☒ No ☐ N/A	6.
Rush Turn Around Time Requested?	☐ Yes ☒ No ☐ N/A	7.
Sufficient Volume?	☒ Yes ☐ No ☐ N/A	8.
Correct Containers Used?	☒ Yes ☐ No ☐ N/A	9.
-Pace Containers Used?	☒ Yes ☐ No ☐ N/A	
Containers Intact?	☒ Yes ☐ No ☐ N/A	10.
Media: <u>Air Can</u>		11.
Sample Labels Match COC?	☒ Yes ☐ No ☐ N/A	12.

Samples Received: <u>2 Air Can</u>					
Canisters		Flow Controllers		Stand Alone G	
Sample Number	Can ID	Sample Number	Can ID	Sample Number	Can ID
<u>TOXIN</u>	<u>2474</u>				
<u>TOX Stack</u>	<u>1176</u>				

CLIENT NOTIFICATION/RESOLUTION

Field Data Required? ☐ Yes ☐ No

Person Contacted: _____ Date/Time: _____

Comments/Resolution: _____

Project Manager Review: W

Date: 01/22/14

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)

February 14, 2014

Erin Stanisewski
XDD, LLC
22 Marin Way #3
Stratham, NH 03885

RE: Project: BIG MO
Pace Project No.: 60162673

Dear Erin Stanisewski:

Enclosed are the analytical results for sample(s) received by the laboratory on February 10, 2014. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Jamie Church
jamie.church@pacelabs.com
Project Manager

Enclosures

cc: William Johnson, Solutia, Inc.
Dennis Keane, XDD_SOLUTIA, LLC



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: BIG MO
Pace Project No.: 60162673

Minnesota Certification IDs

1700 Elm Street SE Suite 200, Minneapolis, MN 55414
A2LA Certification #: 2926.01
Alabama Dept of Environmental Management #40770
Alaska Certification #: UST-078
Alaska Certification #MN00064
Arizona Certification #: AZ-0014
Arkansas Certification #: 88-0680
California Certification #: 01155CA
Colorado Certification #Pace
Connecticut Certification #: PH-0256
EPA Region 8 Certification #: Pace
EPA Region 5 #WD-15J
Florida/NELAP Certification #: E87605
Georgia Certification #: 959
Hawaii Certification #Pace
Idaho Certification #: MN00064
Illinois Certification #: 200011
Indiana Certification#C-MN-01
Iowa Certification #: 368
Kansas Certification #: E-10167
Kentucky Dept of Envi. Protection - DW #90062
Louisiana Certification #: 03086
Louisiana Certification #: LA080009
Maine Certification #: 2007029
Maryland Certification #: 322

Michigan DEQ Certification #: 9909
Minnesota Certification #: 027-053-137
Mississippi Certification #: Pace
Montana Certification #: MT CERT0092
Nevada Certification #: MN_00064
Nebraska Certification #: Pace
New Jersey Certification #: MN-002
New York Certification #: 11647
North Carolina Certification #: 530
North Dakota Certification #: R-036
Ohio VAP Certification #: CL101
Oklahoma Certification #: 9507
Oregon Certification #: MN200001
Oregon Certification #: MN300001
Pennsylvania Certification #: 68-00563
Puerto Rico Certification
Tennessee Certification #: 02818
Texas Certification #: T104704192
Utah Certification #: MN00064
Virginia/DCLS Certification #: 002521
Virginia/VELAP Certification #: 460163
Washington Certification #: C754
West Virginia Certification #: 382
Wisconsin Certification #: 999407970

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: BIG MO
Pace Project No.: 60162673

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60162673001	WGKBIGMO2000scfmTOXIN-02062014	Air	02/06/14 11:00	02/10/14 13:00
60162673002	WGKBIGMO2000scfmTOXST-02062014	Air	02/06/14 10:50	02/10/14 13:00

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: BIG MO
Pace Project No.: 60162673

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60162673001	WGKBIGMO2000scfmTOXIN-02062014	TO-15	DR1	7	PASI-M
60162673002	WGKBIGMO2000scfmTOXST-02062014	TO-15	DR1	7	PASI-M

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: BIG MO
Pace Project No.: 60162673

Method: TO-15
Description: TO15 MSV AIR
Client: XDD_SOLUTIONIA, LLC
Date: February 14, 2014

General Information:

2 samples were analyzed for TO-15. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

Surrogates:

All surrogates were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

Sample Comments:

- A3: This result is reported from a serial dilution.
- WGKBIGMO2000scfmTOXIN-02062014 (Lab ID: 60162673001)

Analyte Comments:

QC Batch: AIR/19412

- E: Analyte concentration exceeded the calibration range. The reported result is estimated.
- WGKBIGMO2000scfmTOXIN-02062014 (Lab ID: 60162673001)
 - Benzene

This data package has been reviewed for quality and completeness and is approved for release.

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BIG MO
Pace Project No.: 60162673

Sample: WGKBIGMO2000scfmTOXI **Lab ID:** 60162673001 **Collected:** 02/06/14 11:00 **Received:** 02/10/14 13:00 **Matrix:** Air
N-02062014

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR									
Analytical Method: TO-15									
Benzene	1570000	ppbv	4300	2150	8601.6		02/13/14 16:07	71-43-2	E
Chlorobenzene	ND	ppbv	4300	2150	8601.6		02/13/14 16:07	108-90-7	
1,4-Dichlorobenzene	ND	ppbv	4300	2150	8601.6		02/13/14 16:07	106-46-7	
Ethylbenzene	ND	ppbv	4300	2150	8601.6		02/13/14 16:07	100-41-4	
Toluene	ND	ppbv	4300	2150	8601.6		02/13/14 16:07	108-88-3	
m&p-Xylene	ND	ppbv	8600	4300	8601.6		02/13/14 16:07	179601-23-1	
o-Xylene	ND	ppbv	4300	2150	8601.6		02/13/14 16:07	95-47-6	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BIG MO
Pace Project No.: 60162673

Sample: WGKBIGMO2000scfmTOX **Lab ID:** 60162673002 Collected: 02/06/14 10:50 Received: 02/10/14 13:00 Matrix: Air
ST-02062014

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR									
Analytical Method: TO-15									
Benzene	555	ppbv	8.4	4.2	16.8		02/13/14 15:41	71-43-2	
Chlorobenzene	27.9	ppbv	8.4	4.2	16.8		02/13/14 15:41	108-90-7	
1,4-Dichlorobenzene	ND	ppbv	8.4	4.2	16.8		02/13/14 15:41	106-46-7	
Ethylbenzene	ND	ppbv	8.4	4.2	16.8		02/13/14 15:41	100-41-4	
Toluene	ND	ppbv	8.4	4.2	16.8		02/13/14 15:41	108-88-3	
m&p-Xylene	ND	ppbv	16.8	8.4	16.8		02/13/14 15:41	179601-23-1	
o-Xylene	ND	ppbv	8.4	4.2	16.8		02/13/14 15:41	95-47-6	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BIG MO
Pace Project No.: 60162673

QC Batch: AIR/19412 Analysis Method: TO-15
QC Batch Method: TO-15 Analysis Description: TO15 MSV AIR
Associated Lab Samples: 60162673001, 60162673002

METHOD BLANK: 1624292 Matrix: Air
Associated Lab Samples: 60162673001, 60162673002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,4-Dichlorobenzene	ppbv	ND	0.50	02/13/14 11:12	
Benzene	ppbv	ND	0.50	02/13/14 11:12	
Chlorobenzene	ppbv	ND	0.50	02/13/14 11:12	
Ethylbenzene	ppbv	ND	0.50	02/13/14 11:12	
m&p-Xylene	ppbv	ND	1.0	02/13/14 11:12	
o-Xylene	ppbv	ND	0.50	02/13/14 11:12	
Toluene	ppbv	ND	0.50	02/13/14 11:12	

LABORATORY CONTROL SAMPLE: 1624293

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,4-Dichlorobenzene	ppbv	10	10.4	104	65-142	
Benzene	ppbv	10	9.7	97	69-134	
Chlorobenzene	ppbv	10	10.3	103	72-137	
Ethylbenzene	ppbv	10	10.6	106	73-139	
m&p-Xylene	ppbv	10	10.8	108	73-139	
o-Xylene	ppbv	10	10.6	106	71-138	
Toluene	ppbv	10	8.9	89	67-133	

REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: BIG MO
Pace Project No.: 60162673

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PRL - Pace Reporting Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

LABORATORIES

PASI-M Pace Analytical Services - Minneapolis

SAMPLE QUALIFIERS

Sample: 60162673001

[1] This result is reported from a serial dilution.

ANALYTE QUALIFIERS

E Analyte concentration exceeded the calibration range. The reported result is estimated.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: BIG MO

Pace Project No.: 60162673

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60162673001	WGKBIGMO2000scfmTOXIN-02062014	TO-15	AIR/19412		
60162673002	WGKBIGMO2000scfmTOXST-02062014	TO-15	AIR/19412		

REPORT OF LABORATORY ANALYSIS

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CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Section A Required Client Information: Company: XDD, LLC Address: 22 Marin Way #3 Stratham, NH 03885 Email To: stanisewski@xdd-llc.com Phone: 603-418-3132 Fax: 603-778-2121 Requested Due Date/TAT: 3-day TAT upon receipt in MN		Section B Required Project Information: Report To: stanisewski@xdd-llc.com Copy To: wjohnn@eastman.com Purchase Order No.: 4504001018 Project Name: BIG MO Project Number: 11002		Section C Invoice Information: Attention: Solutia, Inc. - Bill Johnson Company Name: 575 Maryville Centre Drive Address: St. Louis, MO 63141 Pace Quote Reference: 6658 Pace Project Manager: Jamie Church Pace Profile #:		REGULATORY AGENCY NPDES ☐ GROUND WATER ☐ DRINKING WATER ☐ IEPA UST ☐ RCRA ☐ OTHER ☐		Site Location ☐ IL STATE:	
---	--	--	--	---	--	--	--	--	--

ITEM #	Valid Matrix Codes MATRIX CODE DW DRINKING WATER WT WASTE WATER WM WASTE WATER P PRODUCT SL SOLID OL OIL WI WIPE AIR AIR OT OTHER TS TISSUE	Section D Required Client Information	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED		SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives		Analysis Test	Y/N	N	Requested Analysis Filtered (Y/N)	Pace Project No./Lab I.D.
					DATE	TIME			DATE	TIME					
1	WGKBIGMO2000scfm TOXIN-02062014		AR G	G	02/06/14	1100		1							-28"HG / PACE 1383
2	WGKBIGMO2000scfm TOXSTACK-02062014		AR G	G	02/06/14	1050		1							-32"HG / PACE 2411
3															
4															
5															
6															
7															
8															
9															
10															
11															
12															

ADDITIONAL COMMENTS Please email report to Erin Stanisewski and Dennis Kean of XDD and Bill Johnson of Solutia. * job specific list: 1,4-dichlorobenzene, benzene, chlorobenzene, ethylbenzene, m-xylene, p-xylene, o-xylene, toluene	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
	Reginald Gardner	2/6/14	1300	<i>[Signature]</i>	2/6/14	1300	N N N N
Please report as a Level II data package and refer to project specific analysis instructions.	Temp in °C Received on Ice (Y/N) Custody Sealed Cooler (Y/N) Samples Intact (Y/N)						

	Document Name: Air Sample Condition Upon Receipt	Document Revised: 26Dec2013 Page 1 of 1
	Document No.: F-MN-A-106-rev.09	Issuing Authority: Pace Minnesota Quality Office

**Air Sample Condition
Upon Receipt**

Client Name:

Project #:

WO#: 10257333



Courier: ☒ Fed Ex ☐ UPS ☐ USPS ☐ Client
☐ Commercial ☐ Pace ☐ Other: _____

Tracking Number: 797842711886

Custody Seal on Cooler/Box Present? ☐ Yes ☒ No Seals Intact? ☐ Yes ☒ No

Optional: Proj. Due Date: _____ Proj. Name: _____

Packing Material: ☒ Bubble Wrap ☐ Bubble Bags ☐ Foam ☐ None ☐ Other: _____ Temp Blank rec: ☐ Yes ☒ No

Temp. (TO17 and TO13 samples only) (°C): _____ Corrected Temp (°C): _____ Thermom. Used: ☐ B88A912167504 ☐ 72337080
☐ B88A9132521491 ☐ 80512447
Temp should be above freezing to 6°C Correction Factor: _____ Date & Initials of Person Examining Contents: 02/10/14

Type of ice Received ☐ Blue ☐ Wet ☒ None

Comments:

Chain of Custody Present?	☒ Yes ☐ No ☐ N/A	1.
Chain of Custody Filled Out?	☒ Yes ☐ No ☐ N/A	2.
Chain of Custody Relinquished?	☒ Yes ☐ No ☐ N/A	3.
Sampler Name and/or Signature on COC?	☒ Yes ☐ No ☐ N/A	4.
Samples Arrived within Hold Time?	☒ Yes ☐ No ☐ N/A	5.
Short Hold Time Analysis (<72 hr)?	☐ Yes ☒ No ☐ N/A	6.
Rush Turn Around Time Requested?	☒ Yes ☐ No ☐ N/A	7. <u>3 day</u>
Sufficient Volume?	☒ Yes ☐ No ☐ N/A	8.
Correct Containers Used?	☒ Yes ☐ No ☐ N/A	9.
-Pace Containers Used?	☒ Yes ☐ No ☐ N/A	
Containers Intact?	☒ Yes ☐ No ☐ N/A	10.
Media: <u>air can</u>		11.
Sample Labels Match COC?	☒ Yes ☐ No ☐ N/A	12.

Samples Received: <u>received 2 gauges + 2 unused cans pace 218 / pace 117</u>					
Canisters		Flow Controllers		Stand Alone G	
Sample Number	Can ID	Sample Number	Can ID	Sample Number	Can ID
<u>TOX10</u>	<u>1383</u>				
<u>toxstack</u>	<u>2411</u>				
<u>unused</u>	<u>1336</u>				
<u>unused</u>	<u>1375</u>				

CLIENT NOTIFICATION/RESOLUTION

Field Data Required? ☐ Yes ☐ No

Person Contacted: _____ Date/Time: _____

Comments/Resolution: _____

Project Manager Review: _____

Date: 02/11/14

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)

March 17, 2014

Erin Stanisewski
XDD, LLC
22 Marin Way #3
Stratham, NH 03885

RE: Project: BIG MO
Pace Project No.: 60164602

Dear Erin Stanisewski:

Enclosed are the analytical results for sample(s) received by the laboratory on March 11, 2014. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Jamie Church
jamie.church@pacelabs.com
Project Manager

Enclosures

cc: William Johnson, Solutia, Inc.
Dennis Keane, XDD_SOLUTIA, LLC



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: BIG MO
Pace Project No.: 60164602

Minnesota Certification IDs

1700 Elm Street SE Suite 200, Minneapolis, MN 55414
A2LA Certification #: 2926.01
Alabama Certification #40770
Alabama Certification #40770
Alaska Certification #: UST-078
Alaska Certification #MN00064
Arizona Certification #: AZ-0014
Arkansas Certification #: 88-0680
California Certification #: 01155CA
Colorado Certification #Pace
Connecticut Certification #: PH-0256
EPA Region 8 Certification #: 8TMS-L
Florida/NELAP Certification #: E87605
Guam Certification #: Pace
Georgia Certification #: 959
Idaho Certification #: MN00064
Hawaii Certification #MN00064
Illinois Certification #: 200011
Indiana Certification#C-MN-01
Iowa Certification #: 368
Kansas Certification #: E-10167
Kentucky Dept of Envi. Protection - DW #90062
Kentucky Dept of Envi. Protection - WW #:90062
Louisiana DEQ Certification #: 3086
Louisiana DHH #: LA140001
Maine Certification #: 2013011
Maryland Certification #: 322
Michigan DEPH Certification #: 9909

Minnesota Certification #: 027-053-137
Mississippi Certification #: Pace
Montana Certification #: MT0092
Nebraska Certification #: Pace
New York Certification #: 11647
North Carolina Certification #: 530
North Carolina State Public Health #: 27700
North Dakota Certification #: R-036
Ohio EPA #: 4150
Ohio VAP Certification #: CL101
Oklahoma Certification #: 9507
Oregon Certification #: MN200001
Oregon Certification #: MN300001
Pennsylvania Certification #: 68-00563
Puerto Rico Certification
Saipan (CNMI) #:MP0003
South Carolina #:74003001
Texas Certification #: T104704192
Tennessee Certification #: 02818
Utah Certification #: MN000642013-4
Virginia DGS Certification #: 251
Virginia/VELAP Certification #: Pace
Washington Certification #: C486
Wisconsin Certification #: 999407970
West Virginia Certification #: 382
West Virginia TO-15 Approval
West Virginia DHHR #:9952C

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SAMPLE SUMMARY

Project: BIG MO
Pace Project No.: 60164602

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60164602001	WGKBIGMO2000scfmTOXIN-03042014	Air	03/04/14 09:15	03/11/14 09:30
60164602002	WGKBIGMO2000scfmTOXST-03042014	Air	03/04/14 09:00	03/11/14 09:30

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SAMPLE ANALYTE COUNT

Project: BIG MO
Pace Project No.: 60164602

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60164602001	WGKBIGMO2000scfmTOXIN-03042014	TO-15	AH2	7	PASI-M
60164602002	WGKBIGMO2000scfmTOXST-03042014	TO-15	AH2	7	PASI-M

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: BIG MO
Pace Project No.: 60164602

Method: TO-15
Description: TO15 MSV AIR
Client: XDD_SOLUTION, LLC
Date: March 17, 2014

General Information:

2 samples were analyzed for TO-15. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

QC Batch: AIR/19626

CL: The continuing calibration for this compound is outside of Pace Analytical acceptance limits. The results may be biased low.

- BLANK (Lab ID: 1636326)
 - Benzene
- DUP (Lab ID: 1639019)
 - Benzene
- LCS (Lab ID: 1636327)
 - Benzene
- WGKBIGMO2000scfmTOXST-03042014 (Lab ID: 60164602002)
 - Benzene

Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

Surrogates:

All surrogates were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: BIG MO
Pace Project No.: 60164602

Method: TO-15
Description: TO15 MSV AIR
Client: XDD_SOLUTION, LLC
Date: March 17, 2014

Sample Comments:

- A3: This result is reported from a serial dilution.
- WGKBIGMO2000scfmTOXIN-03042014 (Lab ID: 60164602001)

This data package has been reviewed for quality and completeness and is approved for release.

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BIG MO
Pace Project No.: 60164602

Sample: WGKBIGMO2000scfmTOXI **Lab ID:** 60164602001 Collected: 03/04/14 09:15 Received: 03/11/14 09:30 Matrix: Air
N-03042014

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR									
Analytical Method: TO-15									
Benzene	397000	ppbv	8040	4020	16076.8		03/14/14 10:43	71-43-2	
Chlorobenzene	4530	ppbv	2010	60.3	4019.2		03/13/14 23:50	108-90-7	
1,4-Dichlorobenzene	ND	ppbv	2010	92.4	4019.2		03/13/14 23:50	106-46-7	
Ethylbenzene	ND	ppbv	2010	68.3	4019.2		03/13/14 23:50	100-41-4	
Toluene	ND	ppbv	2010	72.3	4019.2		03/13/14 23:50	108-88-3	
m&p-Xylene	ND	ppbv	4020	76.4	4019.2		03/13/14 23:50	179601-23-1	
o-Xylene	ND	ppbv	2010	60.3	4019.2		03/13/14 23:50	95-47-6	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BIG MO
Pace Project No.: 60164602

Sample: WGKBIGMO2000scfmTOX **Lab ID:** 60164602002 Collected: 03/04/14 09:00 Received: 03/11/14 09:30 Matrix: Air
ST-03042014

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR									
Analytical Method: TO-15									
Benzene	34.9	ppbv	7.8	0.44	15.7		03/13/14 21:39	71-43-2	CL
Chlorobenzene	ND	ppbv	7.8	0.24	15.7		03/13/14 21:39	108-90-7	
1,4-Dichlorobenzene	ND	ppbv	7.8	0.36	15.7		03/13/14 21:39	106-46-7	
Ethylbenzene	ND	ppbv	7.8	0.27	15.7		03/13/14 21:39	100-41-4	
Toluene	6.0J	ppbv	7.8	0.28	15.7		03/13/14 21:39	108-88-3	
m&p-Xylene	ND	ppbv	15.7	0.30	15.7		03/13/14 21:39	179601-23-1	
o-Xylene	ND	ppbv	7.8	0.24	15.7		03/13/14 21:39	95-47-6	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BIG MO
Pace Project No.: 60164602

QC Batch: AIR/19626 Analysis Method: TO-15
QC Batch Method: TO-15 Analysis Description: TO15 MSV AIR
Associated Lab Samples: 60164602001, 60164602002

METHOD BLANK: 1636326 Matrix: Air
Associated Lab Samples: 60164602001, 60164602002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,4-Dichlorobenzene	ppbv	ND	0.50	03/13/14 18:23	CL
Benzene	ppbv	ND	0.50	03/13/14 18:23	
Chlorobenzene	ppbv	ND	0.50	03/13/14 18:23	
Ethylbenzene	ppbv	ND	0.50	03/13/14 18:23	
m&p-Xylene	ppbv	ND	1.0	03/13/14 18:23	
o-Xylene	ppbv	ND	0.50	03/13/14 18:23	
Toluene	ppbv	ND	0.50	03/13/14 18:23	

LABORATORY CONTROL SAMPLE: 1636327

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,4-Dichlorobenzene	ppbv	10	8.8	88	65-142	CL
Benzene	ppbv	10	7.7	77	69-134	
Chlorobenzene	ppbv	10	8.8	88	72-137	
Ethylbenzene	ppbv	10	8.8	88	73-139	
m&p-Xylene	ppbv	10	9.0	90	73-139	
o-Xylene	ppbv	10	8.9	89	71-138	
Toluene	ppbv	10	8.9	89	67-133	

SAMPLE DUPLICATE: 1639019

Parameter	Units	60164601002 Result	Dup Result	RPD	Max RPD	Qualifiers
1,4-Dichlorobenzene	ppbv	ND	ND		25	CL
Benzene	ppbv	57.1	54.4	5	25	
Chlorobenzene	ppbv	189	173	9	25	
Ethylbenzene	ppbv	ND	ND		25	
m&p-Xylene	ppbv	ND	ND		25	
o-Xylene	ppbv	ND	ND		25	
Toluene	ppbv	ND	ND		25	

REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: BIG MO
Pace Project No.: 60164602

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PRL - Pace Reporting Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

LABORATORIES

PASI-M Pace Analytical Services - Minneapolis

SAMPLE QUALIFIERS

Sample: 60164602001

[1] This result is reported from a serial dilution.

ANALYTE QUALIFIERS

CL The continuing calibration for this compound is outside of Pace Analytical acceptance limits. The results may be biased low.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: BIG MO
Pace Project No.: 60164602

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60164602001	WGKBIGMO2000scfmTOXIN-03042014	TO-15	AIR/19626		
60164602002	WGKBIGMO2000scfmTOXST-03042014	TO-15	AIR/19626		

REPORT OF LABORATORY ANALYSIS

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The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Page 12 of 13

	Document Name: Air Sample Condition Upon Receipt	Document Revised: 26Dec2013 Page 1 of 1
	Document No.: F-MN-A-106-rev.09	Issuing Authority: Pace Minnesota Quality Office

**Air Sample Condition
Upon Receipt**

Client Name:

Project #:

XDD

Courier: ☒ Fed Ex ☐ UPS ☐ USPS ☐ Client
☐ Commercial ☐ Pace ☐ Other: _____

Tracking Number: 8032 7435 5163

Custody Seal on Cooler/Box Present? ☐ Yes ☒ No

Seals Intact? ☐ Yes ☒ No

Optional: Proj. Due Date: Proj. Name:

Packing Material: ☒ Bubble Wrap ☐ Bubble Bags ☐ Foam ☐ None ☐ Other: _____

Temp Blank rec: ☐ Yes ☒ No

Temp. (T017 and T013 samples only) (°C): _____ Corrected Temp (°C): _____

Thermom. Used: ☐ B88A912167504 ☐ 72337080
☐ B88A9132521491 ☐ 80512447

Temp should be above freezing to 6°C Correction Factor: _____

Date & Initials of Person Examining Contents: 2/3/14

Type of ice Received ☐ Blue ☐ Wet ☒ None

Comments:

Chain of Custody Present?	☒ Yes ☐ No ☐ N/A	1.
Chain of Custody Filled Out?	☒ Yes ☐ No ☐ N/A	2.
Chain of Custody Relinquished?	☒ Yes ☐ No ☐ N/A	3.
Sampler Name and/or Signature on COC?	☒ Yes ☐ No ☐ N/A	4.
Samples Arrived within Hold Time?	☒ Yes ☐ No ☐ N/A	5.
Short Hold Time Analysis (<72 hr)?	☐ Yes ☒ No ☐ N/A	6.
Rush Turn Around Time Requested?	☐ Yes ☒ No ☐ N/A	7.
Sufficient Volume?	☒ Yes ☐ No ☐ N/A	8.
Correct Containers Used?	☒ Yes ☐ No ☐ N/A	9.
-Pace Containers Used?	☒ Yes ☐ No ☐ N/A	
Containers Intact?	☒ Yes ☐ No ☐ N/A	10.
Media: air can		11.
Sample Labels Match COC?	☒ Yes ☐ No ☐ N/A	12.

Samples Received: received 2 gauges pace AAA, pace - 176					
Canisters		Flow Controllers		Stand Alone G	
Sample Number	Can ID	Sample Number	Can ID	Sample Number	Can ID
foxin	2085				
fox slack	2431				
unused	2289				
unused	2564				
unused	1167				
unused	2205				

CLIENT NOTIFICATION/RESOLUTION

Field Data Required? ☐ Yes ☐ No

Person Contacted: _____

Date/Time: _____

Comments/Resolution: _____

Jamie Church

3/11/14

Project Manager Review: _____

Date: _____

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)

April 28, 2014

Erin Stanisewski
XDD, LLC
22 Marin Way #3
Stratham, NH 03885

RE: Project: BIG MO
Pace Project No.: 60167208

Dear Erin Stanisewski:

Enclosed are the analytical results for sample(s) received by the laboratory on April 16, 2014. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Jamie Church
jamie.church@pacelabs.com
Project Manager

Enclosures

cc: William Johnson, Solutia, Inc.
Dennis Keane, XDD, LLC.



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: BIG MO
Pace Project No.: 60167208

Minnesota Certification IDs

1700 Elm Street SE Suite 200, Minneapolis, MN 55414
A2LA Certification #: 2926.01
Alabama Certification #40770
Alabama Certification #40770
Alaska Certification #: UST-078
Alaska Certification #MN00064
Arizona Certification #: AZ-0014
Arkansas Certification #: 88-0680
California Certification #: 01155CA
Colorado Certification #Pace
Connecticut Certification #: PH-0256
EPA Region 8 Certification #: 8TMS-L
Florida/NELAP Certification #: E87605
Guam Certification #: Pace
Georgia Certification #: 959
Idaho Certification #: MN00064
Hawaii Certification #MN00064
Illinois Certification #: 200011
Indiana Certification#C-MN-01
Iowa Certification #: 368
Kansas Certification #: E-10167
Kentucky Dept of Envi. Protection - DW #90062
Kentucky Dept of Envi. Protection - WW #:90062
Louisiana DEQ Certification #: 3086
Louisiana DHH #: LA140001
Maine Certification #: 2013011
Maryland Certification #: 322
Michigan DEPH Certification #: 9909

Minnesota Certification #: 027-053-137
Mississippi Certification #: Pace
Montana Certification #: MT0092
Nebraska Certification #: Pace
New York Certification #: 11647
North Carolina Certification #: 530
North Carolina State Public Health #: 27700
North Dakota Certification #: R-036
Ohio EPA #: 4150
Ohio VAP Certification #: CL101
Oklahoma Certification #: 9507
Oregon Certification #: MN200001
Oregon Certification #: MN300001
Pennsylvania Certification #: 68-00563
Puerto Rico Certification
Saipan (CNMI) #:MP0003
South Carolina #:74003001
Texas Certification #: T104704192
Tennessee Certification #: 02818
Utah Certification #: MN000642013-4
Virginia DGS Certification #: 251
Virginia/VELAP Certification #: Pace
Washington Certification #: C486
Wisconsin Certification #: 999407970
West Virginia Certification #: 382
West Virginia TO-15 Approval
West Virginia DHHR #:9952C

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: BIG MO
Pace Project No.: 60167208

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60167208001	WGKBIGMO2000scfmTOXIN-04102014	Air	04/10/14 12:15	04/16/14 09:38
60167208002	WGKBIGMO2000scfmTOXST-04102014	Air	04/10/14 12:00	04/16/14 09:38

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: BIG MO
Pace Project No.: 60167208

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60167208001	WGKBIGMO2000scfmTOXIN-04102014	TO-15	AH2	7	PASI-M
60167208002	WGKBIGMO2000scfmTOXST-04102014	TO-15	AH2	7	PASI-M

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: BIG MO
Pace Project No.: 60167208

Method: TO-15
Description: TO15 MSV AIR
Client: XDD_SOLUTION, LLC
Date: April 28, 2014

General Information:

2 samples were analyzed for TO-15. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

Surrogates:

All surrogates were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

Sample Comments:

- A3: This result is reported from a serial dilution.
- WGKBIGMO2000scfmTOXIN-04102014 (Lab ID: 60167208001)

This data package has been reviewed for quality and completeness and is approved for release.

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BIG MO
Pace Project No.: 60167208

Sample: WGKBIGMO2000scfmTOXI **Lab ID:** 60167208001 Collected: 04/10/14 12:15 Received: 04/16/14 09:38 Matrix: Air
N-04102014

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR									
Analytical Method: TO-15									
Benzene	266000	ppbv	957	347	9574.4		04/26/14 23:59	71-43-2	
Chlorobenzene	77800	ppbv	1910	217	9574.4		04/26/14 23:59	108-90-7	
1,4-Dichlorobenzene	ND	ppbv	1910	310	9574.4		04/26/14 23:59	106-46-7	
Ethylbenzene	ND	ppbv	1910	388	9574.4		04/26/14 23:59	100-41-4	
Toluene	ND	ppbv	1910	336	9574.4		04/26/14 23:59	108-88-3	
m&p-Xylene	ND	ppbv	3830	304	9574.4		04/26/14 23:59	179601-23-1	
o-Xylene	ND	ppbv	1910	957	9574.4		04/26/14 23:59	95-47-6	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BIG MO
Pace Project No.: 60167208

Sample: WGKBIGMO2000scfmTOX **Lab ID:** 60167208002 Collected: 04/10/14 12:00 Received: 04/16/14 09:38 Matrix: Air
ST-04102014

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR									
Analytical Method: TO-15									
Benzene	106	ppbv	0.87	0.31	8.7		04/26/14 23:32	71-43-2	
Chlorobenzene	20.6	ppbv	1.7	0.20	8.7		04/26/14 23:32	108-90-7	
1,4-Dichlorobenzene	ND	ppbv	1.7	0.28	8.7		04/26/14 23:32	106-46-7	
Ethylbenzene	4.1	ppbv	1.7	0.35	8.7		04/26/14 23:32	100-41-4	
Toluene	22.5	ppbv	1.7	0.31	8.7		04/26/14 23:32	108-88-3	
m&p-Xylene	17.6	ppbv	3.5	0.28	8.7		04/26/14 23:32	179601-23-1	
o-Xylene	4.1	ppbv	1.7	0.87	8.7		04/26/14 23:32	95-47-6	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BIG MO
Pace Project No.: 60167208

QC Batch:	AIR/20072	Analysis Method:	TO-15
QC Batch Method:	TO-15	Analysis Description:	TO15 MSV AIR
Associated Lab Samples: 60167208001, 60167208002			

METHOD BLANK:	1665575	Matrix:	Air
Associated Lab Samples: 60167208001, 60167208002			

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,4-Dichlorobenzene	ppbv	ND	0.20	04/26/14 12:01	
Benzene	ppbv	ND	0.10	04/26/14 12:01	
Chlorobenzene	ppbv	ND	0.20	04/26/14 12:01	
Ethylbenzene	ppbv	ND	0.20	04/26/14 12:01	
m&p-Xylene	ppbv	ND	0.40	04/26/14 12:01	
o-Xylene	ppbv	ND	0.20	04/26/14 12:01	
Toluene	ppbv	ND	0.20	04/26/14 12:01	

LABORATORY CONTROL SAMPLE: 1665576

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,4-Dichlorobenzene	ppbv	10	10.6	106	65-142	
Benzene	ppbv	10	11.0	110	69-134	
Chlorobenzene	ppbv	10	10.9	109	72-137	
Ethylbenzene	ppbv	10	12.8	128	73-139	
m&p-Xylene	ppbv	10	12.7	127	73-139	
o-Xylene	ppbv	10	12.4	124	71-138	
Toluene	ppbv	10	11.2	112	67-133	

REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: BIG MO
Pace Project No.: 60167208

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PRL - Pace Reporting Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

LABORATORIES

PASI-M Pace Analytical Services - Minneapolis

SAMPLE QUALIFIERS

Sample: 60167208001

[1] This result is reported from a serial dilution.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: BIG MO
Pace Project No.: 60167208

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60167208001	WGKBIGMO2000scfmTOXIN-04102014	TO-15	AIR/20072		
60167208002	WGKBIGMO2000scfmTOXST-04102014	TO-15	AIR/20072		

REPORT OF LABORATORY ANALYSIS

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CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Section A

Required Client Information:

Company: XDD, LLC
 Address: 22 Marin Way #3
 Stratham, NH 03885
 Email To: stanisewski@xdd-llc.com
 Phone: 603-418-3132 Fax: 603-778-2121
 Requested Due Date/TAT: 3-day TAT upon receipt in MN

Section B

Required Project Information:

Report To: stanisewski@xdd-llc.com
 Copy To: wigiohn@eastman.com
 Address: keane@xdd-llc.com
 Purchase Order No.: 4504001018
 Project Name: BIG MO
 Project Number: 11002

Section C

Invoice Information:

Attention: Solutia, Inc. - Bill Johnson
 Company Name: 575 Maryville Centre Drive
 Address: St. Louis, MO 63141
 Pace Quote Reference: 6658
 Pace Project Manager: Jamie Church
 Pace Profile #:
 Site Location: IL
 STATE:
 REGULATORY AGENCY
 NPDES GROUND WATER DRINKING WATER
 UST RCRA OTHER IEPA

ITEM #	Valid Matrix Codes MATRIX CODE DRINKING WATER DW WASTE WATER WW PRODUCT P SOIL/SOLID SL OIL OL WIPE WP AIR AR OTHER OT TISSUE TS	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED		SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives						Analysis Test Y/N	N	Requested Analysis Filtered (Y/N)														Pace Project No./ Lab I.D.
				DATE	TIME	DATE	TIME	H ₂ SO ₄	HNO ₃	HCl	NaOH	Na ₂ S ₂ O ₃	Methanol	Other																
1	WGKBIGMO2000scfm TOXIN-04102014	AR G	G	04/10/14	1215	04/10/14	1215	1	1						1															-28"HG / PACE 1445
2	WGKBIGMO2000scfm TOXSTACK-04102014	AR G	G	04/10/14	1200	04/10/14	1200	1	1						1															-29"HG / PACE 1401
3																														
4																														
5																														
6																														
7																														
8																														
9																														
10																														
11																														
12																														

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
Please email report to Erin Stanisewski and Dennis Kean of XDD and Bill Johnson of Solutia. * job specific list: 1,4-dichlorobenzene, benzene, chlorobenzene, ethylbenzene, m-xylene, p-xylene, o-xylene, toluene	Reginald Gardner	4/10/14	0:00	Reginald Gardner	4/10/14	0:38	N N N

	Document Name:	Document Revised: 26Dec2013
	Air Sample Condition Upon Receipt	Page 1 of 1
	Document No.: F-MN-A-106-rev.09	Issuing Authority: Pace Minnesota Quality Office

Air Sample Condition Upon Receipt

Client Name: X29 LLC Project #: WO# : 10263755

WO# : 10263755



Courier: ☒ Fed Ex ☐ UPS ☐ USPS ☐ Client
☒ Commercial ☐ Pace ☐ Other: _____

Tracking Number: 8245 7675 9770

Custody Seal on Cooler/Box Present? ☐ Yes ☒ No Seals Intact? ☐ Yes ☒ No

Optional: Proj. Due Date: _____ Proj. Name: _____

Packing Material: ☒ Bubble Wrap ☐ Bubble Bags ☐ Foam ☐ None ☐ Other: _____ Temp Blank rec: ☐ Yes ☒ No

Temp. (TO17 and TO13 samples only) (°C): _____ Corrected Temp (°C): _____ Thermom. Used: ☐ B88A912167504 ☐ 72337080
☐ B88A9132521491 ☐ 80512447

Temp should be above freezing to 6°C Correction Factor: _____ Date & Initials of Person Examining Contents: 041614

Type of ice Received ☐ Blue ☐ Wet ☒ None

Comments:

Chain of Custody Present?	☒ Yes ☐ No ☐ N/A	1.
Chain of Custody Filled Out?	☒ Yes ☐ No ☐ N/A	2.
Chain of Custody Relinquished?	☒ Yes ☐ No ☐ N/A	3.
Sampler Name and/or Signature on COC?	☒ Yes ☐ No ☐ N/A	4.
Samples Arrived within Hold Time?	☒ Yes ☐ No ☐ N/A	5.
Short Hold Time Analysis (<72 hr)?	☐ Yes ☒ No ☐ N/A	6.
Rush Turn Around Time Requested?	☒ Yes ☐ No ☐ N/A	7. <u>3 day</u>
Sufficient Volume?	☒ Yes ☐ No ☐ N/A	8.
Correct Containers Used?	☒ Yes ☐ No ☐ N/A	9.
-Pace Containers Used?	☒ Yes ☐ No ☐ N/A	
Containers Intact?	☒ Yes ☐ No ☐ N/A	10.
Media: <u>air can</u>		11.
Sample Labels Match COC?	☐ Yes ☐ No ☐ N/A	12.

Samples Received: <u>rec gauges pac 271, PA: 04, 04, 04, 04</u>					
Canisters		Flow Controllers		Stand Alone G	
Sample Number	Can ID	Sample Number	Can ID	Sample Number	Can ID
<u>box in</u>	<u>1445</u>				
<u>box stack</u>	<u>1461</u>				

CLIENT NOTIFICATION/RESOLUTION

Field Data Required? ☐ Yes ☐ No

Person Contacted: _____ Date/Time: _____

Comments/Resolution: _____

Project Manager Review: _____

Date: 04/18/14

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)

May 13, 2014

Erin Holmes
XDD, LLC
22 Marin Way #3
Stratham, NH 03885

RE: Project: BIG MO
Pace Project No.: 60168542

Dear Erin Holmes:

Enclosed are the analytical results for sample(s) received by the laboratory on May 06, 2014. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Jamie Church
jamie.church@pacelabs.com
Project Manager

Enclosures

cc: William Johnson, Solutia, Inc.
Dennis Keane, XDD, LLC.



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: BIG MO
Pace Project No.: 60168542

Minnesota Certification IDs

1700 Elm Street SE Suite 200, Minneapolis, MN 55414
A2LA Certification #: 2926.01
Alabama Certification #40770
Alabama Certification #40770
Alaska Certification #: UST-078
Alaska Certification #MN00064
Arizona Certification #: AZ-0014
Arkansas Certification #: 88-0680
California Certification #: 01155CA
Colorado Certification #Pace
Connecticut Certification #: PH-0256
EPA Region 8 Certification #: 8TMS-L
Florida/NELAP Certification #: E87605
Guam Certification #: Pace
Georgia Certification #: 959
Idaho Certification #: MN00064
Hawaii Certification #MN00064
Illinois Certification #: 200011
Indiana Certification#C-MN-01
Iowa Certification #: 368
Kansas Certification #: E-10167
Kentucky Dept of Envi. Protection - DW #90062
Kentucky Dept of Envi. Protection - WW #:90062
Louisiana DEQ Certification #: 3086
Louisiana DHH #: LA140001
Maine Certification #: 2013011
Maryland Certification #: 322
Michigan DEPH Certification #: 9909
Minnesota Certification #: 027-053-137

Mississippi Certification #: Pace
Montana Certification #: MT0092
Nebraska Certification #: Pace
New Jersey Certification #: MN-002
New Jersey Certification #: MN-002
New York Certification #: 11647
North Carolina Certification #: 530
North Carolina State Public Health #: 27700
North Dakota Certification #: R-036
Ohio EPA #: 4150
Ohio VAP Certification #: CL101
Oklahoma Certification #: 9507
Oregon Certification #: MN200001
Oregon Certification #: MN300001
Pennsylvania Certification #: 68-00563
Puerto Rico Certification
Saipan (CNMI) #:MP0003
South Carolina #:74003001
Texas Certification #: T104704192
Tennessee Certification #: 02818
Utah Certification #: MN000642013-4
Virginia DGS Certification #: 251
Virginia/VELAP Certification #: Pace
Washington Certification #: C486
Wisconsin Certification #: 999407970
West Virginia Certification #: 382
West Virginia TO-15 Approval
West Virginia DHHR #:9952C

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: BIG MO
Pace Project No.: 60168542

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60168542001	WGKBIGMO2000scfmTOXIN-05022014	Air	05/02/14 12:15	05/06/14 13:00
60168542002	WGKBIGMO2000scfmTOXST-05022014	Air	05/02/14 12:00	05/06/14 13:00

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: BIG MO
Pace Project No.: 60168542

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60168542001	WGKBIGMO2000scfmTOXIN-05022014	TO-15	DL1	7	PASI-M
60168542002	WGKBIGMO2000scfmTOXST-05022014	TO-15	DL1	7	PASI-M

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: BIG MO
Pace Project No.: 60168542

Method: TO-15
Description: TO15 MSV AIR
Client: XDD_SOLUTION, LLC
Date: May 13, 2014

General Information:

2 samples were analyzed for TO-15. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

Surrogates:

All surrogates were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

Sample Comments:

- A3: This result is reported from a serial dilution.
- WGKBIGMO2000scfmTOXIN-05022014 (Lab ID: 60168542001)

Analyte Comments:

QC Batch: AIR/20216

- E: Analyte concentration exceeded the calibration range. The reported result is estimated.
- WGKBIGMO2000scfmTOXIN-05022014 (Lab ID: 60168542001)
 - Benzene

This data package has been reviewed for quality and completeness and is approved for release.

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BIG MO
Pace Project No.: 60168542

Sample: WGKBIGMO2000scfmTOXI **Lab ID:** 60168542001 Collected: 05/02/14 12:15 Received: 05/06/14 13:00 Matrix: Air
N-05022014

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR									
Analytical Method: TO-15									
Benzene	341000	ppbv	891	322	8908.8		05/11/14 10:53	71-43-2	E
Chlorobenzene	14700	ppbv	1780	202	8908.8		05/11/14 10:53	108-90-7	
1,4-Dichlorobenzene	ND	ppbv	1780	289	8908.8		05/11/14 10:53	106-46-7	
Ethylbenzene	ND	ppbv	1780	361	8908.8		05/11/14 10:53	100-41-4	
Toluene	ND	ppbv	1780	313	8908.8		05/11/14 10:53	108-88-3	
m&p-Xylene	ND	ppbv	3560	283	8908.8		05/11/14 10:53	179601-23-1	
o-Xylene	ND	ppbv	1780	891	8908.8		05/11/14 10:53	95-47-6	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BIG MO
Pace Project No.: 60168542

Sample: WGKBIGMO2000scfmTOX **Lab ID:** 60168542002 Collected: 05/02/14 12:00 Received: 05/06/14 13:00 Matrix: Air
ST-05022014

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR									
Analytical Method: TO-15									
Benzene	80.0	ppbv	3.4	1.2	33.6		05/11/14 10:10	71-43-2	
Chlorobenzene	150	ppbv	6.7	0.76	33.6		05/11/14 10:10	108-90-7	
1,4-Dichlorobenzene	4.0J	ppbv	6.7	1.1	33.6		05/11/14 10:10	106-46-7	
Ethylbenzene	ND	ppbv	6.7	1.4	33.6		05/11/14 10:10	100-41-4	
Toluene	17.9	ppbv	6.7	1.2	33.6		05/11/14 10:10	108-88-3	
m&p-Xylene	ND	ppbv	13.4	1.1	33.6		05/11/14 10:10	179601-23-1	
o-Xylene	ND	ppbv	6.7	3.4	33.6		05/11/14 10:10	95-47-6	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BIG MO
Pace Project No.: 60168542

QC Batch:	AIR/20216	Analysis Method:	TO-15
QC Batch Method:	TO-15	Analysis Description:	TO15 MSV AIR
Associated Lab Samples: 60168542001, 60168542002			

METHOD BLANK:	1677435	Matrix:	Air
Associated Lab Samples: 60168542001, 60168542002			

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,4-Dichlorobenzene	ppbv	ND	0.20	05/10/14 17:42	
Benzene	ppbv	ND	0.10	05/10/14 17:42	
Chlorobenzene	ppbv	ND	0.20	05/10/14 17:42	
Ethylbenzene	ppbv	ND	0.20	05/10/14 17:42	
m&p-Xylene	ppbv	ND	0.40	05/10/14 17:42	
o-Xylene	ppbv	ND	0.20	05/10/14 17:42	
Toluene	ppbv	ND	0.20	05/10/14 17:42	

LABORATORY CONTROL SAMPLE: 1677436

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,4-Dichlorobenzene	ppbv	10	10.2	102	65-142	
Benzene	ppbv	10	10.8	108	69-134	
Chlorobenzene	ppbv	10	9.5	95	72-137	
Ethylbenzene	ppbv	10	9.5	95	73-139	
m&p-Xylene	ppbv	10	9.4	94	73-139	
o-Xylene	ppbv	10	9.3	93	71-138	
Toluene	ppbv	10	10.7	107	67-133	

REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: BIG MO
Pace Project No.: 60168542

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PRL - Pace Reporting Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

LABORATORIES

PASI-M Pace Analytical Services - Minneapolis

SAMPLE QUALIFIERS

Sample: 60168542001

[1] This result is reported from a serial dilution.

ANALYTE QUALIFIERS

E Analyte concentration exceeded the calibration range. The reported result is estimated.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: BIG MO
Pace Project No.: 60168542

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60168542001	WGKBIGMO2000scfmTOXIN-05022014	TO-15	AIR/20216		
60168542002	WGKBIGMO2000scfmTOXST-05022014	TO-15	AIR/20216		

REPORT OF LABORATORY ANALYSIS

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CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Section A

Required Client Information:

Company: XDD, LLC

Address: 22 Marin Way #3

Stratham, NH 03885

Email To: stanisewski@xdd-llc.com

Phone: 603-418-3132 Fax: 603-778-2121

Requested Due Date/TAT: 3-day TAT upon receipt in MN

Section B

Required Project Information:

Report To: stanisewski@xdd-llc.com

Copy To: wjohn@eastman.com

keane@xdd-llc.com

Purchase Order No.: 4504001018

Project Name: BIG MO

Project Number: 11002

Section C

Invoice Information:

Attention: Solutia, Inc. - Bill Johnson

Company Name: 575 Maryville Centre Drive

Address: St. Louis, MO 63141

Pace Quote Reference: 6658

Pace Project Manager: Jamie Church

Pace Profile #:

Page: 1

of 1

REGULATORY AGENCY

NPDES GROUND WATER DRINKING WATER

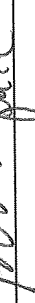
UST RCRA OTHER IEPA

Site Location

STATE: IL

Requested Analysis Filtered (Y/N)

ITEM #	Section D Required Client Information	Valid Matrix Codes MATRIX CODE DRINKING WATER DW WASTE WATER WT WASTE WATER PRODUCT P WASTE WATER SOLID SL OIL OL WIPE WP AIR AR OTHER OT TISSUE TS	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED				SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives								Analysis Test	Y/N	N	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
				DATE	TIME	DATE	TIME			DATE	TIME	Unpreserved	H ₂ SO ₄	HNO ₃	HCl	NaOH	Na ₂ S ₂ O ₃					
1		WGKBIGMO2000scfmTOXIN-05022014	AR G	--	--	05/02/14	1215		1	1									1	N		-28" HG / PACE 2207
2		WGKBIGMO2000scfmTOXSTACK-05022014	AR G	--	--	05/02/14	1200		1	1									1			-28" HG / PACE 1156
3																						
4																						
5																						
6																						
7																						
8																						
9																						
10																						
11																						
12																						

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
Please email report to Erin Stanisewski and Dennis Kean of XDD and Bill Johnson of Solutia. * job specific list: 1,4-dichlorobenzene, benzene, chlorobenzene, ethylbenzene, m-xylene, p-xylene, o-xylene, toluene	Reginald Gardner	5/2/14	1500		5/6/14	1300	N N y
Please report as a Level II data package and refer to project specific analysis instructions.							

	Document Name: Air Sample Condition Upon Receipt	Document Revised: 26Dec2013 Page 1 of 1
	Document No.: F-MN-A-106-rev.09	Issuing Authority: Pace Minnesota Quality Office

**Air Sample Condition
Upon Receipt**

Client Name:

Project #:

WO#: 10266115



Courier: ☒ Fed Ex ☐ UPS ☐ USPS ☐ Client
☐ Commercial ☐ Pace ☐ Other:

Tracking Number: 7949 4813 0177

Custody Seal on Cooler/Box Present? ☐ Yes ☒ No Seals Intact? ☐ Yes ☒ No

Optional: Proj. Due Date: Proj. Name:

Packing Material: ☒ Bubble Wrap ☐ Bubble Bags ☐ Foam ☐ None ☐ Other: Temp Blank rec: ☐ Yes ☒ No

Temp. (TO17 and TO13 samples only) (°C): Corrected Temp (°C): Thermom. Used: ☐ B88A912167504 ☐ 72337080
☐ B88A9132521491 ☐ 80512447 Date & Initials of Person Examining Contents: 05/07/14

Type of ice Received ☐ Blue ☐ Wet ☒ None

Comments:

Chain of Custody Present?	☒ Yes ☐ No ☐ N/A	1.
Chain of Custody Filled Out?	☒ Yes ☐ No ☐ N/A	2.
Chain of Custody Relinquished?	☒ Yes ☐ No ☐ N/A	3.
Sampler Name and/or Signature on COC?	☒ Yes ☐ No ☐ N/A	4.
Samples Arrived within Hold Time?	☒ Yes ☐ No ☐ N/A	5.
Short Hold Time Analysis (<72 hr)?	☐ Yes ☒ No ☐ N/A	6.
Rush Turn Around Time Requested?	☐ Yes ☒ No ☐ N/A	7.
Sufficient Volume?	☒ Yes ☐ No ☐ N/A	8.
Correct Containers Used?	☒ Yes ☐ No ☐ N/A	9.
-Pace Containers Used?	☒ Yes ☐ No ☐ N/A	
Containers Intact?	☒ Yes ☐ No ☐ N/A	10.
Media: air can		11.
Sample Labels Match COC?	☒ Yes ☐ No ☐ N/A	12.

Samples Received: received 2 gauges					
Canisters		Flow Controllers		Stand Alone G	
Sample Number	Can ID	Sample Number	Can ID	Sample Number	Can ID
TOXIN	2207				
TOXSTACK	1156				

CLIENT NOTIFICATION/RESOLUTION

Field Data Required? ☐ Yes ☐ No

Person Contacted: Date/Time:

Comments/Resolution:

Project Manager Review:

Date: 05/07/14

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)

June 18, 2014

Erin Holmes
XDD, LLC
22 Marin Way #3
Stratham, NH 03885

RE: Project: BIG MO
Pace Project No.: 60171332

Dear Erin Holmes:

Enclosed are the analytical results for sample(s) received by the laboratory on June 12, 2014. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Jamie Church
jamie.church@pacelabs.com
Project Manager

Enclosures

cc: William Johnson, Solutia, Inc.
Dennis Keane, XDD, LLC.



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: BIG MO
Pace Project No.: 60171332

Minnesota Certification IDs

1700 Elm Street SE Suite 200, Minneapolis, MN 55414
A2LA Certification #: 2926.01
Alabama Certification #40770
Alabama Certification #40770
Alaska Certification #: UST-078
Alaska Certification #MN00064
Arizona Certification #: AZ-0014
Arkansas Certification #: 88-0680
California Certification #: 01155CA
Colorado Certification #Pace
Connecticut Certification #: PH-0256
EPA Region 8 Certification #: 8TMS-L
Florida/NELAP Certification #: E87605
Guam Certification #: Pace
Georgia Certification #: 959
Idaho Certification #: MN00064
Hawaii Certification #MN00064
Illinois Certification #: 200011
Indiana Certification#C-MN-01
Iowa Certification #: 368
Kansas Certification #: E-10167
Kentucky Dept of Envi. Protection - DW #90062
Kentucky Dept of Envi. Protection - WW #:90062
Louisiana DEQ Certification #: 3086
Louisiana DHH #: LA140001
Maine Certification #: 2013011
Maryland Certification #: 322
Michigan DEPH Certification #: 9909
Minnesota Certification #: 027-053-137

Mississippi Certification #: Pace
Montana Certification #: MT0092
Nebraska Certification #: Pace
New Jersey Certification #: MN-002
New Jersey Certification #: MN-002
New York Certification #: 11647
North Carolina Certification #: 530
North Carolina State Public Health #: 27700
North Dakota Certification #: R-036
Ohio EPA #: 4150
Ohio VAP Certification #: CL101
Oklahoma Certification #: 9507
Oregon Certification #: MN200001
Oregon Certification #: MN300001
Pennsylvania Certification #: 68-00563
Puerto Rico Certification
Saipan (CNMI) #:MP0003
South Carolina #:74003001
Texas Certification #: T104704192
Tennessee Certification #: 02818
Utah Certification #: MN000642013-4
Virginia DGS Certification #: 251
Virginia/VELAP Certification #: Pace
Washington Certification #: C486
Wisconsin Certification #: 999407970
West Virginia Certification #: 382
West Virginia TO-15 Approval
West Virginia DHHR #:9952C

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SAMPLE SUMMARY

Project: BIG MO
Pace Project No.: 60171332

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60171332001	WGKBIGMO2000scfmTOXIN-06102014	Air	06/10/14 14:45	06/12/14 13:00
60171332002	WGKBIGMO2000scfmTOXST-06102014	Air	06/10/14 14:30	06/12/14 13:00

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: BIG MO
Pace Project No.: 60171332

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60171332001	WGKBIGMO2000scfmTOXIN-06102014	TO-15	JAM	7	PASI-M
60171332002	WGKBIGMO2000scfmTOXST-06102014	TO-15	JAM	7	PASI-M

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: BIG MO
Pace Project No.: 60171332

Method: TO-15
Description: TO15 MSV AIR
Client: XDD_SOLUTION, LLC
Date: June 18, 2014

General Information:

2 samples were analyzed for TO-15. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

Surrogates:

All surrogates were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

Sample Comments:

- A3: This result is reported from a serial dilution.
- WGKBIGMO2000scfmTOXIN-06102014 (Lab ID: 60171332001)

Analyte Comments:

QC Batch: AIR/20570

- E: Analyte concentration exceeded the calibration range. The reported result is estimated.
- WGKBIGMO2000scfmTOXIN-06102014 (Lab ID: 60171332001)
 - Benzene

This data package has been reviewed for quality and completeness and is approved for release.

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BIG MO
Pace Project No.: 60171332

Sample: WGKBIGMO2000scfmTOXI **Lab ID:** 60171332001 Collected: 06/10/14 14:45 Received: 06/12/14 13:00 Matrix: Air
N-06102014

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR									
Analytical Method: TO-15									
Benzene	474000	ppbv	891	322	8908.8		06/18/14 08:34	71-43-2	E
Chlorobenzene	ND	ppbv	1780	202	8908.8		06/18/14 08:34	108-90-7	
1,4-Dichlorobenzene	ND	ppbv	1780	289	8908.8		06/18/14 08:34	106-46-7	
Ethylbenzene	ND	ppbv	1780	361	8908.8		06/18/14 08:34	100-41-4	
Toluene	ND	ppbv	1780	313	8908.8		06/18/14 08:34	108-88-3	
m&p-Xylene	ND	ppbv	3560	283	8908.8		06/18/14 08:34	179601-23-1	
o-Xylene	ND	ppbv	1780	891	8908.8		06/18/14 08:34	95-47-6	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BIG MO
Pace Project No.: 60171332

Sample: WGKBIGMO2000scfmTOX **Lab ID:** 60171332002 Collected: 06/10/14 14:30 Received: 06/12/14 13:00 Matrix: Air
ST-06102014

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR									
Analytical Method: TO-15									
Benzene	262	ppbv	0.87	0.31	8.7		06/18/14 11:57	71-43-2	
Chlorobenzene	ND	ppbv	1.7	0.20	8.7		06/18/14 11:57	108-90-7	
1,4-Dichlorobenzene	ND	ppbv	1.7	0.28	8.7		06/18/14 11:57	106-46-7	
Ethylbenzene	ND	ppbv	1.7	0.35	8.7		06/18/14 11:57	100-41-4	
Toluene	0.64J	ppbv	1.7	0.31	8.7		06/18/14 11:57	108-88-3	
m&p-Xylene	ND	ppbv	3.5	0.28	8.7		06/18/14 11:57	179601-23-1	
o-Xylene	ND	ppbv	1.7	0.87	8.7		06/18/14 11:57	95-47-6	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BIG MO
Pace Project No.: 60171332

QC Batch:	AIR/20570	Analysis Method:	TO-15
QC Batch Method:	TO-15	Analysis Description:	TO15 MSV AIR
Associated Lab Samples: 60171332001, 60171332002			

METHOD BLANK:	1710442	Matrix:	Air
Associated Lab Samples: 60171332001, 60171332002			

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,4-Dichlorobenzene	ppbv	ND	0.20	06/17/14 20:02	
Benzene	ppbv	ND	0.10	06/17/14 20:02	
Chlorobenzene	ppbv	ND	0.20	06/17/14 20:02	
Ethylbenzene	ppbv	ND	0.20	06/17/14 20:02	
m&p-Xylene	ppbv	ND	0.40	06/17/14 20:02	
o-Xylene	ppbv	ND	0.20	06/17/14 20:02	
Toluene	ppbv	ND	0.20	06/17/14 20:02	

LABORATORY CONTROL SAMPLE: 1710443

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,4-Dichlorobenzene	ppbv	10	11.3	113	65-142	
Benzene	ppbv	10	11.5	115	69-134	
Chlorobenzene	ppbv	10	11.2	112	72-137	
Ethylbenzene	ppbv	10	10.2	102	73-139	
m&p-Xylene	ppbv	10	10.3	103	73-139	
o-Xylene	ppbv	10	9.6	96	71-138	
Toluene	ppbv	10	11.2	112	67-133	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: BIG MO
Pace Project No.: 60171332

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

LOD - Limit of Detection.

LOQ - Limit of Quantitation.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

LABORATORIES

PASI-M Pace Analytical Services - Minneapolis

SAMPLE QUALIFIERS

Sample: 60171332001

[1] This result is reported from a serial dilution.

ANALYTE QUALIFIERS

E Analyte concentration exceeded the calibration range. The reported result is estimated.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: BIG MO
Pace Project No.: 60171332

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60171332001	WGKBIGMO2000scfmTOXIN-06102014	TO-15	AIR/20570		
60171332002	WGKBIGMO2000scfmTOXST-06102014	TO-15	AIR/20570		

REPORT OF LABORATORY ANALYSIS

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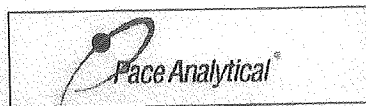
CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Section A Required Client Information: Company: XDD, LLC Address: 22 Marin Way #3 Stratham, NH 03885 Email To: stanisewski@xdd-llc.com Phone: 603-418-3132 Fax: 603-778-2121 Requested Due Date/TAT: 3-day TAT upon receipt in MN		Section B Required Project Information: Report To: stanisewski@xdd-llc.com Copy To: wjoihn@eastman.com Address: keane@xdd-llc.com Purchase Order No.: 42289803 Project Name: BIG MO Project Number: 11002		Section C Invoice Information: Attention: Solutia, Inc. - Bill Johnson Company Name: 575 Maryville Centre Drive Address: St. Louis, MO 63141 Pace Quote Reference: 6658 Pace Project Manager: Jamie Church Site Location: IL STATE:	
Section D Required Client Information Valid Matrix Codes MATRIX CODE DRINKING WATER DW WASTE WATER WW WASTE WATER P PRODUCT SOLID OIL WIFE AIR OTHER TISSUE TS SAMPLE ID (A-Z, 0-9 / . -) Sample IDs MUST BE UNIQUE		Requested Analysis Filtered (Y/N)			

ITEM #	Valid Matrix Codes	MATRIX CODE	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED		SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives						Analysis Test	Y/N	N	Residual Chlorine (Y/N)	Pace Project No. / Lab I.D.
				DATE	TIME			DATE	TIME	Unpreserved	H ₂ SO ₄	HNO ₃	HCl					
1	WGKBIGMO2000scfmTOXIN-06102014	AR	G	06/10/14	1445		1	1									-28" HG / PACE 2194	
2	WGKBIGMO2000scfmTOXSTACK-06102014	AR	G	06/10/14	1430		1	1									-29" HG / PACE 2234	
3																		
4																		
5																		
6																		
7																		
8																		
9																		
10																		
11																		
12																		
ADDITIONAL COMMENTS Please email report to Erin Stanisewski and Dennis Kean of XDD and Bill Johnson of Solutia. * Job specific list: 1,4-dichlorobenzene, benzene, chlorobenzene, ethylbenzene, m-xylene, p-xylene, o-xylene, toluene		RELINQUISHED BY / AFFILIATION Reginald Gardner		DATE 6/10/14		TIME 1630		ACCEPTED BY / AFFILIATION <i>Reginald Gardner</i>		DATE 6/12/14		TIME 1300		SAMPLE CONDITIONS Received on Ice (Y/N) Custody Sealed Cooler (Y/N) Samples Intact (Y/N)				

SAMPLER NAME AND SIGNATURE PRINT Name of SAMPLER: Reginald Gardner SIGNATURE of SAMPLER: <i>Reginald Gardner</i>		DATE Signed (MM/DD/YY): 06/10/14	
---	--	----------------------------------	--



Document Name:
Air Sample Condition Upon Receipt
Document No.:
F-MN-A-106-rev.09

Document Revised: 26Dec2013
Page 1 of 1
Issuing Authority:
Pace Minnesota Quality Office

Air Sample Condition
Upon Receipt

Client Name:

XDD / Pace KS

Project #:

WO# : 10270731



Courier:

☒ Fed Ex

☐ UPS

☐ USPS

☐ Client

☐ Commercial

☐ Pace

☐ Other:

Tracking Number:

7800 0595 0188

Custody Seal on Cooler/Box Present?

☐ Yes

☒ No

Seals Intact?

☐ Yes

☒ No

Optional: Proj. Due Date: Proj. Name:

Packing Material:

☒ Bubble Wrap

☐ Bubble Bags

☐ Foam

☐ None

☐ Other:

Temp Blank rec:

☐ Yes ☒ No

Temp. (TO17 and TO13 samples only) (°C):

Corrected Temp (°C):

Thermom. Used:

☐ B88A912167504

☐ B88A9132521491

☐ 72337080

☐ 80512447

Date & Initials of Person Examining Contents:

26/12/14

Temp should be above freezing to 6°C

Correction Factor:

Type of Ice Received

☐ Blue

☐ Wet

☒ None

Comments:

Chain of Custody Present?	☒ Yes	☐ No	☐ N/A	1.
Chain of Custody Filled Out?	☒ Yes	☐ No	☐ N/A	2.
Chain of Custody Relinquished?	☒ Yes	☐ No	☐ N/A	3.
Sampler Name and/or Signature on COC?	☒ Yes	☐ No	☐ N/A	4.
Samples Arrived within Hold Time?	☒ Yes	☐ No	☐ N/A	5.
Short Hold Time Analysis (<72 hr)?	☐ Yes	☒ No	☐ N/A	6.
Rush Turn Around Time Requested?	☐ Yes	☒ No	☐ N/A	7.
Sufficient Volume?	☒ Yes	☐ No	☐ N/A	8.
Correct Containers Used?	☒ Yes	☐ No	☐ N/A	9.
-Pace Containers Used?	☒ Yes	☐ No	☐ N/A	
Containers Intact?	☒ Yes	☐ No	☐ N/A	10.
Media:	air can			11.
Sample Labels Match COC?	☒ Yes	☐ No	☐ N/A	12.

Samples Received:

rec. 4 gauges P6, Pace 228, 900, unmarked

Canisters		Flow Controllers		Stand Alone G	
Sample Number	Can ID	Sample Number	Can ID	Sample Number	Can ID
TOXIN	2194				
TOX STOCK	2234				
UNUSED	1014				
UNUSED	2454				

CLIENT NOTIFICATION/RESOLUTION

Field Data Required? ☐ Yes ☐ No

Person Contacted:

Date/Time:

Comments/Resolution:

Project Manager Review:

Date:

06/13/14

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)

July 10, 2014

Erin Holmes
XDD, LLC
22 Marin Way #3
Stratham, NH 03885

RE: Project: BIG MO
Pace Project No.: 60172980

Dear Erin Holmes:

Enclosed are the analytical results for sample(s) received by the laboratory on July 03, 2014. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Jamie Church
jamie.church@pacelabs.com
Project Manager

Enclosures

cc: William Johnson, Solutia, Inc.
Dennis Keane, XDD, LLC.



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: BIG MO
Pace Project No.: 60172980

Minnesota Certification IDs

1700 Elm Street SE Suite 200, Minneapolis, MN 55414
A2LA Certification #: 2926.01
Alabama Certification #40770
Alabama Certification #40770
Alaska Certification #: UST-078
Alaska Certification #MN00064
Arizona Certification #: AZ-0014
Arkansas Certification #: 88-0680
California Certification #: 01155CA
Colorado Certification #Pace
Connecticut Certification #: PH-0256
EPA Region 8 Certification #: 8TMS-L
Florida/NELAP Certification #: E87605
Guam Certification #: Pace
Georgia Certification #: 959
Idaho Certification #: MN00064
Hawaii Certification #MN00064
Illinois Certification #: 200011
Indiana Certification#C-MN-01
Iowa Certification #: 368
Kansas Certification #: E-10167
Kentucky Dept of Envi. Protection - DW #90062
Kentucky Dept of Envi. Protection - WW #:90062
Louisiana DEQ Certification #: 3086
Louisiana DHH #: LA140001
Maine Certification #: 2013011
Maryland Certification #: 322
Michigan DEPH Certification #: 9909
Minnesota Certification #: 027-053-137

Mississippi Certification #: Pace
Montana Certification #: MT0092
Nebraska Certification #: Pace
New Jersey Certification #: MN-002
New Jersey Certification #: MN-002
New York Certification #: 11647
North Carolina Certification #: 530
North Carolina State Public Health #: 27700
North Dakota Certification #: R-036
Ohio EPA #: 4150
Ohio VAP Certification #: CL101
Oklahoma Certification #: 9507
Oregon Certification #: MN200001
Oregon Certification #: MN300001
Pennsylvania Certification #: 68-00563
Puerto Rico Certification
Saipan (CNMI) #:MP0003
South Carolina #:74003001
Texas Certification #: T104704192
Tennessee Certification #: 02818
Utah Certification #: MN000642013-4
Virginia DGS Certification #: 251
Virginia/VELAP Certification #: Pace
Washington Certification #: C486
Wisconsin Certification #: 999407970
West Virginia Certification #: 382
West Virginia TO-15 Approval
West Virginia DHHR #:9952C

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: BIG MO
Pace Project No.: 60172980

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60172980001	WGKBIGMO2000scfmTOXIN-07022014	Air	07/02/14 13:00	07/03/14 10:10
60172980002	WGKBIGMO2000scfmTOXST-07022014	Air	07/02/14 13:10	07/03/14 10:10

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: BIG MO
Pace Project No.: 60172980

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60172980001	WGKBIGMO2000scfmTOXIN-07022014	TO-15	JAM, MJL	7	PASI-M
60172980002	WGKBIGMO2000scfmTOXST-07022014	TO-15	MJL	7	PASI-M

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: BIG MO
Pace Project No.: 60172980

Method: TO-15
Description: TO15 MSV AIR
Client: XDD_SOLUTION, LLC
Date: July 10, 2014

General Information:

2 samples were analyzed for TO-15. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

Surrogates:

All surrogates were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

Analyte Comments:

QC Batch: AIR/20738

A3: This result is reported from a serial dilution.

- WGKBIGMO2000scfmTOXIN-07022014 (Lab ID: 60172980001)
- Benzene

This data package has been reviewed for quality and completeness and is approved for release.

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BIG MO
Pace Project No.: 60172980

Sample: WGKBIGMO2000scfmTOXI **Lab ID:** 60172980001 Collected: 07/02/14 13:00 Received: 07/03/14 10:10 Matrix: Air
N-07022014

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR									
Analytical Method: TO-15									
Benzene	109000	ppbv	891	322	8908.8		07/10/14 12:02	71-43-2	A3
Chlorobenzene	10.7	ppbv	7.0	0.79	34.8		07/09/14 22:22	108-90-7	
1,4-Dichlorobenzene	3.8J	ppbv	7.0	1.1	34.8		07/09/14 22:22	106-46-7	
Ethylbenzene	ND	ppbv	7.0	1.4	34.8		07/09/14 22:22	100-41-4	
Toluene	ND	ppbv	7.0	1.2	34.8		07/09/14 22:22	108-88-3	
m&p-Xylene	5.4J	ppbv	13.9	1.1	34.8		07/09/14 22:22	179601-23-1	
o-Xylene	ND	ppbv	7.0	3.5	34.8		07/09/14 22:22	95-47-6	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BIG MO
Pace Project No.: 60172980

Sample: WGKBIGMO2000scfmTOX **Lab ID:** 60172980002 Collected: 07/02/14 13:10 Received: 07/03/14 10:10 Matrix: Air
ST-07022014

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR									
Analytical Method: TO-15									
Benzene	430	ppbv	3.5	1.3	34.8		07/09/14 22:49	71-43-2	
Chlorobenzene	ND	ppbv	7.0	0.79	34.8		07/09/14 22:49	108-90-7	
1,4-Dichlorobenzene	ND	ppbv	7.0	1.1	34.8		07/09/14 22:49	106-46-7	
Ethylbenzene	ND	ppbv	7.0	1.4	34.8		07/09/14 22:49	100-41-4	
Toluene	ND	ppbv	7.0	1.2	34.8		07/09/14 22:49	108-88-3	
m&p-Xylene	ND	ppbv	13.9	1.1	34.8		07/09/14 22:49	179601-23-1	
o-Xylene	ND	ppbv	7.0	3.5	34.8		07/09/14 22:49	95-47-6	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BIG MO
Pace Project No.: 60172980

QC Batch:	AIR/20738	Analysis Method:	TO-15
QC Batch Method:	TO-15	Analysis Description:	TO15 MSV AIR
Associated Lab Samples: 60172980001, 60172980002			

METHOD BLANK:	1728971	Matrix:	Air
Associated Lab Samples: 60172980001, 60172980002			

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,4-Dichlorobenzene	ppbv	ND	0.20	07/09/14 16:37	
Benzene	ppbv	ND	0.10	07/09/14 16:37	
Chlorobenzene	ppbv	ND	0.20	07/09/14 16:37	
Ethylbenzene	ppbv	ND	0.20	07/09/14 16:37	
m&p-Xylene	ppbv	ND	0.40	07/09/14 16:37	
o-Xylene	ppbv	ND	0.20	07/09/14 16:37	
Toluene	ppbv	ND	0.20	07/09/14 16:37	

LABORATORY CONTROL SAMPLE: 1728972

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,4-Dichlorobenzene	ppbv	10	8.2	82	65-142	
Benzene	ppbv	10	10.5	105	69-134	
Chlorobenzene	ppbv	10	10.9	109	72-137	
Ethylbenzene	ppbv	10	10.2	102	73-139	
m&p-Xylene	ppbv	10	9.8	98	73-139	
o-Xylene	ppbv	10	9.1	91	71-138	
Toluene	ppbv	10	11.5	115	67-133	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: BIG MO
Pace Project No.: 60172980

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

LOD - Limit of Detection.

LOQ - Limit of Quantitation.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

LABORATORIES

PASI-M Pace Analytical Services - Minneapolis

ANALYTE QUALIFIERS

A3 This result is reported from a serial dilution.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: BIG MO
Pace Project No.: 60172980

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60172980001	WGKBIGMO2000scfmTOXIN-07022014	TO-15	AIR/20738		
60172980002	WGKBIGMO2000scfmTOXST-07022014	TO-15	AIR/20738		

REPORT OF LABORATORY ANALYSIS

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CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Section A
Required Client Information:
Company: XDD, LLC

Section B
Required Project Information:
Report To: stanisewski@xdd-llc.com

Section C
Invoice Information:
Attention: Solutia, Inc. - Bill Johnson

Address: 22 Main Way #3
Stratham, NH 03885

Copy To: wjohn@eastman.com
keane@xdd-llc.com

Email To: stanisewski@xdd-llc.com

Phone: 603-418-3132 Fax: 603-778-2121
Requested Due Date/TAT: 3-day TAT upon receipt in MN

Company Name: 575 Maryville Centre Drive
Address: St. Louis, MO 63141

Pace Quote Reference: 6658

Pace Project Manager: Jamie Church

Pace Profile #: 11002

REGULATORY AGENCY
NPDES GROUND WATER DRINKING WATER
UST RCRA OTHER IEPA

Site Location
STATE: IL

Section D
Required Client Information

SAMPLE ID
(A-Z, 0-9 / -)

Sample IDs MUST BE UNIQUE

Valid Matrix Codes
MATRIX CODE
DW DRINKING WATER
WV WASTE WATER
P PRODUCT
SL SOIL/SOLID
OIL
WI WIPE
AIR
OTHER
TS TISSUE

MATRIX CODE (see valid codes to left)

SAMPLE TYPE (G=GRAB C=COMP)

COLLECTED
DATE TIME DATE TIME

SAMPLE TEMP AT COLLECTION

Requested Analysis Filtered (Y/N)

Analysis Test
Unpreserved
H₂SO₄
HNO₃
HCl
NaOH
Na₂O₂
Methanol
Other

OF CONTAINERS
1 1
1 1

W/N
N

TO-15*

ITEM #

1 WGKBIGMO2000scfm TOXIN-07022014

2 WGKBIGMO2000scfm TOXSTACK-07022014

3

4

5

6

7

8

9

10

11

12

ADDITIONAL COMMENTS
Please email report to Erin Stanisewski and Dennis Kean of XDD and Bill Johnson of Solutia.
* job specific list: 1,4-dichlorobenzene, benzene, chlorobenzene, ethylbenzene, m-xylene, p-xylene, o-xylene, toluene

Please report as a Level II data package and refer to project specific analysis instructions.

RELINQUISHED BY / AFFILIATION
Reginald Gardner

DATE
7/2/14

TIME
1530

ACCEPTED BY / AFFILIATION
Reginald Gardner

DATE
7/3/14

TIME
1010

SAMPLE CONDITIONS
Nug

Temp in °C

Received on Ice (Y/N)

Custody Sealed Cooler (Y/N)

Samples Intact (Y/N)

Page 11 of 12

	Document Name: Air Sample Condition Upon Receipt	Document Revised: 26Dec2013 Page 1 of 1
	Document No.: F-MN-A-106-rev.09	Issuing Authority: Pace Minnesota Quality Office

Air Sample Condition
Upon Receipt

Client Name:

Project #:

Pace KS /XDD

WO#: 10272930



Courier: ☒ Fed Ex ☐ UPS ☐ USPS ☐ Client
☐ Commercial ☐ Pace ☐ Other: _____

Tracking Number: 8032 7997 9689

Custody Seal on Cooler/Box Present? ☐ Yes ☒ No Seals Intact? ☐ Yes ☒ No

Optional: Proj. Due Date: Proj. Name:

Packing Material: ☒ Bubble Wrap ☐ Bubble Bags ☐ Foam ☐ None ☐ Other: _____ Temp Blank rec: ☐ Yes ☒ No

Temp. (TO17 and TO13 samples only) (°C): _____ Corrected Temp (°C): _____ Thermom. Used: ☐ B88A912167504 ☐ 72337080

☐ B88A9132521491 ☐ 80512447

Temp should be above freezing to 6°C Correction Factor: _____

Date & Initials of Person Examining Contents: 7/1/14

Type of ice Received ☐ Blue ☐ Wet ☒ None

Comments:

Chain of Custody Present?	☒ Yes ☐ No ☐ N/A	1.
Chain of Custody Filled Out?	☒ Yes ☐ No ☐ N/A	2.
Chain of Custody Relinquished?	☒ Yes ☐ No ☐ N/A	3.
Sampler Name and/or Signature on COC?	☒ Yes ☐ No ☐ N/A	4.
Samples Arrived within Hold Time?	☒ Yes ☐ No ☐ N/A	5.
Short Hold Time Analysis (<72 hr)?	☐ Yes ☒ No ☐ N/A	6.
Rush Turn Around Time Requested?	☒ Yes ☐ No ☐ N/A	7. 3 day
Sufficient Volume?	☒ Yes ☐ No ☐ N/A	8.
Correct Containers Used?	☒ Yes ☐ No ☐ N/A	9.
-Pace Containers Used?	☒ Yes ☐ No ☐ N/A	
Containers Intact?	☒ Yes ☐ No ☐ N/A	10.
Media: Air can		11.
Sample Labels Match COC?	☐ Yes ☐ No ☐ N/A	12.

Samples Received: REC. 3 gauges Pace 243, P93, P11					
Canisters		Flow Controllers		Stand Alone G	
Sample Number	Can ID	Sample Number	Can ID	Sample Number	Can ID
TOXIN	2283				
TOX STACK	2504				

CLIENT NOTIFICATION/RESOLUTION

Field Data Required? ☐ Yes ☐ No

Person Contacted: _____ Date/Time: _____

Comments/Resolution: _____

Project Manager Review:

Date:

7/1/14

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)

2014 Wellhead Soil Vapor Laboratory Report

April 09, 2014

Erin Stanisewski
XDD, LLC
22 Marin Way #3
Stratham, NH 03885

RE: Project: BIG MO
Pace Project No.: 60165890

Dear Erin Stanisewski:

Enclosed are the analytical results for sample(s) received by the laboratory on March 28, 2014. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Jamie Church
jamie.church@pacelabs.com
Project Manager

Enclosures

cc: William Johnson, Solutia, Inc.
Dennis Keane, XDD, LLC.

*Sample ID
edit b
ET on
4/15/15
- removed "NTF"
from all
IDS.
sample*



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: BIG MO
Pace Project No.: 60165890

Minnesota Certification IDs

1700 Elm Street SE Suite 200, Minneapolis, MN 55414

A2LA Certification #: 2928.01

Alabama Certification #40770

Alabama Certification #40770

Alaska Certification #: UST-078

Alaska Certification #MN00064

Arizona Certification #: AZ-0014

Arkansas Certification #: 88-0680

California Certification #: 01155CA

Colorado Certification #Pace

Connecticut Certification #: PH-0256

EPA Region 8 Certification #: 8TMS-L

Florida/NELAP Certification #: E87605

Guam Certification #: Pace

Georgia Certification #: 959

Idaho Certification #: MN00064

Hawaii Certification #MN00064

Illinois Certification #: 200011

Indiana Certification#C-MN-01

Iowa Certification #: 368

Kansas Certification #: E-10167

Kentucky Dept of Envi. Protection - DW #90062

Kentucky Dept of Envi. Protection - WW #.90062

Louisiana DEQ Certification #: 3086

Louisiana DHH #: LA140001

Maine Certification #: 2013011

Maryland Certification #: 322

Michigan DEPH Certification #: 9909

Minnesota Certification #: 027-053-137

Mississippi Certification #: Pace

Montana Certification #: MT0092

Nebraska Certification #: Pace

New York Certification #: 11647

North Carolina Certification #: 530

North Carolina State Public Health #: 27700

North Dakota Certification #: R-036

Ohio EPA #: 4150

Ohio VAP Certification #: CL101

Oklahoma Certification #: 9507

Oregon Certification #: MN200001

Oregon Certification #: MN300001

Pennsylvania Certification #: 68-00563

Puerto Rico Certification

Salpan (CNMI) #: MP0003

South Carolina #: 74003001

Texas Certification #: T104704192

Tennessee Certification #: 02818

Utah Certification #: MN000642013-4

Virginia DGS Certification #: 251

Virginia/VELAP Certification #: Pace

Washington Certification #: C486

Wisconsin Certification #: 999407970

West Virginia Certification #: 382

West Virginia TO-15 Approval

West Virginia DHHR #: 9952C

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SAMPLE SUMMARY

Project: BIG MO
Pace Project No.: 60165890

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60165890001	WGK-NTF-032714-BIGMO-EB-01-A	Air	03/27/14 11:45	03/28/14 09:30
60165890002	WGK-NTF-032714-BIGMO-SVE-81D-A	Air	03/27/14 11:50	03/28/14 09:30
60165890003	WGK-NTF-032714-BIGMO-SVE-82D-A	Air	03/27/14 11:55	03/28/14 09:30
60165890004	WGK-NTF-032714-BIGMO-VP-15D-A	Air	03/27/14 12:00	03/28/14 09:30
60165890005	WGK-NTF-032714-BIGMO-FD-01-A	Air	03/27/14 12:05	03/28/14 09:30
60165890006	WGK-NTF-032714-BIGMO-SVE-69D-A	Air	03/27/14 12:10	03/28/14 09:30
60165890007	WGK-NTF-032714-BIGMO-SVE-58D-1	Air	03/27/14 12:15	03/28/14 09:30
60165890008	WGK-NTF-032714-BIGMO-SVE-53D-A	Air	03/27/14 12:20	03/28/14 09:30
60165890009	WGK-NTF-032714-BIGMO-SVE-55D-A	Air	03/27/14 12:25	03/28/14 09:30
60165890010	WGK-NTF-032714-BIGMO-SVE-43D-A	Air	03/27/14 12:30	03/28/14 09:30
60165890011	WGK-NTF-032714-BIGMO-VP-05D-A	Air	03/27/14 12:40	03/28/14 09:30
60165890012	WGK-NTF-032714-BIGMO-SVE-26D-A	Air	03/27/14 12:45	03/28/14 09:30
60165890013	WGK-NTF-032714-BIGMO-FD-02-A	Air	03/27/14 12:50	03/28/14 09:30
60165890014	WGK-NTF-032714-BIGMO-SVE-21D-A	Air	03/27/14 12:55	03/28/14 09:30
60165890015	WGK-NTF-032714-BIGMO-SVE-10D-A	Air	03/27/14 13:00	03/28/14 09:30
60165890016	WGK-NTF-032714-BIGMO-VP-01D-A	Air	03/27/14 13:05	03/28/14 09:30
60165890017	WGK-NTF-032714-BIGMO-EB-02D-A	Air	03/27/14 13:10	03/28/14 09:30

eh
4/15/15

IDs = WGK - Date - Bigmo - VP - location ID - A

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: BIG MO
Pace Project No.: 60165890

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60165890001	WGK-NTF-032714-BIGMO-EB-01-A	TO-15	DL1	2	PASI-M
60165890002	WGK-NTF-032714-BIGMO-SVE-81D-A	TO-15	DL1	2	PASI-M
60165890003	WGK-NTF-032714-BIGMO-SVE-82D-A	TO-15	DL1	2	PASI-M
60165890004	WGK-NTF-032714-BIGMO-VP-15D-A	TO-15	DL1	2	PASI-M
60165890005	WGK-NTF-032714-BIGMO-FD-01-A	TO-15	DL1	2	PASI-M
60165890006	WGK-NTF-032714-BIGMO-SVE-69D-A	TO-15	DL1	2	PASI-M
60165890007	WGK-NTF-032714-BIGMO-SVE-58D-1	TO-15	DL1	2	PASI-M
60165890008	WGK-NTF-032714-BIGMO-SVE-53D-A	TO-15	DL1	2	PASI-M
60165890009	WGK-NTF-032714-BIGMO-SVE-55D-A	TO-15	DL1	2	PASI-M
60165890010	WGK-NTF-032714-BIGMO-SVE-43D-A	TO-15	DL1	2	PASI-M
60165890011	WGK-NTF-032714-BIGMO-VP-05D-A	TO-15	DL1	2	PASI-M
60165890012	WGK-NTF-032714-BIGMO-SVE-26D-A	TO-15	DL1	2	PASI-M
60165890013	WGK-NTF-032714-BIGMO-FD-02-A	TO-15	DL1	2	PASI-M
60165890014	WGK-NTF-032714-BIGMO-SVE-21D-A	TO-15	DL1	2	PASI-M
60165890015	WGK-NTF-032714-BIGMO-SVE-10D-A	TO-15	DL1	2	PASI-M
60165890016	WGK-NTF-032714-BIGMO-VP-01D-A	TO-15	DL1	2	PASI-M
60165890017	WGK-NTF-032714-BIGMO-EB-02D-A	TO-15	DL1	2	PASI-M

see note on
page 3/32

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: BIG MO
Pace Project No.: 60165890

Method: TO-15
Description: TO15 MSV AIR
Client: XDD_SOLUTION, LLC
Date: April 09, 2014

General Information:

17 samples were analyzed for TO-15. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (Including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

QC Batch: AIR/19816

IS: The internal standard recovery associated with this result exceeds the lower control limit. The reported result should be considered an estimated value.

- WGK-NTP-032714-BIGMO-EB-01-A (Lab ID: 60165890001)
- Benzene *ch*
- Chlorobenzene

Surrogates:

All surrogates were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

QC Batch: AIR/19866

B: Analyte was detected in the associated method blank.

- BLANK for HBN 291456 [AIR/1986 (Lab ID: 1650887)]
- Chlorobenzene

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: BIG MO
Pace Project No.: 60165890

Method: TO-15
Description: TO15 MSV AIR
Client: XDD_SOLUTION, LLC
Date: April 09, 2014

Analyte Comments:

QC Batch: AIR/19866

1e: Reanalysis conducted in excess of 48-hour method holding time for tedlar bags. Results confirm original analysis performed in hold time.

- DUP (Lab ID: 1650921)
 - Benzene
- WGK-MTF-032714-BIGMO-FD-01-A (Lab ID: 60165890005)
 - Benzene
- WGK-MTF-032714-BIGMO-FD-02-A (Lab ID: 60165890013)
 - Benzene
- WGK-MTF-032714-BIGMO-SVE-10D-A (Lab ID: 60165890015)
 - Benzene
- WGK-MTF-032714-BIGMO-SVE-21D-A (Lab ID: 60165890014)
 - Benzene
- WGK-MTF-032714-BIGMO-SVE-26D-A (Lab ID: 60165890012)
 - Benzene
- WGK-MTF-032714-BIGMO-SVE-43D-A (Lab ID: 60165890010)
 - Benzene
- WGK-MTF-032714-BIGMO-SVE-53D-A (Lab ID: 60165890008)
 - Benzene
- WGK-MTF-032714-BIGMO-SVE-55D-A (Lab ID: 60165890009)
 - Benzene
- WGK-MTF-032714-BIGMO-SVE-58D-1 (Lab ID: 60165890007)
 - Benzene
- WGK-MTF-032714-BIGMO-SVE-69D-A (Lab ID: 60165890006)
 - Benzene
- WGK-MTF-032714-BIGMO-SVE-81D-A (Lab ID: 60165890002)
 - Benzene
- WGK-MTF-032714-BIGMO-SVE-82D-A (Lab ID: 60165890003)
 - Benzene
- WGK-MTF-032714-BIGMO-VP-01D-A (Lab ID: 60165890016)
 - Benzene
- WGK-MTF-032714-BIGMO-VP-05D-A (Lab ID: 60165890011)
 - Benzene
- WGK-MTF-032714-BIGMO-VP-15D-A (Lab ID: 60165890004)
 - Benzene

A3: This result is reported from a serial dilution.

- DUP (Lab ID: 1650921)
 - Benzene
- WGK-MTF-032714-BIGMO-FD-01-A (Lab ID: 60165890005)
 - Benzene
- WGK-MTF-032714-BIGMO-FD-02-A (Lab ID: 60165890013)
 - Benzene
- WGK-MTF-032714-BIGMO-SVE-10D-A (Lab ID: 60165890015)
 - Benzene

REPORT OF LABORATORY ANALYSIS

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edB
ID
eh
9/15/15

PROJECT NARRATIVE

Project: BIG MO
Pace Project No.: 60165890

Method: TO-15
Description: TO15 MSV AIR
Client: XDD_SOLUTION, LLC
Date: April 09, 2014

Analyte Comments:

QC Batch: AIR/19866

A3: This result is reported from a serial dilution.

- WGK-NTF-032714-BIGMO-SVE-21D-A (Lab ID: 60165890014)
 - Benzene
- WGK-NTF-032714-BIGMO-SVE-26D-A (Lab ID: 60165890012)
 - Benzene
- WGK-NTF-032714-BIGMO-SVE-43D-A (Lab ID: 60165890010)
 - Benzene
- WGK-NTF-032714-BIGMO-SVE-53D-A (Lab ID: 60165890008)
 - Benzene
- WGK-NTF-032714-BIGMO-SVE-55D-A (Lab ID: 60165890009)
 - Benzene
- WGK-NTF-032714-BIGMO-SVE-58D-1 (Lab ID: 60165890007)
 - Benzene
- WGK-NTF-032714-BIGMO-SVE-69D-A (Lab ID: 60165890006)
 - Benzene
- WGK-NTF-032714-BIGMO-SVE-81D-A (Lab ID: 60165890002)
 - Benzene
- WGK-NTF-032714-BIGMO-SVE-82D-A (Lab ID: 60165890003)
 - Benzene
- WGK-NTF-032714-BIGMO-VP-01D-A (Lab ID: 60165890016)
 - Benzene
- WGK-NTF-032714-BIGMO-VP-05D-A (Lab ID: 60165890011)
 - Benzene
- WGK-NTF-032714-BIGMO-VP-15D-A (Lab ID: 60165890004)
 - Benzene

E: Analyte concentration exceeded the calibration range. The reported result is estimated.

- DUP (Lab ID: 1650921)
 - Benzene
 - Chlorobenzene
- WGK-NTF-032714-BIGMO-FD-01-A (Lab ID: 60165890005)
 - Benzene
 - Chlorobenzene
- WGK-NTF-032714-BIGMO-SVE-10D-A (Lab ID: 60165890015)
 - Benzene
- WGK-NTF-032714-BIGMO-SVE-21D-A (Lab ID: 60165890014)
 - Benzene
- WGK-NTF-032714-BIGMO-SVE-43D-A (Lab ID: 60165890010)
 - Benzene
- WGK-NTF-032714-BIGMO-SVE-58D-1 (Lab ID: 60165890007)
 - Benzene
 - Chlorobenzene
- WGK-NTF-032714-BIGMO-SVE-69D-A (Lab ID: 60165890006)
 - Benzene

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: BIG MO
Pace Project No.: 60165890

Method: TO-15
Description: TO15 MSV AIR
Client: XDD_SOLUTION, LLC
Date: April 09, 2014

Analyte Comments:

QC Batch: AIR/19866

E: Analyte concentration exceeded the calibration range. The reported result is estimated.

- WGK-NTF-032714-BIGMO-SVE-69D-A (Lab ID: 60165890006)
 - Chlorobenzene
- WGK-NTF-032714-BIGMO-SVE-81D-A (Lab ID: 60165890002)
 - Benzene
- WGK-NTF-032714-BIGMO-SVE-82D-A (Lab ID: 60165890003)
 - Benzene
 - Chlorobenzene
- WGK-NTF-032714-BIGMO-VP-01D-A (Lab ID: 60165890016)
 - Benzene
- WGK-NTF-032714-BIGMO-VP-15D-A (Lab ID: 60165890004)
 - Benzene

This data package has been reviewed for quality and completeness and is approved for release.

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BIG MO
Pace Project No.: 60165890

Sample: WGK-MTF-032714-BIGMO-EB-01-A *gh 4/15/15* Lab ID: 60165890001 Collected: 03/27/14 11:45 Received: 03/28/14 09:30 Matrix: Air

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR Analytical Method: TO-15									
Benzene	929	ppbv	25.0	1.4	50		03/29/14 14:29	71-43-2	IS
Chlorobenzene	562	ppbv	25.0	0.75	50		03/29/14 14:29	108-90-7	IS

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ANALYTICAL RESULTS

Project: BIG MO
Pace Project No.: 60165890

Sample: ~~WGK-NTF-032714-BIGMO-~~ Lab ID: 60165890002 Collected: 03/27/14 11:50 Received: 03/28/14 09:30 Matrix: Air
SVE-81D-A

ch 4/5/15

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR Analytical Method: TO-15									
Benzene	94100	ppbv	1250	70.0	2500		04/01/14 22:24	71-43-2	1e,A3,E
Chlorobenzene	16900	ppbv	1250	37.5	2500		04/01/14 22:24	108-90-7	B

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ANALYTICAL RESULTS

Project: BIG MO
Pace Project No.: 60165890

Sample: ~~WGK-MF-032714-BIGMO-~~ Lab ID: 60165890003 Collected: 03/27/14 11:55 Received: 03/28/14 09:30 Matrix: Air
SVE-82D-A *ch 4/15/15*

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR Analytical Method: TO-15									
Benzene	833000	ppbv	1250	70.0	2500		04/01/14 22:46	71-43-2	1e,A3,E
Chlorobenzene	107000	ppbv	1250	37.5	2500		04/01/14 22:46	108-90-7	E

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Date: 04/09/2014 04:57 PM

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ANALYTICAL RESULTS

Project: BIG MO
Pace Project No.: 60165890

Sample: WGK-VFF-032714-BIGMO-VP-15D-A Lab ID: 60165890004 Collected: 03/27/14 12:00 Received: 03/28/14 09:30 Matrix: Air

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR Analytical Method: TO-15									
Benzene	138000	ppbv	1250	70.0	2500		04/01/14 23:07	71-43-2	1e,A3,E
Chlorobenzene	53200	ppbv	1250	37.5	2500		04/01/14 23:07	108-90-7	

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ANALYTICAL RESULTS

Project: BIG MO
Pace Project No.: 60165890

Sample: ~~WGK-NF-032714-BIGMO-~~ Lab ID: 60165890005 Collected: 03/27/14 12:05 Received: 03/28/14 09:30 Matrix: Air
FD-01-A *ch 4/15/15*

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR Analytical Method: TO-15									
Benzene	148000	ppbv	250	14.0	500		04/01/14 18:06	71-43-2	1e,A3,E
Chlorobenzene	146000	ppbv	250	7.5	500		04/01/14 18:06	108-90-7	E

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ANALYTICAL RESULTS

Project: BIG MO
Pace Project No.: 60165890

Sample: WGK-MTF-032714-BIGMO- SVE-69D-A Lab ID: 60165890006 Collected: 03/27/14 12:10 Received: 03/28/14 09:30 Matrix: Air

en 4/15/15

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR Analytical Method: TO-15									
Benzene	41700	ppbv	250	14.0	500		04/01/14 18:49	71-43-2	1e,A3,E
Chlorobenzene	38600	ppbv	250	7.5	500		04/01/14 18:49	108-90-7	E

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ANALYTICAL RESULTS

Project: BIG MO
Pace Project No.: 60165890

Sample: ~~WGK-MTF-032714-BIGMO-~~ Lab ID: 60165890007 Collected: 03/27/14 12:15 Received: 03/28/14 09:30 Matrix: Air
SVE-58D-7A *chulir/15*

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR Analytical Method: TO-15									
Benzene	16400	ppbv	250	14.0	500		04/01/14 19:32	71-43-2	1e,A3,E
Chlorobenzene	32400	ppbv	250	7.5	500		04/01/14 19:32	108-90-7	E

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ANALYTICAL RESULTS

Project: BIG MO
Pace Project No.: 60165890

Sample: WGK-MTF-032714-BIGMO-
SVE-53D-A Lab ID: 60165890008 Collected: 03/27/14 12:20 Received: 03/28/14 09:30 Matrix: Air

en 4/15/15

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR Analytical Method: TO-15									
Benzene	24600	ppbv	1250	70.0	2500		04/01/14 23:29	71-43-2	1e,A3
Chlorobenzene	13800	ppbv	1250	37.5	2500		04/01/14 23:29	108-90-7	B

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Pace Analytical Services, Inc.
9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

ANALYTICAL RESULTS

Project: BIG MO
Pace Project No.: 60165890

Sample: WGK-MTF-032714-BIGMO- SVE-55D-A
eh 4/15/15 Lab ID: 60165890009 Collected: 03/27/14 12:25 Received: 03/28/14 09:30 Matrix: Air

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR Analytical Method: TO-15									
Benzene	1910	ppbv	250	14.0	500		04/01/14 19:53	71-43-2	1e,A3
Chlorobenzene	3320	ppbv	250	7.5	500		04/01/14 19:53	108-90-7	B

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Date: 04/09/2014 04:57 PM

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ANALYTICAL RESULTS

Project: BIG MO
Pace Project No.: 60165890

Sample: WGK-MTF-032714-BIGMO- SVE-43D-A
Lab ID: 60165890010 Collected: 03/27/14 12:30 Received: 03/28/14 09:30 Matrix: Air

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR Analytical Method: TO-15									
Benzene	18200	ppbv	250	14.0	500		04/01/14 20:15	71-43-2	1e,A3,E
Chlorobenzene	9420	ppbv	250	7.5	500		04/01/14 20:15	108-90-7	

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ANALYTICAL RESULTS

Project: BIG MO
Pace Project No.: 60165890

Sample: ~~WGK-MTF-032714-BIGMO-~~ Lab ID: 60165890011 Collected: 03/27/14 12:40 Received: 03/28/14 09:30 Matrix: Air
VP-05D-A *en 4/15/14*

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR Analytical Method: TO-15									
Benzene	9660	ppbv	250	14.0	500		04/01/14 20:36	71-43-2	1e,A3
Chlorobenzene	5960	ppbv	250	7.5	500		04/01/14 20:36	108-90-7	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BIG MO
Pace Project No.: 60165890

Sample: WGK-NTF-032714-BIGMO-
SVE-26D-A Lab ID: 60165890012 Collected: 03/27/14 12:45 Received: 03/28/14 09:30 Matrix: Air

ch 4/15/15

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR Analytical Method: TO-15									
Benzene	7640	ppbv	250	14.0	500		04/01/14 20:58	71-43-2	1e,A3
Chlorobenzene	11500	ppbv	250	7.5	500		04/01/14 20:58	108-90-7	

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ANALYTICAL RESULTS

Project: BIG MO
Pace Project No.: 60165890

Sample: ~~WGK-MTF-032714-BIGMO-~~ Lab ID: 60165890013 Collected: 03/27/14 12:50 Received: 03/28/14 09:30 Matrix: Air
FD-02-A *ehy/15/15*

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR Analytical Method: TO-15									
Benzene	1720	ppbv	250	14.0	500		04/01/14 21:20	71-43-2	1e,A3
Chlorobenzene	2890	ppbv	250	7.5	500		04/01/14 21:20	108-90-7	B

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ANALYTICAL RESULTS

Project: BIG MO
Pace Project No.: 60165890

Sample: **WGK-MTF-032714-BIGMO-SVE-21D-A** Lab ID: 60165890014 Collected: 03/27/14 12:55 Received: 03/28/14 09:30 Matrix: Air

eh 4/10/15

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR Analytical Method: TO-15									
Benzene	1090000	ppbv	1250	70.0	2500		04/01/14 23:50	71-43-2	1e,A3,E
Chlorobenzene	6940	ppbv	1250	37.5	2500		04/01/14 23:50	108-90-7	B

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ANALYTICAL RESULTS

Project: BIG MO
Pace Project No.: 60165890

Sample: WGK-NTF-032714-BIGMO- SVE-10D-A Lab ID: 60165890015 Collected: 03/27/14 13:00 Received: 03/28/14 09:30 Matrix: Air
dn 4/5/15

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR Analytical Method: TO-15									
Benzene	127000	ppbv	1250	70.0	2500		04/02/14 00:12	71-43-2	1e,A3,E
Chlorobenzene	3680	ppbv	1250	37.5	2500		04/02/14 00:12	108-90-7	B

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ANALYTICAL RESULTS

Project: BIG MO
Pace Project No.: 60165890

Sample: WGK-MTF-032714-BIGMO-VP-01D-A *ch 4/6/15* Lab ID: 60165890016 Collected: 03/27/14 13:05 Received: 03/28/14 09:30 Matrix: Air

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR Analytical Method: TO-15									
Benzene	32400	ppbv	250	14.0	500		04/01/14 21:41	71-43-2	1e,A3,E
Chlorobenzene	1850	ppbv	250	7.5	500		04/01/14 21:41	108-90-7	B

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ANALYTICAL RESULTS

Project: BIG MO
Pace Project No.: 60165890

Sample: **WGK-NTF-032714-BIGMO-EB-02D-A** *ch 4/1/14* Lab ID: 60165890017 Collected: 03/27/14 13:10 Received: 03/28/14 09:30 Matrix: Air

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR Analytical Method: TO-15									
Benzene	6520	ppbv	250	14.0	500		04/01/14 22:03	71-43-2	
Chlorobenzene	1010	ppbv	250	7.5	500		04/01/14 22:03	108-90-7	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BIG MO
Pace Project No.: 60165890

QC Batch: AIR/19816	Analysis Method: TO-15
QC Batch Method: TO-15	Analysis Description: TO15 MSV AIR
Associated Lab Samples: 60165890001	

METHOD BLANK: 1647118 Matrix: Air
Associated Lab Samples: 60165890001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Benzene	ppbv	ND	0.50	03/29/14 12:07	
Chlorobenzene	ppbv	ND	0.50	03/29/14 12:07	

LABORATORY CONTROL SAMPLE: 1647119

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Benzene	ppbv	10	8.9	89	69-134	
Chlorobenzene	ppbv	10	11.4	114	72-137	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BIG MO
Pace Project No.: 60165890

QC Batch:	AIR/19866	Analysis Method:	TO-15
QC Batch Method:	TO-15	Analysis Description:	TO15 MSV AIR
Associated Lab Samples:	60165890002, 60165890003, 60165890004, 60165890005, 60165890006, 60165890007, 60165890008, 60165890009, 60165890010, 60165890011, 60165890012, 60165890013, 60165890014, 60165890015, 60165890016, 60165890017		

METHOD BLANK:	1650887	Matrix:	Air
Associated Lab Samples:	60165890002, 60165890003, 60165890004, 60165890005, 60165890006, 60165890007, 60165890008, 60165890009, 60165890010, 60165890011, 60165890012, 60165890013, 60165890014, 60165890015, 60165890016, 60165890017		

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Benzene	ppbv	ND	0.50	04/01/14 15:43	
Chlorobenzene	ppbv	0.87	0.50	04/01/14 15:43	B

LABORATORY CONTROL SAMPLE: 1650888

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Benzene	ppbv	10	9.0	90	69-134	
Chlorobenzene	ppbv	10	12.2	122	72-137	

SAMPLE DUPLICATE: 1650921

Parameter	Units	60165890005 Result	Dup Result	RPD	Max RPD	Qualifiers
Benzene	ppbv	148000	123000	19	25	1e,A3,E
Chlorobenzene	ppbv	146000	114000	25	25	E

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QUALIFIERS

Project: BIG MO
Pace Project No.: 60165890

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PRL - Pace Reporting Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

LABORATORIES

PASI-M Pace Analytical Services - Minneapolis

ANALYTE QUALIFIERS

- | | |
|----|--|
| 1e | Reanalysis conducted in excess of 48-hour method holding time for tedlar bags. Results confirm original analysis performed in hold time. |
| A3 | This result is reported from a serial dilution. |
| B | Analyte was detected in the associated method blank. |
| E | Analyte concentration exceeded the calibration range. The reported result is estimated. |
| IS | The internal standard recovery associated with this result exceeds the lower control limit. The reported result should be considered an estimated value. |

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: BIG MO
Pace Project No.: 60165890

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60165890001	WGK-N/F-032714-BIGMO-EB-01-A	TO-15	AIR/19816		
60165890002	WGK-N/F-032714-BIGMO-SVE-81D-A	TO-15	AIR/19866		
60165890003	WGK-N/F-032714-BIGMO-SVE-82D-A	TO-15	AIR/19866		
60165890004	WGK-N/F-032714-BIGMO-VP-15D-A	TO-15	AIR/19866		
60165890005	WGK-N/F-032714-BIGMO-FD-01-A	TO-15	AIR/19866		
60165890006	WGK-N/F-032714-BIGMO-SVE-69D-A	TO-15	AIR/19866		
60165890007	WGK-N/F-032714-BIGMO-SVE-58D-A	TO-15	AIR/19866		
60165890008	WGK-N/F-032714-BIGMO-SVE-53D-A	TO-15	AIR/19866		
60165890009	WGK-N/F-032714-BIGMO-SVE-55D-A	TO-15	AIR/19866		
60165890010	WGK-N/F-032714-BIGMO-SVE-43D-A	TO-15	AIR/19866		
60165890011	WGK-N/F-032714-BIGMO-VP-05D-A	TO-15	AIR/19866		
60165890012	WGK-N/F-032714-BIGMO-SVE-26D-A	TO-15	AIR/19866		
60165890013	WGK-N/F-032714-BIGMO-FD-02-A	TO-15	AIR/19866		
60165890014	WGK-N/F-032714-BIGMO-SVE-21D-A	TO-15	AIR/19866		
60165890015	WGK-N/F-032714-BIGMO-SVE-10D-A	TO-15	AIR/19866		
60165890016	WGK-N/F-032714-BIGMO-VP-01D-A	TO-15	AIR/19866		
60165890017	WGK-N/F-032714-BIGMO-EB-02D-A	TO-15	AIR/19866		

Sample ID
edits - EH 4/15/15

REPORT OF LABORATORY ANALYSIS

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CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

1	2
---	---

Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:	
Company: XDD, LLC	Report To: lcrawford@xdd-llc.com	Attendee: Solutia, Inc. - Bill Johnson	Company Name: 575 Maryville Centre Drive	REGULATORY AGENCY	
Address: 22 Marin Way #3	Copy To: wdjohnn@eastman.com	Address: SL Louis, MO 63141	Address: SL Louis, MO 63141	NPDES	GROUND WATER
City: Stratham, NH 03885	keane@xdd-llc.com	Phone: 603-418-3105	Purchase Order No.: BIGHO	UST	RCRA
Email To: lcrawford@xdd-llc.com	Project Name: BIGHO	Requested Due Date/TAT: 3-day TAT upon receipt in NH	Project Number: 12010	Sub Location	IL
Phone: 603-418-3105	Requested Due Date/TAT: 3-day TAT upon receipt in NH			State	

ITEM #	Section D Required Client Information	Valid Matrix Codes MATRIX CODE DW WW P SL CL OL WPE AR OTHER TSS	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED		SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives		Analysis Test	Y/N	N	Requested Analysis Filtered (Y/N)	Pace Project No./ Lab I.D.
					DATE	TIME			DATE	TIME					
1	WGK-NIT-032714-BIGMO-EB-01-A		AR G	G	03/27/14	1145		2	2						
2	WGK-NIT-032714-BIGMO-SVE-81D-A		AR G	G	03/27/14	1150		2	2						
3	WGK-NIT-032714-BIGMO-SVE-82D-A		AR G	G	03/27/14	1155		2	2						
4	WGK-NIT-032714-BIGMO-VP-15D-A		AR G	G	03/27/14	1200		2	2						
5	WGK-NIT-032714-BIGMO-FD-01-A		AR G	G	03/27/14	1205		2	2						
6	WGK-NIT-032714-BIGMO-SVE-69D-A		AR G	G	03/27/14	1210		2	2						
7	WGK-NIT-032714-BIGMO-SVE-58D-A		AR G	G	03/27/14	1215		2	2						
8	WGK-NIT-032714-BIGMO-SVE-53D-A		AR G	G	03/27/14	1220		2	2						
9	WGK-NIT-032714-BIGMO-SVE-55D-A		AR G	G	03/27/14	1225		2	2						
10	WGK-NIT-032714-BIGMO-SVE-43D-A		AR G	G	03/27/14	1230		2	2						
11	WGK-NIT-032714-BIGMO-VP-05D-A		AR G	G	03/27/14	1240		2	2						
12	WGK-NIT-032614-BIGMO-SVE-26D-A		AR G	G	03/27/14	1245		2	2						
ADDITIONAL COMMENTS * Please email report to both Laurel Crawford of XDD and Bill Johnson of Solutia. * job specific list: benzene, chlorobenzene only															
RELINQUISHED BY / AFFILIATION Reginald Gardner															
DATE 3/27/14															
TIME 1430															
ACCEPTED BY / AFFILIATION [Signature] Pace															
DATE 3/28/14															
TIME 1430															
SAMPLE CONDITIONS Received on Ice (Y/N) ☐ Custody Sealed Cooler (Y/N) ☐ Samples intact (Y/N) ☐															
Temp in °C 32.7															
SAMPLE NAME AND SIGNATURE PRINT Name of SAMPLER: Reginald Gardner SIGNATURE of SAMPLER: [Signature] DATE Signed (MM/DD/YYYY): 03/27/14															

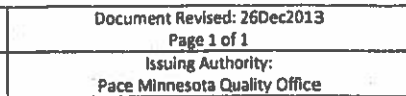
CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:	
Company: XDD, LLC	Report To: lcrawford@xdd-llc.com	Attention: Soluba, Inc. - Bill Johnson	Invoice Number: 2		
Address: 22 Marin Way #3	Copy To: keane@xdd-llc.com	Company Name: 575 Maryville Centre Drive	REGULATORY AGENCY		
Stratham, NH 03885	Purchase Order No.: 12010	Address: St. Louis, MO 63141	NPDOS	GROUND WATER	DRINKING WATER
Email To: lcrawford@xdd-llc.com	Project Name: BigMO	Pace Code: 11738	UST	RCRA	OTHER
Phone: 603-418-3105	Fac: 603-778-2121	Pace Project Manager: Jamie Church	Site Location: IL	STATE: IL	
Requested Due Date/TAT: 3-day TAT upon receipt in NH	Project Number: 12010	Pace Profile #:			

ITEM #	Valid Matrix Codes MATRIX CODE WATER WASTE WATER PRODUCT SOLID SL CL WIP AR OTHER TIS	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G-GRAB C-COMP)	COLLECTED		SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives						Analysis Test	V/N	N	Requested Analysis Filtered (Y/N)	Pace Project No./ Lab I.D.
				DATE	TIME			DATE	TIME	Unpreserved	H ₂ SO ₄	HNO ₃	HCl					
1	WGK-NF-032714-BIGMO-FD-02-A	AR G	G	03/27/14	1250	03/27/14	1250	2	2									
2	WGK-NF-032714-BIGMO-SVE-21D-A	AR G	G	03/27/14	1255	03/27/14	1255	2	2									
3	WGK-NF-032714-BIGMO-SVE-10D-A	AR G	G	03/27/14	1300	03/27/14	1300	2	2									
4	WGK-NF-032714-BIGMO-VP-01D-A	AR G	G	03/27/14	1305	03/27/14	1305	2	2									
5	WGK-NF-032714-BIGMO-EB-02D-A	AR G	G	03/27/14	1310	03/27/14	1310	2	2									
6																		
7																		
8																		
9																		
10																		
11																		
12																		

ADDITIONAL COMMENTS		RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS	
* Please email report to both Laurel Crawford of XDD and Bill Johnson of Soluba.		Reginald Gardiner	3/27/14	1430				Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)
* Job specific list: benzene, chlorobenzene only								Temp in °C	Samples Intact (Y/N)



WO#: 10261681



10261681

Optional:	Proj. Due Date:	Proj. Name:
-----------	-----------------	-------------

Temp Blank rec: ☐ Yes ☒ No

72337080
80512447

Date & Initials of Person Examining Contents: CMB 3/28/14

Date & Initials of Person Examining Contents: CMB 3/28/14

Chain of Custody Present?	☒ Yes	☐ No	☐ N/A	1.
Chain of Custody Filled Out?	☒ Yes	☐ No	☐ N/A	2.
Chain of Custody Relinquished?	☐ Yes	☒ No	☐ N/A	3.
Sampler Name and/or Signature on COC?	☐ Yes	☒ No	☐ N/A	4.
Samples Arrived within Hold Time?	☒ Yes	☐ No	☐ N/A	5.
Short Hold Time Analysis (<72 hr)?	☒ Yes	☐ No	☐ N/A	6.
Rush Turn Around Time Requested?	☐ Yes	☒ No	☐ N/A	7.
Sufficient Volume?	☐ Yes	☒ No	☐ N/A	8. No volume in 1 air bag for
Correct Containers Used?	☒ Yes	☐ No	☐ N/A	9. Sample #7: SVS-58D-7
-Pace Containers Used?	☒ Yes	☐ No	☐ N/A	
Containers Intact?	☒ Yes	☐ No	☐ N/A	10.
Media: Air (bag)				11.
Sample Labels Match COC?	☒ Yes	☐ No	☐ N/A	12.

Samples Received: 34 air bags rec'd

[illegible]

Field Data Required? ☐ Yes ☐ No

Date/Time:

Comments/Resolution:

Date: 3/28/14

Page 32 of 32

APPENDIX C

PERFORMANCE MONITORING DATA

Appendix C - Table C1

COC Mass Removal Performance - Shallow Treatment Interval

Big Mo and Former Benzene Pipeline Treatment Areas
Solutia Inc., W.G. Krummrich Facility, Sauget, Illinois

Date	Time	Cumulative Soil Interval Treatment Time ^[1]	SVE Vapor Flows and COC Concentrations ^[2]				Mass Removal Rate ^[4]	Cumulative Soil Interval Mass Removed ^[5]	Notes
			Flow	Benzene Concentration ^[3]	Chlorobenzene Concentration ^[3]	Total COC Concentration			
		(hrs)	(scfm)	(ppmv)	(ppmv)	(ppmv)	(lbs/hr)	(lbs)	
02/07/12	System Startup								
03/20/12	08:00 AM	0	--	--	--	--	--	0	Start shallow treatment interval.
04/02/12	11:00 AM	60	1,830	9,480 E	45.4	9,525	209	13,000	Sample results used to calculate the COC baseline mass removal rate.
04/26/12	02:30 PM	484	2,230	2,610 E	161	2,771	76	73,000	
05/14/12	03:15 PM	749	1,573	8,850 E	1,090	9,940	197	109,000	
05/15/12	08:00 AM	766	--	--	--	--	--	--	Switch to deep treatment interval.
05/24/13	12:00 PM	--	--	--	--	--	--	109,000	Switch to shallow treatment interval.
06/25/13	12:00 PM	982	1,120	450 E	3.7 U	452	7	111,000	See note 6.
07/08/13	12:00 PM	1,294	1,230	39.5	4.5 U	42	1	112,000	
08/06/13	11:15 AM	1,730	2,370	55	9	64	2	113,000	
08/27/13	12:30 PM	2,195	1,200	118	21	139	3	114,000	
09/04/13	12:25 PM	2,389	1,190	135	30	165	3	115,000	
10/07/13	03:15 PM	3,197	1,070	34	16	50	1	117,000	
10/23/13	10:05 AM	3,481	2,010	44	12	56	2	117,000	
10/23/13	10:30 AM	--	--	--	--	--	--	--	Switch to deep treatment interval.
04/28/14	02:00 PM	--	--	--	--	--	--	117,000	Startup combined shallow and deep treatment intervals.
05/02/14	12:15 PM	--	--	--	--	--	9	not calculated	See note 7.
06/10/14	12:15 PM	--	--	--	--	--	5	not calculated	See note 7.
07/02/14	01:00 PM	--	--	--	--	--	2	not calculated	See note 7.
07/15/14	04:30 PM	System Operation Suspended							

SVE = soil vapor extraction
scfm = standard cubic feet per minute
hrs = hours
ppmv = parts per million by volume

lbs = pounds
ThermOx = thermal oxidizer
-- = not recorded/not applicable
COC = contaminant of concern

= indicates combined operation of the shallow and deep treatment intervals

Notes:

- The cumulative treatment time is based on the operation in the shallow treatment interval only.
- SVE vapor samples were collected from the combined SVE system effluent and the 2,000 scfm ThermOx unit influent (starting September 4, 2012).
- All samples are submitted to Pace Analytical Services, Inc. of Minneapolis, MN for analysis of volatile organic compounds by United States Environmental Protection Agency Method TO-14A/TO-15. The laboratory analytical reports are provided in **Appendix B**.
- The mass removal rate (MRR) calculation is based on the SVE vapor flow measurements and the corresponding analytical concentrations. The calculation for the MRR is:

$$MRR = [COC (ppmv)] \times \text{chemical conversion factor} \times \text{flow (scfm)} \times \text{unit conversion factor } 3.75 \times 10^{-6}$$
- The calculation for the cumulative mass removed (CMR) is (exceptions are noted):

$$CMR = [(Run\ Time\ between\ sampling\ events) \times (Average\ MRR\ of\ current\ and\ previous\ event)] + CMR\ prior\ to\ that\ monitoring\ event.$$
- The CMR was calculated using the concentration data from June 25, 2013 and not with the average of the current and previous monitoring event on May 14, 2012. The samples collected in May 2012 were not representative of the operating conditions when the system was restarted in May 2013.
- The SVE system well field was reconfigured on April 28, 2014 for combined operation of the shallow and deep treatment intervals. The result of the CMR calculation was incorporated into the deep CMR (**Table C2**).
- Laboratory qualifiers:
 U = value not detected above the adjusted laboratory reporting limit.
 E = estimated value.

Appendix C - Table C2

COC Mass Removal Performance - Deep Treatment Interval

Big Mo and Former Benzene Pipeline Treatment Areas
Solutia Inc., W.G. Krummrich Facility, Sauget, Illinois

Date	Time	Cumulative Soil Interval Treatment Time ^[1]	SVE Vapor Flows and COC Concentrations ^[2]				SVE Vapor Flows and COC Concentrations - 1,000 SCFM ThermOx ^[2]				Mass Removal Rate ^[4]	Cumulative Soil Interval Mass Removed ^[5]	Notes
			Flow	Benzene Concentration ^[3]	Chlorobenzene Concentration ^[3]	Total COCs Concentration	Flow	Benzene Concentration ^[3]	Chlorobenzene Concentration ^[3]	Total COCs Concentration			
		(hrs)	(scfm)	(ppmv)	(ppmv)	(ppmv)	(scfm)	(ppm)	(ppm)	(ppm)	(lbs/hr)	(lbs)	
02/07/12	System Startup												
02/07/12	12:00 PM	0	--	--	--	--	--	--	--	--	0	Start deep treatment interval.	
02/22/12	02:25 PM	178	2,000	2,580	109	2,689	--	--	--	--	66	12,000	Sample results used to calculate the total COC baseline mass removal rate.
03/06/12	08:00 AM	334	1,970	6,800 E	91	6,891	--	--	--	--	164	30,000	
03/20/12	08:00 AM	682	--	--	--	--	--	--	--	--	164	87,000	
03/20/12	08:00 AM	--	--	--	--	--	--	--	--	--	--	--	Switch to shallow treatment interval.
05/15/12	08:00 AM	--	--	--	--	--	--	--	--	--	--	87,000	Switch to deep treatment interval.
05/17/12	11:25 AM	728	1,602	796 E	4.3 U	798	--	--	--	--	16	88,000	See note 7.
06/06/12	09:10 AM	1,163	1,669	1,190 E	11	1,201	--	--	--	--	25	97,000	
07/12/12	10:48 AM	1,725	1,692	1,820 E	18	1,838	--	--	--	--	38	115,000	
07/24/12	09:30 AM	2,006	1,628	2,520 E	114	2,634	--	--	--	--	53	128,000	
07/26/12	03:58 PM	2,058	1,614	2,260 E	110	2,370	--	--	--	--	47	131,000	
08/07/12	12:59 PM	2,339	1,649	3,020 E	183	3,203	--	--	--	--	65	147,000	
09/04/12	01:00 PM	2,683	1,380	2,170 E,CO	105	2,275	730	2,110 E,CO	88	2,198	58	168,000	
10/03/12	01:00 PM	3,207	1,220	846 E	196 E	1,042	630	927 E	237 E	1,164	27	190,000	
11/06/12	09:20 AM	3,720	1,180	2,630 E	800 E	3,430	600	357	16	373	57	212,000	
12/05/12	11:15 AM	4,012	1,040	2,660 E	368	3,028	170	2,430 E	253	2,683	46	227,000	
01/10/13	12:40 PM	4,649	2,030	10,000 E	1,190 E	11,190	--	--	--	--	46	256,000	See note 8.
01/25/13	01:45 PM	4,739	--	--	--	--	--	--	--	--	46	260,000	See note 9.
01/25/13	02:00 PM	--	--	--	--	--	--	--	--	--	--	--	System shutdown.
03/18/13	03:15 PM	--	--	--	--	--	--	--	--	--	--	260,000	System startup.
03/20/13	12:30 PM	4,793	2,050	2,730 E	175	2,905	--	--	--	--	74	264,000	See note 7.
04/03/13	01:30 PM	5,117	2,410	1,580 E	230	1,810	--	--	--	--	56	285,000	
04/25/13	12:45 PM	--	--	--	--	--	--	--	--	--	--	--	System shutdown.
05/22/13	01:00 PM	--	--	--	--	--	--	--	--	--	--	285,000	System startup.
05/23/13	11:45 AM	5,642	2,010	155	2.6 U	156	--	--	--	--	4	287,000	See note 7.
05/24/13	12:00 PM	--	--	--	--	--	--	--	--	--	--	--	Switch to shallow treatment interval.
10/23/13	10:30 AM	--	--	--	--	--	--	--	--	--	--	287,000	Switch to deep treatment interval.
11/07/13	12:30 PM	5,907	1,370	680 E	78	758	--	--	--	--	14	291,000	See note 7.
11/11/13	01:00 PM	6,007	1,318	1,970 E	133	2,103	--	--	--	--	35	293,000	
12/05/13	01:30 PM	6,586	1,290	936 E	127	1,063	--	--	--	--	18	308,000	
01/17/14	03:30 PM	7,611	1,250	530 E	36 E	566	--	--	--	--	9	322,000	
02/06/14	11:00 AM	7,931	1,230	1,570 E	4.3 U	1,572	--	--	--	--	24	327,000	
03/04/14	09:15 AM	8,563	1,340	397	5	402	--	--	--	--	7	337,000	
04/10/14	12:15 PM	9,369	1,250	266	78	344	--	--	--	--	6	342,000	
05/02/14	12:15 PM	9,878	1,970	341 E	15	356	--	--	--	--	9	345,000	See note 10.
06/10/14	12:15 PM	10,545	810	474 E	1.8 U	475	--	--	--	--	5	350,000	
07/02/14	01:00 PM	11,067	970	109	0	109	--	--	--	--	2	352,000	
07/15/14	04:30 PM	11,383	System Operation Suspended									353,000	

*Notes are presented on Page 2 of 2.

Appendix C - Table C2

COC Mass Removal Performance - Deep Treatment Interval

Big Mo and Former Benzene Pipeline Treatment Areas

Solutia Inc., W.G. Krummrich Facility, Sauget, Illinois

SVE = soil vapor extraction
scfm = standard cubic feet per minute
hrs = hours
ppmv = parts per million by volume

lbs = pounds
ThermOx = thermal oxidizer
-- = not recorded/not applicable
COC = contaminant of concern

 = indicates combined operation of the shallow and deep treatment intervals

Notes:

1. The cumulative treatment time is based on the official start date of February 07, 2012 and operation in the deep treatment interval only.
2. SVE vapor samples were collected from the combined SVE system effluent and the 2,000 scfm ThermOx unit influent (starting September 4, 2012). Soil vapor samples were collected from the 1,000 scfm ThermOx influent between September 4, 2012 and December 5, 2012. The 1,000 scfm ThermOx unit was removed from service at the Big Mo and Former Benzene Pipeline treatment area in January 2013.
3. All samples are submitted to Pace Analytical Services, Inc. of Minneapolis, MN for analysis of volatile organic compounds by United States Environmental Protection Agency Method TO-14A/TO-15.

The laboratory analytical reports are provided in **Appendix B**.

4. The mass removal rate (MRR) calculation is based on the SVE vapor flow measurements and the corresponding analytical concentrations. The calculation for the MRR is:

$$\text{MRR} = [\text{COC (ppmv)}] * \text{chemical conversion factor for benzene} * \text{flow (scfm)} * \text{unit conversion factor } 3.75 * 10^{-6}$$

5. The calculation for the cumulative mass removed (CMR) is:

$$\text{CMR} = [(\text{Run Time between sampling events}) * (\text{Average MRR of the current and previous event})] + \text{CMR prior to that monitoring event.}$$

Exceptions to the CMR calculation presented are noted.

6. The MRR based on the laboratory analytical samples collected on 3/6/12 is presented.
7. The CMR was calculated using the MMR of the current monitoring event and not the average of previous and current monitoring events. The samples collected from the previous monitoring event are not representative of the recent operating conditions.
8. The January 10, 2013 CMR is based on the December 5, 2012 sample data instead of the average of the December and January analytical data (as described in note 5). The January 10, 2013 sample was collected after the system was restarted following the ThermOx relocation and is not representative of the general system operation and the CMR presented should be considered an estimate.
9. The January 25, 2013 CMR is based on the MRR calculated from the December 5, 2012 sample data and should be considered an estimate.
10. The SVE system well field was reconfigured on April 28, 2014 for combined operation of the shallow and deep treatment intervals. Because the system only operated for a short time in this configuration before collection of the May 2014 sample, the calculated mass removed between the April and May 2014 sampling events is based on the April 2014 mass removal rate (6 lbs/hr).
11. Laboratory qualifiers:
U = value not detected above the adjusted laboratory reporting limit
E = estimated value.
CO = result confirmed by second analysis.

APPENDIX D

BASELINE MASS REMOVAL RATE EVALUATION MEMORANDUM



Solutia Inc.
575 Maryville Centre Drive
Saint Louis, Missouri 63141 USA

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+1.314.674.1585 *fax*
www.solutia.com

June 1, 2012

Mr. Kenneth Bardo – LU-9J
U.S. EPA Region V
Corrective Action Section
77 West Jackson Boulevard
Chicago, IL 60604-3507

VIA OVERNIGHT MAIL

Re: Baseline Mass Removal Rate Evaluation
Soil Vapor Extraction Remedy
Big Mo & Former Benzene Pipeline Areas
Solutia Inc., W.G. Krummrich Plant, Sauget, IL

Dear Mr. Bardo:

As part of referenced soil vapor extraction (SVE) start-up, Solutia Inc. is submitting the attached Baseline Mass Removal Rate Evaluation. The baseline evaluation was conducted as part of the Protocol for Completing Soil Vapor Extraction Operations and Potential Transitioning to Bioventing Mode (shutdown protocol) to establish a representative mass removal rate of benzene for the SVE system at startup. The shutdown protocol was submitted to the United States Environmental Protection Agency as Appendix G of the 100% Soil Vapor Extraction System Design dated September 2011, and Appendix A of the May 2012 Operation, Maintenance, and Monitoring Manual.

Please contact me at 314.674.3312 or gmrina@solutia.com with any questions.

Sincerely,

Gerald M. Rinaldi
Manager, Remediation Services

Enclosure

cc: Distribution List

DISTRIBUTION LIST

**Baseline Mass Removal Rate Evaluation
Soil Vapor Extraction Remedy
Big Mo & Former Benzene Pipeline Areas
Solutia Inc., W.G. Krummrich Plant, Sauget, IL**

XDD, LLC

Dennis Keane 22 Marin Way, Stratham, NH 03885

Scott Crawford 22 Marin Way, Stratham, NH 03885

Solutia

Brett Shank 500 Monsanto Avenue, Sauget, IL 62206

Bill Johnson 575 Maryville Centre Drive, St. Louis, MO 63141



STRATEGIC. ENVIRONMENTAL. SOLUTIONS.

MEMORANDUM

To: Bill Johnson, Solutia Inc

Date: June 1, 2012

From: Erin Stanisewski, XDD, LLC

cc: Dennis Keane (XDD, LLC)

Re: Big Mo SVE Baseline Mass Removal Rate Evaluation
W.G. Krummrich Facility
Sauget, Illinois

This technical memorandum has been produced by XDD, LLC (XDD) to present the baseline mass removal rate evaluation for the soil vapor extraction (SVE) system located at the Big Mo and Former Benzene Pipeline Treatment Areas at the W.G. Krummrich Facility in Sauget, Illinois (the site; **Figure 1**). The baseline evaluation was conducted as part of the Protocol for Completing Soil Vapor Extraction Operations and Potential Transitioning to Bioventing Mode (shutdown protocol) to establish a representative mass removal rate of benzene for the SVE system at startup. The shutdown protocol was submitted to the United States Environmental Protection Agency (USEPA) as Appendix G of the 100% Soil Vapor Extraction System Design dated September 2011, and Appendix A of the May 2012 Operation, Maintenance, and Monitoring Manual. As described in the shutdown protocol, the decision to shut down SVE operations will be based on several criteria including:

- identifying when the mass removal rate has decreased to 10% of the baseline; and,
- asymptotic conditions are achieved.

Based on process vapor monitoring conducted during the operation of the SVE system between February and May 2012, baseline mass removal rates were primarily limited by the total combined treatment capacity of the two thermal oxidation (ThermOx) units. The calculated average baseline mass removal rates are estimated at 140 and 110 pounds per hour (lbs/hour) for the shallow and deep treatment intervals, respectively. These mass removal rates are calculated based on laboratory analytical analysis of the combined SVE system discharge vapor samples and the total combined SVE system flow rate.

Baseline Mass Removal Overview

The SVE system targets two treatment intervals, the sandy fill/upper silty sand (shallow) and lower silty sand (deep), and is designed to treat each interval separately as site groundwater levels fluctuate. For purposes of establishing a representative baseline, the SVE system was operated for approximately one month in the deep treatment interval and then switched to operate for one month in the shallow treatment interval (not including downtime for system repairs or standard maintenance). The maximum mass removal rate achievable was limited by the lower explosive limit

MEMORANDUM



(LEL) capacity of the ThermOx units, which are designed to operate at no higher than 40% of the benzene LEL (exceeding 40% LEL results in an alarm shutdown condition).

Extracted soil vapor samples were collected from the combined SVE system discharge at sample port SP 401 (**Attachment 1**) for laboratory analysis of volatile organic compounds (VOCs). Analytical results and performance monitoring data were used to calculate the average baseline mass removal rate. Additionally, LEL and inlet flow readings at the ThermOx units were recorded and used to confirm the system was operating at a similar level of performance between sampling events.

Baseline Vapor Sampling

Table 1 presents a summary of the SVE system performance monitoring data. Due to low groundwater levels, the system was first operated in the deep treatment interval from February 13, 2012 through March 20, 2012 to establish the baseline mass removal rate. The total operation time of the deep treatment interval was approximately 28 days. Operation of the SVE system in the deep treatment interval was limited entirely by the capacity of the ThermOx units to treat the impacted soil vapor. LEL measurements at the ThermOx units were consistent throughout the month of operation and ranged from 24% to 36%. Vapor samples for laboratory analysis were collected on February 22, 2012 and March 6, 2012.

The SVE system was then operated in the shallow treatment interval from March 20, 2012 through May 14, 2012. The total operation time in the shallow treatment interval was approximately 31 days. During the shallow baseline evaluation, limitations arising from the presence of perched water reduced the efficiency of the SVE system and increased water accumulation rates. System adjustments including varying the well field flow configuration were made during the baseline operation to optimize the mass removal rate. The presence of the perched water table resulted in lower LEL measurements and increased LEL variability (LEL ranged from 14% to 38%, **Table 1**) relative to operation in the deep treatment interval. Vapor samples for laboratory analysis were collected on April 2, April 26, and May 14, 2012 during periods when the LEL was approximately 30%.

Vapor samples for laboratory analysis were collected and shipped to Pace Analytical Services, Inc. in Lenexa, Kansas for analysis of VOCs by USEPA Method TO-14A. Laboratory analytical reports are attached (**Attachment 2**).

Combined system effluent flow rate readings were measured at flow meter FIA 401/FM 401 at the time of sampling (**Attachment 1**). Flow rates ranged from approximately 1,600 to 2,200 standard cubic feet per minute (scfm) on sample collection days (**Table 1**). During the baseline evaluation, concentrations of benzene in the soil vapor were elevated such that it was necessary to introduce dilution air into the soil vapor stream to avoid a high LEL shutdown condition at the ThermOx units.

Baseline Sampling Results and Mass Removal Rate Evaluation

The primary contaminant of concern in the treatment areas is benzene with concentrations measuring two to three orders of magnitude greater than other COCs (**Attachment 2**) in the baseline vapor



samples. Therefore, baseline mass removal rates were calculated from benzene analytical results and the combined system flow rate at the point of sample collection.

System performance data, analytical results, and mass removal rates are presented on **Table 1** and a summary of the data is presented below:

- The baseline benzene concentrations of the two vapor samples collected during operation of the SVE system in deep treatment interval were 2,580 and 6,800 parts per million by volume (ppmv).
- For the deep soil interval, the calculated mass removal rates were 62 and 161 lbs/hr, respectively, with an average baseline mass removal rate of approximately 110 lbs/hr.
- The baseline benzene concentrations in vapor samples collected during operation of the SVE system in the shallow treatment interval ranged from 2,610 to 9,480 ppmv.
- For the shallow soil interval, the calculated mass removal rate ranged from 70 to 208 lbs/hr with an average baseline mass removal rate of approximately 140 lbs/hr.

A qualitative check of the average mass removal rates was calculated by estimating the mass removal from field LEL readings and inlet flow rates at the ThermOx units. As presented on **Table 1**, the mass removal rates calculated from the field ThermOx data correspond well with the laboratory derived estimation. Additionally, the field mass removal rates show that the SVE system performance was relatively consistent throughout the baseline evaluation and the average mass removal rates are representative of baseline conditions.

Baseline Evaluation Conclusions

Deep Treatment Interval: Operated near the maximum treatment capacity of the ThermOx units for 28 days. The average mass removal rate based on the two laboratory samples and confirmed by field LEL measurements is estimated at 110 lbs/hour.

Shallow Treatment Interval: The presence of perched water on top of the intermediate clay increased the level of optimization required relative to the deep treatment interval. However, the system was operating near the maximum treatment capacity of the ThermOx units when each of the three laboratory samples was collected. The average mass removal rate based on the three laboratory samples and confirmed by field LEL measurements is estimated at 140 lbs/hour.

Table 1
SVE System Baseline Mass Removal Performance
 Big Mo and Former Benzene Pipeline SVE System
 W.G. Krummrich Facility, Sauget, Illinois

Date	Time	System Flow Rate ^[1]	Benzene Concentration ^{[2],[3]}	Mass Removal Rate ^[4]	TOX 501/601 Combined Mass Removal Rate ^[5]
		(scfm)	(ppmv)	(lbs/hour)	
DEEP TREATMENT INTERVAL					
02/22/12	02:25 PM	2,000	2,580 E	62	--
03/05/12	08:30 AM	1,980	nc	--	88
03/06/12	08:00 AM	1,970	6,800 E	161	125
03/12/12	08:15 AM	1,960	nc	--	--
03/13/12	08:15 AM	1,950	nc	--	111
03/14/12	08:15 AM	1,979	nc	--	100
03/15/12	08:15 AM	1,960	nc	--	115
03/16/12	08:00 AM	1,955	nc	--	107
03/19/12	08:00 AM	1,930	nc	--	102
03/20/12	08:00 AM	1,812	nc	--	103
Average Mass Removal Rate				110	
SHALLOW TREATMENT INTERVAL					
03/30/12	01:00 PM	1,800	nc	--	116
04/02/12	11:00 AM	1,830	9,480 E	208	117
04/09/12	10:00 AM	2,460	nc	--	98
04/13/12	09:00 AM	1,676	nc	--	72
04/26/12	02:30 PM	2,230	2,610 E	70	--
04/27/12	10:00 AM	1,820	nc	--	52
05/01/12	03:00 PM	1,785	nc	--	59
05/14/12	03:15 PM	1,573	8,850 E	167	92
Average Mass Removal Rate				140	

Notes:

SVE = soil vapor extraction

scfm = standard cubic feet per minute

lbs = pounds

-- = not applicable

ppmv = parts per million by volume

nc = not collected

TOX = thermal oxidizer

% = percent

1. The system flow rate was measured at flow meter FIA 401/FM 401 on the combined SVE system effluent.
2. SVE vapor samples were collected from the combined SVE system effluent at sample port SP 401 and submitted to Pace Analytical Services, Inc. of Lenexa, KS for analysis of volatile organic compounds by United States Environmental Protection Agency Method TO-14A.
3. E = estimated value
4. The mass removal rate (MRR) calculation is based on the SVE system flow measurements and benzene concentration data. See example formula below for calculating the benzene MRR:

$$\text{MRR} = [\text{Benzene (ppmv)}] * \text{chemical conversion factor for benzene} * \text{flow (scfm)} * \text{unit conversion factor } 3.75 * 10^6$$
5. The TOX combined mass removal rate is based on the inlet flow and percent lower explosive limit (LEL) field measurements recorded for each TOX unit on the date indicated.

June 1, 2012
Mr. Bill Johnson
Attachment 1

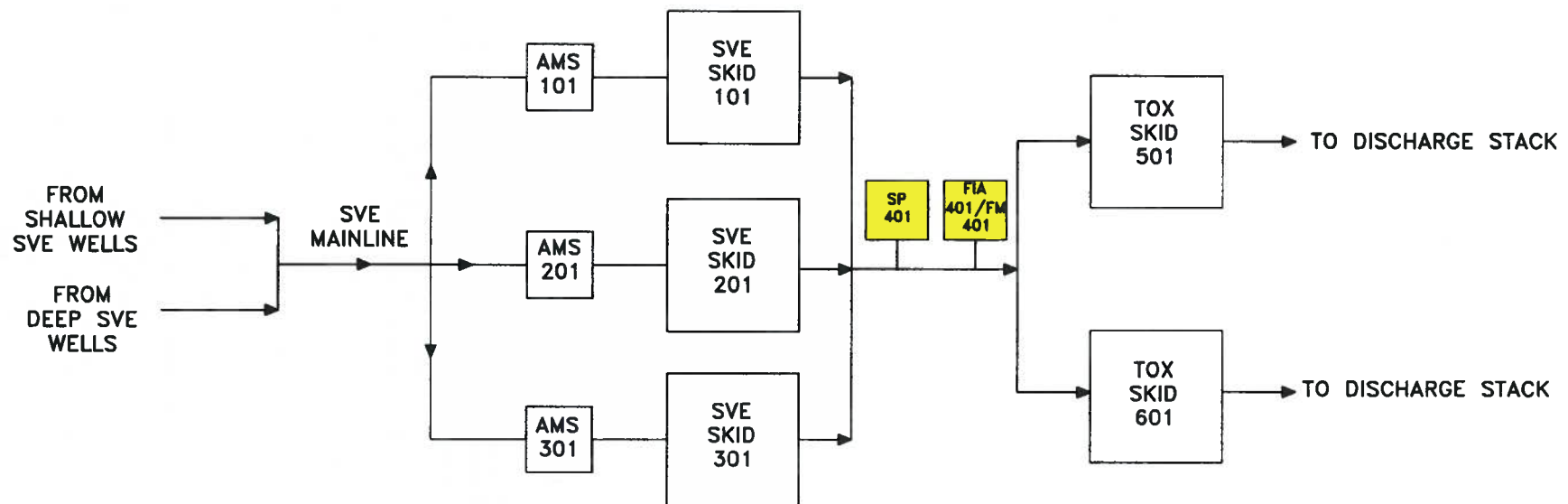
MEMORANDUM



ATTACHMENT 1

SVE PROCESS FLOW DIAGRAM

SVE SYSTEM



LEGEND

AMS	Air Moisture Separator
FIA	Flow Indicator analog
FM	Flow meter
SP	Sample port
SVE	Soil Vapor Extraction
TOX	Thermal Oxidizer

NOTES:

- The figure presents the key components of the SVE system process flow associated with the baseline mass removal evaluation.
- The **yellow-highlighted** instrumentation indicates the location within the process flow of the sample port and flow meter used for the calculation of the mass removal rate.



SCALE: NOT TO SCALE	TITLE: PROCESS FLOW DIAGRAM
DATE: MAY 2012	BASLINE MASS REMOVAL EVALUATION
PROJECT NO.: 11002	BIG MO/FORMER BENZENE PIPELINE AREA
CLIENT: Solutia Inc.	W.G. KRUMMICH FACILITY, SAUGET, ILLINOIS
DRAWN BY: ELS	DRAWING NO.: ATTACHMENT 1
CHECKED BY: DK	REV: 2
PROJ. MGMT. APPROVAL: DK	

June 1, 2012
Mr. Bill Johnson
Attachment 2

MEMORANDUM



ATTACHMENT 2

LABORATORY REPORTS

March 06, 2012

Erin Stanisewski
XDD, LLC
22 Marin Way #3
Stratham, NH 03885

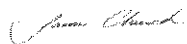
RE: Project: SVE SYSTEM
Pace Project No.: 60115853

Dear Erin Stanisewski:

Enclosed are the analytical results for sample(s) received by the laboratory on February 23, 2012. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Jamie Church

jamie.church@pacelabs.com
Project Manager

Enclosures

cc: William Johnson, Solutia, Inc.

VALIDATED
5/8/12
BY 



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: SVE SYSTEM

Pace Project No.: 60115853

Minnesota Certification IDs

1700 Elm Street SE Suite 200, Minneapolis, MN 55414

A2LA Certification #: 2926.01

Alaska Certification #: UST-078

Alaska Certification #MN00064

Arizona Certification #: AZ-0014

Arkansas Certification #: 88-0680

California Certification #: 01155CA

EPA Region 8 Certification #: Pace

Florida/NELAP Certification #: E87605

Georgia Certification #: 959

Idaho Certification #: MN00064

Illinois Certification #: 200011

Iowa Certification #: 368

Kansas Certification #: E-10167

Louisiana Certification #: 03086

Louisiana Certification #: LA080009

Maine Certification #: 2007029

Maryland Certification #: 322

Michigan DEQ Certification #: 9909

Minnesota Certification #: 027-053-137

Mississippi Certification #: Pace

Montana Certification #: MT CERT0092

Nebraska Certification #: Pace

Nevada Certification #: MN_00064

New Jersey Certification #: MN-002

New Mexico Certification #: Pace

New York Certification #: 11647

North Carolina Certification #: 530

North Dakota Certification #: R-036

North Dakota Certification #: R-036A

Ohio VAP Certification #: CL101

Oklahoma Certification #: D9921

Oklahoma Certification #: 9507

Oregon Certification #: MN200001

Pennsylvania Certification #: 68-00563

Puerto Rico Certification

Tennessee Certification #: 02818

Texas Certification #: T104704192

Washington Certification #: C754

Wisconsin Certification #: 999407970

REPORT OF LABORATORY ANALYSIS

Page 2 of 12

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SAMPLE SUMMARY

Project: SVE SYSTEM

Pace Project No.: 60115853

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60115853001	WGKBIGMO98STACK022212	Air	02/22/12 14:20	02/23/12 10:05
60115853002	WGKBIGMO99STACK022212	Air	02/22/12 14:15	02/23/12 10:05
60115853003	WGKBIGMOTOXINF022212	Air	02/22/12 14:25	02/23/12 10:05

REPORT OF LABORATORY ANALYSIS

Page 3 of 12

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SAMPLE ANALYTE COUNT

Project: SVE SYSTEM

Pace Project No.: 60115853

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60115853001	WGKBIGMO98STACK022212	TO-14 Ambient Air	CJR, SK4	7	PASI-M
60115853002	WGKBIGMO99STACK022212	TO-14 Ambient Air	CJR, SK4	7	PASI-M
60115853003	WGKBIGMOTOXINF022212	TO-14 Ambient Air	CJR, SK4	7	PASI-M

REPORT OF LABORATORY ANALYSIS

Page 4 of 12

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PROJECT NARRATIVE

Project: SVE SYSTEM

Pace Project No.: 60115853

Method: TO-14 Ambient Air

Description: TO14 MSV AIR - Ambient

Client: XDD, LLC

Date: March 06, 2012

General Information:

3 samples were analyzed for TO-14 Ambient Air. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

A4: Sample was transferred from a sampling bag into a Summa Canister within 48 hours of collection.

- WGKBIGMO98STACK022212 (Lab ID: 60115853001)
- WGKBIGMO99STACK022212 (Lab ID: 60115853002)
- WGKBIGMOTOXINF022212 (Lab ID: 60115853003)

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

QC Batch: AIR/14347

IS: The internal standard recovery associated with this result exceeds the lower control limit. The reported result should be considered an estimated value.

- WGKBIGMOTOXINF022212 (Lab ID: 60115853003)
- Toluene

Surrogates:

All surrogates were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

REPORT OF LABORATORY ANALYSIS

Page 5 of 12

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PROJECT NARRATIVE

Project: SVE SYSTEM

Pace Project No.: 60115853

Method: TO-14 Ambient Air

Description: TO14 MSV AIR - Ambient

Client: XDD, LLC

Date: March 06, 2012

Analyte Comments:

QC Batch: AIR/14347

A3: The sample was analyzed by serial dilution.

- WGKBIGMO98STACK022212 (Lab ID: 60115853001)
 - Benzene
- WGKBIGMO99STACK022212 (Lab ID: 60115853002)
 - Benzene
- WGKBIGMOTOXINF022212 (Lab ID: 60115853003)
 - Benzene
 - Chlorobenzene

C0: Result confirmed by second analysis.

- WGKBIGMOTOXINF022212 (Lab ID: 60115853003)
 - Toluene

E: Analyte concentration exceeded the calibration range. The reported result is estimated.

- WGKBIGMOTOXINF022212 (Lab ID: 60115853003)
 - Benzene

This data package has been reviewed for quality and completeness and is approved for release.

REPORT OF LABORATORY ANALYSIS

Page 6 of 12

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ANALYTICAL RESULTS

Project: SVE SYSTEM

Pace Project No.: 60115853

Sample: WGKBIGMO98STACK0222 **Lab ID:** 60115853001 Collected: 02/22/12 14:20 Received: 02/23/12 10:05 Matrix: Air
12

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
TO14 MSV AIR - Ambient									
Analytical Method: TO-14 Ambient Air									
Benzene	2570	ppbv	67.2	33.6	134.4		03/01/12 10:47	71-43-2	A3
Chlorobenzene	68.6	ppbv	16.8	8.4	33.6		02/29/12 10:56	108-90-7	
1,4-Dichlorobenzene	ND	ppbv	16.8	8.4	33.6		02/29/12 10:56	106-46-7	
Ethylbenzene	ND	ppbv	16.8	8.4	33.6		02/29/12 10:56	100-41-4	
Toluene	ND	ppbv	16.8	8.4	33.6		02/29/12 10:56	108-88-3	A4
m&p-Xylene	ND	ppbv	33.6	16.8	33.6		02/29/12 10:56	179601-23-1	
o-Xylene	ND	ppbv	16.8	8.4	33.6		02/29/12 10:56	95-47-6	

ANALYTICAL RESULTS

Project: SVE SYSTEM

Pace Project No.: 60115853

Sample: WGKBIGMO99STACK0222 **Lab ID:** 60115853002 Collected: 02/22/12 14:15 Received: 02/23/12 10:05 Matrix: Air
12

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
TO14 MSV AIR - Ambient									
Analytical Method: TO-14 Ambient Air									
Benzene	7530	ppbv	269	134	537.6		03/01/12 11:45	71-43-2	A3
Chlorobenzene	210	ppbv	16.8	8.4	33.6		02/29/12 01:54	108-90-7	
1,4-Dichlorobenzene	ND	ppbv	16.8	8.4	33.6		02/29/12 01:54	106-46-7	
Ethylbenzene	ND	ppbv	16.8	8.4	33.6		02/29/12 01:54	100-41-4	
Toluene	ND	ppbv	16.8	8.4	33.6		02/29/12 01:54	108-88-3	A4
m&p-Xylene	ND	ppbv	33.6	16.8	33.6		02/29/12 01:54	179601-23-1	
o-Xylene	ND	ppbv	16.8	8.4	33.6		02/29/12 01:54	95-47-6	

ANALYTICAL RESULTS

Project: SVE SYSTEM

Pace Project No.: 60115853

Sample: WGKBIGMOTOXINF022212 **Lab ID:** 60115853003 Collected: 02/22/12 14:25 Received: 02/23/12 10:05 Matrix: Air

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
TO14 MSV AIR - Ambient Analytical Method: TO-14 Ambient Air									
Benzene	2580000	ppbv	4300	2150	8601.6		03/01/12 11:16	71-43-2	A3,E
Chlorobenzene	109000	ppbv	4300	2150	8601.6		03/01/12 11:16	108-90-7	A3
1,4-Dichlorobenzene	ND	ppbv	16.8	8.4	33.6		02/29/12 11:26	106-46-7	
Ethylbenzene	9.0J	ppbv	16.8	8.4	33.6		02/29/12 11:26	100-41-4	
Toluene	65.4	ppbv	16.8	8.4	33.6		02/29/12 11:26	108-88-3	A4,C0, IS
m&p-Xylene	20.6J	ppbv	33.6	16.8	33.6		02/29/12 11:26	179601-23-1	
o-Xylene	ND	ppbv	16.8	8.4	33.6		02/29/12 11:26	95-47-6	

QUALITY CONTROL DATA

Project: SVE SYSTEM

Pace Project No.: 60115853

QC Batch:	AIR/14347	Analysis Method:	TO-14 Ambient Air
QC Batch Method:	TO-14 Ambient Air	Analysis Description:	TO14 MSV AIR - AMBIENT
Associated Lab Samples:	60115853001, 60115853002, 60115853003		

METHOD BLANK: 1146490 Matrix: Air

Associated Lab Samples: 60115853001, 60115853002, 60115853003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,4-Dichlorobenzene	ppbv	ND	0.50	02/28/12 19:00	
Benzene	ppbv	ND	0.50	02/28/12 19:00	
Chlorobenzene	ppbv	ND	0.50	02/28/12 19:00	
Ethylbenzene	ppbv	ND	0.50	02/28/12 19:00	
m&p-Xylene	ppbv	ND	1.0	02/28/12 19:00	
o-Xylene	ppbv	ND	0.50	02/28/12 19:00	
Toluene	ppbv	ND	0.50	02/28/12 19:00	

LABORATORY CONTROL SAMPLE: 1146491

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,4-Dichlorobenzene	ppbv	10	10.6	106	72-131	
Benzene	ppbv	10	11.6	116	69-134	
Chlorobenzene	ppbv	10	10.5	105	75-128	
Ethylbenzene	ppbv	10	10.5	105	69-139	
m&p-Xylene	ppbv	20	20.7	104	66-137	
o-Xylene	ppbv	10	10.3	103	69-138	
Toluene	ppbv	10	10.8	108	71-132	

QUALIFIERS

Project: SVE SYSTEM
Pace Project No.: 60115853

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

LABORATORIES

PASI-M Pace Analytical Services - Minneapolis

ANALYTE QUALIFIERS

A3 The sample was analyzed by serial dilution.

A4 Sample was transferred from a sampling bag into a Summa Canister within 48 hours of collection.

C0 Result confirmed by second analysis.

E Analyte concentration exceeded the calibration range. The reported result is estimated.

IS The internal standard recovery associated with this result exceeds the lower control limit. The reported result should be considered an estimated value.

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: SVE SYSTEM

Pace Project No.: 60115853

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60115853001	WGKBIGMO98STACK022212	TO-14 Ambient Air	AIR/14347		
60115853002	WGKBIGMO99STACK022212	TO-14 Ambient Air	AIR/14347		
60115853003	WGKBIGMOTOXINF022212	TO-14 Ambient Air	AIR/14347		

March 14, 2012

Erin Stanisewski
XDD, LLC
22 Marin Way #3
Stratham, NH 03885

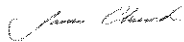
RE: Project: SVE SYSTEM
Pace Project No.: 60116606

Dear Erin Stanisewski:

Enclosed are the analytical results for sample(s) received by the laboratory on March 07, 2012. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Jamie Church

jamie.church@pacelabs.com
Project Manager

Enclosures

cc: William Johnson, Solutia, Inc.

VALIDATED
5/8/12
BY 



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: SVE SYSTEM

Pace Project No.: 60116606

Minnesota Certification IDs

1700 Elm Street SE Suite 200, Minneapolis, MN 55414

A2LA Certification #: 2926.01

Alaska Certification #: UST-078

Alaska Certification #MN00064

Arizona Certification #: AZ-0014

Arkansas Certification #: 88-0680

California Certification #: 01155CA

EPA Region 8 Certification #: Pace

Florida/NELAP Certification #: E87605

Georgia Certification #: 959

Idaho Certification #: MN00064

Illinois Certification #: 200011

Iowa Certification #: 368

Kansas Certification #: E-10167

Louisiana Certification #: 03086

Louisiana Certification #: LA080009

Maine Certification #: 2007029

Maryland Certification #: 322

Michigan DEQ Certification #: 9909

Minnesota Certification #: 027-053-137

Mississippi Certification #: Pace

Montana Certification #: MT CERT0092

Nebraska Certification #: Pace

Nevada Certification #: MN_00064

New Jersey Certification #: MN-002

New Mexico Certification #: Pace

New York Certification #: 11647

North Carolina Certification #: 530

North Dakota Certification #: R-036

North Dakota Certification #: R-036A

Ohio VAP Certification #: CL101

Oklahoma Certification #: D9921

Oklahoma Certification #: 9507

Oregon Certification #: MN200001

Pennsylvania Certification #: 68-00563

Puerto Rico Certification

Tennessee Certification #: 02818

Texas Certification #: T104704192

Washington Certification #: C754

Wisconsin Certification #: 999407970

REPORT OF LABORATORY ANALYSIS

SAMPLE SUMMARY

Project: SVE SYSTEM

Pace Project No.: 60116606

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60116606001	WGKBIGMO98STACK030612	Air	03/06/12 08:00	03/07/12 10:00
60116606002	WGKBIGMO99STACK030612	Air	03/06/12 08:00	03/07/12 10:00
60116606003	WGKBIGMOTOXINF030612	Air	03/06/12 08:00	03/07/12 10:00

REPORT OF LABORATORY ANALYSIS

Page 3 of 13

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SAMPLE ANALYTE COUNT

Project: SVE SYSTEM

Pace Project No.: 60116606

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60116606001	WGKBIGMO98STACK030612	TO-14 Ambient Air	DR1	7	PASI-M
60116606002	WGKBIGMO99STACK030612	TO-14 Ambient Air	CJR, DR1	7	PASI-M
60116606003	WGKBIGMOTOXINF030612	TO-14 Ambient Air	DR1	7	PASI-M

REPORT OF LABORATORY ANALYSIS

Page 4 of 13

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PROJECT NARRATIVE

Project: SVE SYSTEM

Pace Project No.: 60116606

Method: TO-14 Ambient Air

Description: TO14 MSV AIR - Ambient

Client: XDD, LLC

Date: May 04, 2012

General Information:

3 samples were analyzed for TO-14 Ambient Air. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

A4: Sample was transferred from a sampling bag into a Summa Canister within 48 hours of collection.

- WGKBIGMO98STACK030612 (Lab ID: 60116606001)
- WGKBIGMO99STACK030612 (Lab ID: 60116606002)
- WGKBIGMOTOXINF030612 (Lab ID: 60116606003)

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

Surrogates:

All surrogates were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

Sample Comments:

A3: The sample was analyzed by serial dilution.

- WGKBIGMO98STACK030612 (Lab ID: 60116606001)
- WGKBIGMOTOXINF030612 (Lab ID: 60116606003)

REPORT OF LABORATORY ANALYSIS

Page 5 of 13

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PROJECT NARRATIVE

Project: SVE SYSTEM

Pace Project No.: 60116606

Method: TO-14 Ambient Air

Description: TO14 MSV AIR - Ambient

Client: XDD, LLC

Date: May 04, 2012

Analyte Comments:

QC Batch: AIR/14410

A3: The sample was analyzed by serial dilution.

- WGKBIGMO99STACK030612 (Lab ID: 60116606002)
- Benzene

QC Batch: AIR/14425

E: Analyte concentration exceeded the calibration range. The reported result is estimated.

- WGKBIGMOTOXINF030612 (Lab ID: 60116606003)
- Benzene

This data package has been reviewed for quality and completeness and is approved for release.

REPORT OF LABORATORY ANALYSIS

Page 6 of 13

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ANALYTICAL RESULTS

Project: SVE SYSTEM

Pace Project No.: 60116606

Sample: WGKBIGMO98STACK0306 **Lab ID:** 60116606001 Collected: 03/06/12 08:00 Received: 03/07/12 10:00 Matrix: Air
12

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
TO14 MSV AIR - Ambient									
Analytical Method: TO-14 Ambient Air									
Benzene	3390	ppbv	269	134	537.6		03/10/12 02:07	71-43-2	A4
Chlorobenzene	149J	ppbv	269	134	537.6		03/10/12 02:07	108-90-7	
1,4-Dichlorobenzene	ND	ppbv	269	134	537.6		03/10/12 02:07	106-46-7	
Ethylbenzene	ND	ppbv	269	134	537.6		03/10/12 02:07	100-41-4	
Toluene	ND	ppbv	269	134	537.6		03/10/12 02:07	108-88-3	
m&p-Xylene	ND	ppbv	538	269	537.6		03/10/12 02:07	179601-23-1	
o-Xylene	ND	ppbv	269	134	537.6		03/10/12 02:07	95-47-6	

ANALYTICAL RESULTS

Project: SVE SYSTEM

Pace Project No.: 60116606

Sample: WGKBIGMO99STACK0306 **Lab ID:** 60116606002 Collected: 03/06/12 08:00 Received: 03/07/12 10:00 Matrix: Air
12

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
TO14 MSV AIR - Ambient									
Analytical Method: TO-14 Ambient Air									
Benzene	2340	ppbv	134	67.2	268.8		03/13/12 03:23	71-43-2	A3
Chlorobenzene	48.8	ppbv	16.8	8.4	33.6		03/08/12 20:39	108-90-7	
1,4-Dichlorobenzene	ND	ppbv	16.8	8.4	33.6		03/08/12 20:39	106-46-7	
Ethylbenzene	ND	ppbv	16.8	8.4	33.6		03/08/12 20:39	100-41-4	
Toluene	ND	ppbv	16.8	8.4	33.6		03/08/12 20:39	108-88-3	A4
m&p-Xylene	ND	ppbv	33.6	16.8	33.6		03/08/12 20:39	179601-23-1	
o-Xylene	ND	ppbv	16.8	8.4	33.6		03/08/12 20:39	95-47-6	

ANALYTICAL RESULTS

Project: SVE SYSTEM

Pace Project No.: 60116606

Sample: WGKBIGMOTOXINF030612 **Lab ID:** 60116606003 Collected: 03/06/12 08:00 Received: 03/07/12 10:00 Matrix: Air

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
TO14 MSV AIR - Ambient									
Analytical Method: TO-14 Ambient Air									
Benzene	6800000	ppbv	8600	4300	17203.		03/10/12 02:36	71-43-2	A4,E
Chlorobenzene	91200	ppbv	8600	4300	17203.		03/10/12 02:36	108-90-7	
1,4-Dichlorobenzene	ND	ppbv	8600	4300	17203.		03/10/12 02:36	106-46-7	
Ethylbenzene	ND	ppbv	8600	4300	17203.		03/10/12 02:36	100-41-4	
Toluene	ND	ppbv	8600	4300	17203.		03/10/12 02:36	108-88-3	
m&p-Xylene	ND	ppbv	17200	8600	17203.		03/10/12 02:36	179601-23-1	
o-Xylene	ND	ppbv	8600	4300	17203.		03/10/12 02:36	95-47-6	

QUALITY CONTROL DATA

Project: SVE SYSTEM

Pace Project No.: 60116606

QC Batch:	AIR/14410	Analysis Method:	TO-14 Ambient Air
QC Batch Method:	TO-14 Ambient Air	Analysis Description:	TO14 MSV AIR - AMBIENT
Associated Lab Samples:	60116606002		

METHOD BLANK: 1151086 Matrix: Air

Associated Lab Samples: 60116606002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,4-Dichlorobenzene	ppbv	ND	0.50	03/08/12 13:56	
Benzene	ppbv	ND	0.50	03/08/12 13:56	
Chlorobenzene	ppbv	ND	0.50	03/08/12 13:56	
Ethylbenzene	ppbv	ND	0.50	03/08/12 13:56	
m&p-Xylene	ppbv	ND	1.0	03/08/12 13:56	
o-Xylene	ppbv	ND	0.50	03/08/12 13:56	
Toluene	ppbv	ND	0.50	03/08/12 13:56	

LABORATORY CONTROL SAMPLE: 1151087

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,4-Dichlorobenzene	ppbv	10	8.2	82	72-131	
Benzene	ppbv	10	8.9	89	69-134	
Chlorobenzene	ppbv	10	9.2	92	75-128	
Ethylbenzene	ppbv	10	9.3	93	69-139	
m&p-Xylene	ppbv	20	19.8	99	66-137	
o-Xylene	ppbv	10	9.6	96	69-138	
Toluene	ppbv	10	9.2	92	71-132	

QUALITY CONTROL DATA

Project: SVE SYSTEM

Pace Project No.: 60116606

QC Batch:	AIR/14425	Analysis Method:	TO-14 Ambient Air
QC Batch Method:	TO-14 Ambient Air	Analysis Description:	TO14 MSV AIR - AMBIENT
Associated Lab Samples:	60116606001, 60116606003		

METHOD BLANK: 1152774 Matrix: Air

Associated Lab Samples: 60116606001, 60116606003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,4-Dichlorobenzene	ppbv	ND	0.50	03/09/12 16:31	
Benzene	ppbv	ND	0.50	03/09/12 16:31	
Chlorobenzene	ppbv	ND	0.50	03/09/12 16:31	
Ethylbenzene	ppbv	ND	0.50	03/09/12 16:31	
m&p-Xylene	ppbv	ND	1.0	03/09/12 16:31	
o-Xylene	ppbv	ND	0.50	03/09/12 16:31	
Toluene	ppbv	ND	0.50	03/09/12 16:31	

LABORATORY CONTROL SAMPLE: 1152775

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,4-Dichlorobenzene	ppbv	10	9.2	92	72-131	
Benzene	ppbv	10	9.4	94	69-134	
Chlorobenzene	ppbv	10	9.2	92	75-128	
Ethylbenzene	ppbv	10	9.1	91	69-139	
m&p-Xylene	ppbv	20	17.8	89	66-137	
o-Xylene	ppbv	10	9.1	91	69-138	
Toluene	ppbv	10	9.8	98	71-132	

QUALIFIERS

Project: SVE SYSTEM
Pace Project No.: 60116606

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

LABORATORIES

PASI-M Pace Analytical Services - Minneapolis

SAMPLE QUALIFIERS

Sample: 60116606001

[1] The sample was analyzed by serial dilution.

Sample: 60116606003

[1] The sample was analyzed by serial dilution.

ANALYTE QUALIFIERS

A3 The sample was analyzed by serial dilution.

A4 Sample was transferred from a sampling bag into a Summa Canister within 48 hours of collection.

E Analyte concentration exceeded the calibration range. The reported result is estimated.

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: SVE SYSTEM

Pace Project No.: 60116606

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60116606001	WGKBIGMO98STACK030612	TO-14 Ambient Air	AIR/14425		
60116606002	WGKBIGMO99STACK030612	TO-14 Ambient Air	AIR/14410		
60116606003	WGKBIGMOTOXINF030612	TO-14 Ambient Air	AIR/14425		

April 19, 2012

Erin Stanisewski
XDD, LLC
22 Marin Way #3
Stratham, NH 03885

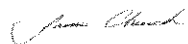
RE: Project: SVE SYSTEM
Pace Project No.: 60118674

Dear Erin Stanisewski:

Enclosed are the analytical results for sample(s) received by the laboratory on April 04, 2012. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Jamie Church

jamie.church@pacelabs.com
Project Manager

Enclosures

cc: William Johnson, Solutia, Inc.

VALIDATED
5/8/12
BY JA



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: SVE SYSTEM

Pace Project No.: 60118674

Minnesota Certification IDs

1700 Elm Street SE Suite 200, Minneapolis, MN 55414

A2LA Certification #: 2926.01

Alaska Certification #: UST-078

Alaska Certification #MN00064

Arizona Certification #: AZ-0014

Arkansas Certification #: 88-0680

California Certification #: 01155CA

EPA Region 8 Certification #: Pace

Florida/NELAP Certification #: E87605

Georgia Certification #: 959

Idaho Certification #: MN00064

Illinois Certification #: 200011

Iowa Certification #: 368

Kansas Certification #: E-10167

Louisiana Certification #: 03086

Louisiana Certification #: LA080009

Maine Certification #: 2007029

Maryland Certification #: 322

Michigan DEQ Certification #: 9909

Minnesota Certification #: 027-053-137

Mississippi Certification #: Pace

Montana Certification #: MT CERT0092

Nebraska Certification #: Pace

Nevada Certification #: MN_00064

New Jersey Certification #: MN-002

New Mexico Certification #: Pace

New York Certification #: 11647

North Carolina Certification #: 530

North Dakota Certification #: R-036

North Dakota Certification #: R-036A

Ohio VAP Certification #: CL101

Oklahoma Certification #: D9921

Oklahoma Certification #: 9507

Oregon Certification #: MN200001

Pennsylvania Certification #: 68-00563

Puerto Rico Certification

Tennessee Certification #: 02818

Texas Certification #: T104704192

Washington Certification #: C754

Wisconsin Certification #: 999407970

REPORT OF LABORATORY ANALYSIS

Page 2 of 10

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SAMPLE SUMMARY

Project: SVE SYSTEM

Pace Project No.: 60118674

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60118674001	WGKBIGMOSPA01040212	Air	04/02/12 11:00	04/04/12 10:01

REPORT OF LABORATORY ANALYSIS

Page 3 of 10

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SAMPLE ANALYTE COUNT

Project: SVE SYSTEM

Pace Project No.: 60118674

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60118674001	WGKBIGMOSPA01040212	TO-14 Ambient Air	DR1	7	PASI-M

REPORT OF LABORATORY ANALYSIS

Page 4 of 10

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PROJECT NARRATIVE

Project: SVE SYSTEM

Pace Project No.: 60118674

Method: TO-14 Ambient Air

Description: TO14 MSV AIR - Ambient

Client: XDD, LLC

Date: April 19, 2012

General Information:

1 sample was analyzed for TO-14 Ambient Air. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

A4: Sample was transferred from a sampling bag into a Summa Canister within 48 hours of collection.

- WGKBIGMOSPA01040212 (Lab ID: 60118674001)

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

Surrogates:

All surrogates were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

Sample Comments:

A3: The sample was analyzed by serial dilution.

- WGKBIGMOSPA01040212 (Lab ID: 60118674001)

Analyte Comments:

QC Batch: AIR/14703

E: Analyte concentration exceeded the calibration range. The reported result is estimated.

- WGKBIGMOSPA01040212 (Lab ID: 60118674001)
- Benzene

REPORT OF LABORATORY ANALYSIS

Page 5 of 10

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PROJECT NARRATIVE

Project: SVE SYSTEM

Pace Project No.: 60118674

Method: TO-14 Ambient Air

Description: TO14 MSV AIR - Ambient

Client: XDD, LLC

Date: April 19, 2012

This data package has been reviewed for quality and completeness and is approved for release.

REPORT OF LABORATORY ANALYSIS

Page 6 of 10

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ANALYTICAL RESULTS

Project: SVE SYSTEM

Pace Project No.: 60118674

Sample: WGKBIGMOSPA01040212 Lab ID: 60118674001 Collected: 04/02/12 11:00 Received: 04/04/12 10:01 Matrix: Air									
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
TO14 MSV AIR - Ambient Analytical Method: TO-14 Ambient Air									
Benzene	9480000	ppbv	22400	11200	44851.		04/17/12 23:31	71-43-2	A4,E
Chlorobenzene	45400	ppbv	22400	11200	44851.		04/17/12 23:31	108-90-7	
1,4-Dichlorobenzene	ND	ppbv	22400	11200	44851.		04/17/12 23:31	106-46-7	
Ethylbenzene	ND	ppbv	22400	11200	44851.		04/17/12 23:31	100-41-4	
Toluene	26600	ppbv	22400	11200	44851.		04/17/12 23:31	108-88-3	
m&p-Xylene	ND	ppbv	44900	22400	44851.		04/17/12 23:31	179601-23-1	
o-Xylene	ND	ppbv	22400	11200	44851.		04/17/12 23:31	95-47-6	

QUALITY CONTROL DATA

Project: SVE SYSTEM

Pace Project No.: 60118674

QC Batch:	AIR/14703	Analysis Method:	TO-14 Ambient Air
QC Batch Method:	TO-14 Ambient Air	Analysis Description:	TO14 MSV AIR - AMBIENT
Associated Lab Samples:	60118674001		

METHOD BLANK: 1175425 Matrix: Air

Associated Lab Samples: 60118674001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,4-Dichlorobenzene	ppbv	ND	0.50	04/17/12 18:22	
Benzene	ppbv	ND	0.50	04/17/12 18:22	
Chlorobenzene	ppbv	ND	0.50	04/17/12 18:22	
Ethylbenzene	ppbv	ND	0.50	04/17/12 18:22	
m&p-Xylene	ppbv	ND	1.0	04/17/12 18:22	
o-Xylene	ppbv	ND	0.50	04/17/12 18:22	
Toluene	ppbv	ND	0.50	04/17/12 18:22	

LABORATORY CONTROL SAMPLE: 1175426

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,4-Dichlorobenzene	ppbv	10	10	100	72-131	
Benzene	ppbv	10	10.8	108	69-134	
Chlorobenzene	ppbv	10	10.3	103	75-128	
Ethylbenzene	ppbv	10	11.5	115	69-139	
m&p-Xylene	ppbv	20	21.7	109	66-137	
o-Xylene	ppbv	10	10.6	106	69-138	
Toluene	ppbv	10	10.5	105	71-132	

QUALIFIERS

Project: SVE SYSTEM
Pace Project No.: 60118674

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

LABORATORIES

PASI-M Pace Analytical Services - Minneapolis

SAMPLE QUALIFIERS

Sample: 60118674001

[1] The sample was analyzed by serial dilution.

ANALYTE QUALIFIERS

A4 Sample was transferred from a sampling bag into a Summa Canister within 48 hours of collection.

E Analyte concentration exceeded the calibration range. The reported result is estimated.

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: SVE SYSTEM

Pace Project No.: 60118674

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60118674001	WGKBIGMOSPA01040212	TO-14 Ambient Air	AIR/14703		

May 14, 2012

Erin Stanisewski
XDD, LLC
22 Marin Way #3
Stratham, NH 03885

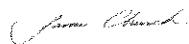
RE: Project: BIG MO SVE
Pace Project No.: 60120193

Dear Erin Stanisewski:

Enclosed are the analytical results for sample(s) received by the laboratory on April 27, 2012. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Jamie Church

jamie.church@pacelabs.com
Project Manager

Enclosures

cc: William Johnson, Solutia, Inc.

VALIDATED
5/25/12
BY
JA



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: BIG MO SVE

Pace Project No.: 60120193

Minnesota Certification IDs

1700 Elm Street SE Suite 200, Minneapolis, MN 55414

A2LA Certification #: 2926.01

Alaska Certification #: UST-078

Alaska Certification #MN00064

Arizona Certification #: AZ-0014

Arkansas Certification #: 88-0680

California Certification #: 01155CA

EPA Region 8 Certification #: Pace

Florida/NELAP Certification #: E87605

Georgia Certification #: 959

Idaho Certification #: MN00064

Illinois Certification #: 200011

Iowa Certification #: 368

Kansas Certification #: E-10167

Louisiana Certification #: 03086

Louisiana Certification #: LA080009

Maine Certification #: 2007029

Maryland Certification #: 322

Michigan DEQ Certification #: 9909

Minnesota Certification #: 027-053-137

Mississippi Certification #: Pace

Montana Certification #: MT CERT0092

Nebraska Certification #: Pace

Nevada Certification #: MN_00064

New Jersey Certification #: MN-002

New Mexico Certification #: Pace

New York Certification #: 11647

North Carolina Certification #: 530

North Dakota Certification #: R-036

North Dakota Certification #: R-036A

Ohio VAP Certification #: CL101

Oklahoma Certification #: D9921

Oklahoma Certification #: 9507

Oregon Certification #: MN200001

Pennsylvania Certification #: 68-00563

Puerto Rico Certification

Tennessee Certification #: 02818

Texas Certification #: T104704192

Washington Certification #: C754

Wisconsin Certification #: 999407970

REPORT OF LABORATORY ANALYSIS

Page 2 of 13

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SAMPLE SUMMARY

Project: BIG MO SVE

Pace Project No.: 60120193

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60120193001	WGKBIGMO98STACK04262	Air	04/26/12 14:30	04/27/12 10:14
60120193002	WGKBIGMO99STACK04262	Air	04/26/12 14:30	04/27/12 10:14
60120193003	WGKBIGMOTOXINF04262	Air	04/26/12 14:30	04/27/12 10:14

REPORT OF LABORATORY ANALYSIS

Page 3 of 13

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SAMPLE ANALYTE COUNT

Project: BIG MO SVE

Pace Project No.: 60120193

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60120193001	WGKBIGMO98STACK04262	TO-14 Ambient Air	CJR	7	PASI-M
60120193002	WGKBIGMO99STACK04262	TO-14 Ambient Air	DR1	7	PASI-M
60120193003	WGKBIGMOTOXINF04262	TO-14 Ambient Air	DR1	7	PASI-M

REPORT OF LABORATORY ANALYSIS

Page 4 of 13

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PROJECT NARRATIVE

Project: BIG MO SVE

Pace Project No.: 60120193

Method: TO-14 Ambient Air

Description: TO14 MSV AIR - Ambient

Client: XDD, LLC

Date: May 23, 2012

General Information:

3 samples were analyzed for TO-14 Ambient Air. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

A4: Sample was transferred from a sampling bag into a Summa Canister within 48 hours of collection.

- WGKBIGMO98STACK04262 (Lab ID: 60120193001)
- WGKBIGMO99STACK04262 (Lab ID: 60120193002)
- WGKBIGMOTOXINF04262 (Lab ID: 60120193003)

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

Surrogates:

All surrogates were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

Sample Comments:

A3: The sample was analyzed by serial dilution.

- WGKBIGMO98STACK04262 (Lab ID: 60120193001)
- WGKBIGMO99STACK04262 (Lab ID: 60120193002)
- WGKBIGMOTOXINF04262 (Lab ID: 60120193003)

REPORT OF LABORATORY ANALYSIS

Page 5 of 13

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PROJECT NARRATIVE

Project: BIG MO SVE

Pace Project No.: 60120193

Method: TO-14 Ambient Air

Description: TO14 MSV AIR - Ambient

Client: XDD, LLC

Date: May 23, 2012

Analyte Comments:

QC Batch: AIR/14846

E: Analyte concentration exceeded the calibration range. The reported result is estimated.

- WGKBIGMOTOXINF04262 (Lab ID: 60120193003)
- Benzene

This data package has been reviewed for quality and completeness and is approved for release.

REPORT OF LABORATORY ANALYSIS

Page 6 of 13

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ANALYTICAL RESULTS

Project: BIG MO SVE

Pace Project No.: 60120193

Sample: WGKBIGMO98STACK0426 **Lab ID:** 60120193001 Collected: 04/26/12 14:30 Received: 04/27/12 10:14 Matrix: Air
2

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
TO14 MSV AIR - Ambient									
Analytical Method: TO-14 Ambient Air									
Benzene	617	ppbv	27.8	13.9	55.68		05/10/12 20:52	71-43-2	A4
Chlorobenzene	75.4	ppbv	27.8	13.9	55.68		05/10/12 20:52	108-90-7	
1,4-Dichlorobenzene	ND	ppbv	27.8	13.9	55.68		05/10/12 20:52	106-46-7	
Ethylbenzene	ND	ppbv	27.8	13.9	55.68		05/10/12 20:52	100-41-4	
Toluene	142	ppbv	27.8	13.9	55.68		05/10/12 20:52	108-88-3	
m&p-Xylene	35.3J	ppbv	55.7	27.8	55.68		05/10/12 20:52	179601-23-1	
o-Xylene	ND	ppbv	27.8	13.9	55.68		05/10/12 20:52	95-47-6	

ANALYTICAL RESULTS

Project: BIG MO SVE

Pace Project No.: 60120193

Sample: WGKBIGMO99STACK0426 **Lab ID:** 60120193002 Collected: 04/26/12 14:30 Received: 04/27/12 10:14 Matrix: Air
2

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
TO14 MSV AIR - Ambient									
Analytical Method: TO-14 Ambient Air									
Benzene	2480	ppbv	69.6	34.8	139.2		05/09/12 02:11	71-43-2	A4
Chlorobenzene	164	ppbv	69.6	34.8	139.2		05/09/12 02:11	108-90-7	
1,4-Dichlorobenzene	ND	ppbv	69.6	34.8	139.2		05/09/12 02:11	106-46-7	
Ethylbenzene	51.4J	ppbv	69.6	34.8	139.2		05/09/12 02:11	100-41-4	
Toluene	377	ppbv	69.6	34.8	139.2		05/09/12 02:11	108-88-3	
m&p-Xylene	74.4J	ppbv	139	69.6	139.2		05/09/12 02:11	179601-23-1	
o-Xylene	46.2J	ppbv	69.6	34.8	139.2		05/09/12 02:11	95-47-6	

ANALYTICAL RESULTS

Project: BIG MO SVE

Pace Project No.: 60120193

Sample: WGKBIGMOTOXINF04262 Lab ID: 60120193003 Collected: 04/26/12 14:30 Received: 04/27/12 10:14 Matrix: Air									
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
TO14 MSV AIR - Ambient									
Analytical Method: TO-14 Ambient Air									
Benzene	2610000	ppbv	10300	5170	20684.		05/09/12 02:41	71-43-2	A4,E
Chlorobenzene	161000	ppbv	10300	5170	20684.		05/09/12 02:41	108-90-7	
1,4-Dichlorobenzene	ND	ppbv	10300	5170	20684.		05/09/12 02:41	106-46-7	
Ethylbenzene	ND	ppbv	10300	5170	20684.		05/09/12 02:41	100-41-4	
Toluene	18000	ppbv	10300	5170	20684.		05/09/12 02:41	108-88-3	
m&p-Xylene	ND	ppbv	20700	10300	20684.		05/09/12 02:41	179601-23-1	
o-Xylene	ND	ppbv	10300	5170	20684.		05/09/12 02:41	95-47-6	

QUALITY CONTROL DATA

Project: BIG MO SVE

Pace Project No.: 60120193

QC Batch:	AIR/14846	Analysis Method:	TO-14 Ambient Air
QC Batch Method:	TO-14 Ambient Air	Analysis Description:	TO14 MSV AIR - AMBIENT
Associated Lab Samples:	60120193002, 60120193003		

METHOD BLANK: 1192326 Matrix: Air

Associated Lab Samples: 60120193002, 60120193003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,4-Dichlorobenzene	ppbv	ND	0.50	05/08/12 12:59	
Benzene	ppbv	ND	0.50	05/08/12 12:59	
Chlorobenzene	ppbv	ND	0.50	05/08/12 12:59	
Ethylbenzene	ppbv	ND	0.50	05/08/12 12:59	
m&p-Xylene	ppbv	ND	1.0	05/08/12 12:59	
o-Xylene	ppbv	ND	0.50	05/08/12 12:59	
Toluene	ppbv	ND	0.50	05/08/12 12:59	

LABORATORY CONTROL SAMPLE: 1192327

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,4-Dichlorobenzene	ppbv	10	10.4	104	72-131	
Benzene	ppbv	10	10	100	69-134	
Chlorobenzene	ppbv	10	10.1	101	75-128	
Ethylbenzene	ppbv	10	10.6	106	69-139	
m&p-Xylene	ppbv	20	22.9	115	66-137	
o-Xylene	ppbv	10	10.8	108	69-138	
Toluene	ppbv	10	10.4	104	71-132	

QUALITY CONTROL DATA

Project: BIG MO SVE

Pace Project No.: 60120193

QC Batch:	AIR/14862	Analysis Method:	TO-14 Ambient Air
QC Batch Method:	TO-14 Ambient Air	Analysis Description:	TO14 MSV AIR - AMBIENT
Associated Lab Samples:	60120193001		

METHOD BLANK: 1194263 Matrix: Air

Associated Lab Samples: 60120193001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,4-Dichlorobenzene	ppbv	ND	0.50	05/10/12 20:22	
Benzene	ppbv	ND	0.50	05/10/12 20:22	
Chlorobenzene	ppbv	ND	0.50	05/10/12 20:22	
Ethylbenzene	ppbv	ND	0.50	05/10/12 20:22	
m&p-Xylene	ppbv	ND	1.0	05/10/12 20:22	
o-Xylene	ppbv	ND	0.50	05/10/12 20:22	
Toluene	ppbv	ND	0.50	05/10/12 20:22	

LABORATORY CONTROL SAMPLE: 1194264

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,4-Dichlorobenzene	ppbv	10	11.2	112	72-131	
Benzene	ppbv	10	10.4	104	69-134	
Chlorobenzene	ppbv	10	10.2	102	75-128	
Ethylbenzene	ppbv	10	11.6	116	69-139	
m&p-Xylene	ppbv	20	22.3	111	66-137	
o-Xylene	ppbv	10	11.6	116	69-138	
Toluene	ppbv	10	10.3	103	71-132	

SAMPLE DUPLICATE: 1195161

Parameter	Units	10191290001 Result	Dup Result	RPD	Max RPD	Qualifiers
1,4-Dichlorobenzene	ppbv	ND	ND		30	
Benzene	ppbv	ND	ND		30	
Chlorobenzene	ppbv	ND	ND		30	
Ethylbenzene	ppbv	ND	ND		30	
m&p-Xylene	ppbv	ND	ND		30	
o-Xylene	ppbv	ND	ND		30	
Toluene	ppbv	ND	ND		30	

QUALIFIERS

Project: BIG MO SVE
Pace Project No.: 60120193

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

LABORATORIES

PASI-M Pace Analytical Services - Minneapolis

SAMPLE QUALIFIERS

Sample: 60120193001

[1] The sample was analyzed by serial dilution.

Sample: 60120193002

[1] The sample was analyzed by serial dilution.

Sample: 60120193003

[1] The sample was analyzed by serial dilution.

ANALYTE QUALIFIERS

A4 Sample was transferred from a sampling bag into a Summa Canister within 48 hours of collection.

E Analyte concentration exceeded the calibration range. The reported result is estimated.

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: BIG MO SVE

Pace Project No.: 60120193

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60120193001	WGKBIGMO98STACK04262	TO-14 Ambient Air	AIR/14862		
60120193002	WGKBIGMO99STACK04262	TO-14 Ambient Air	AIR/14846		
60120193003	WGKBIGMOTOXINF04262	TO-14 Ambient Air	AIR/14846		

May 22, 2012

Erin Stanisewski
XDD, LLC
22 Marin Way #3
Stratham, NH 03885

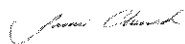
RE: Project: BIG MO SVE SYSTEM
Pace Project No.: 60121366

Dear Erin Stanisewski:

Enclosed are the analytical results for sample(s) received by the laboratory on May 15, 2012. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Jamie Church

jamie.church@pacelabs.com
Project Manager

Enclosures

cc: William Johnson, Solutia, Inc.

VALIDATED
5/25/12
JA



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: BIG MO SVE SYSTEM

Pace Project No.: 60121366

Minnesota Certification IDs

1700 Elm Street SE Suite 200, Minneapolis, MN 55414

A2LA Certification #: 2926.01

Alaska Certification #: UST-078

Alaska Certification #MN00064

Arizona Certification #: AZ-0014

Arkansas Certification #: 88-0680

California Certification #: 01155CA

EPA Region 8 Certification #: Pace

Florida/NELAP Certification #: E87605

Georgia Certification #: 959

Idaho Certification #: MN00064

Illinois Certification #: 200011

Iowa Certification #: 368

Kansas Certification #: E-10167

Louisiana Certification #: 03086

Louisiana Certification #: LA080009

Maine Certification #: 2007029

Maryland Certification #: 322

Michigan DEQ Certification #: 9909

Minnesota Certification #: 027-053-137

Mississippi Certification #: Pace

Montana Certification #: MT CERT0092

Nebraska Certification #: Pace

Nevada Certification #: MN_00064

New Jersey Certification #: MN-002

New Mexico Certification #: Pace

New York Certification #: 11647

North Carolina Certification #: 530

North Dakota Certification #: R-036

North Dakota Certification #: R-036A

Ohio VAP Certification #: CL101

Oklahoma Certification #: D9921

Oklahoma Certification #: 9507

Oregon Certification #: MN200001

Pennsylvania Certification #: 68-00563

Puerto Rico Certification

Tennessee Certification #: 02818

Texas Certification #: T104704192

Washington Certification #: C754

Wisconsin Certification #: 999407970

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: BIG MO SVE SYSTEM

Pace Project No.: 60121366

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60121366003	WGK-BIGMO-TOXINF-051412	Air	05/14/12 15:15	05/15/12 10:17

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: BIG MO SVE SYSTEM

Pace Project No.: 60121366

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60121366003	WGK-BIGMO-TOXINF-051412	TO-14 Ambient Air	CJR	6	PASI-M

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: BIG MO SVE SYSTEM

Pace Project No.: 60121366

Method: TO-14 Ambient Air

Description: TO14 MSV AIR - Ambient

Client: XDD, LLC

Date: May 22, 2012

General Information:

1 sample was analyzed for TO-14 Ambient Air. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

A4: Sample was transferred from a sampling bag into a Summa Canister within 48 hours of collection.

- WGK-BIGMO-TOXINF-051412 (Lab ID: 60121366003)

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

QC Batch: AIR/14932

IS: The internal standard recovery associated with this result exceeds the lower control limit. The reported result should be considered an estimated value.

- WGK-BIGMO-TOXINF-051412 (Lab ID: 60121366003)
- Chlorobenzene

Surrogates:

All surrogates were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

Sample Comments:

A3: The sample was analyzed by serial dilution.

- WGK-BIGMO-TOXINF-051412 (Lab ID: 60121366003)

REPORT OF LABORATORY ANALYSIS

Page 5 of 10

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PROJECT NARRATIVE

Project: BIG MO SVE SYSTEM

Pace Project No.: 60121366

Method: TO-14 Ambient Air

Description: TO14 MSV AIR - Ambient

Client: XDD, LLC

Date: May 22, 2012

Analyte Comments:

QC Batch: AIR/14932

C0: Result confirmed by second analysis.

- WGK-BIGMO-TOXINF-051412 (Lab ID: 60121366003)

- Benzene

- Chlorobenzene

E: Analyte concentration exceeded the calibration range. The reported result is estimated.

- WGK-BIGMO-TOXINF-051412 (Lab ID: 60121366003)

- Benzene

This data package has been reviewed for quality and completeness and is approved for release.

REPORT OF LABORATORY ANALYSIS

Page 6 of 10

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ANALYTICAL RESULTS

Project: BIG MO SVE SYSTEM

Pace Project No.: 60121366

Sample: WGK-BIGMO-TOXINF-051412 **Lab ID:** 60121366003 Collected: 05/14/12 15:15 Received: 05/15/12 10:17 Matrix: Air

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
TO14 MSV AIR - Ambient									
Analytical Method: TO-14 Ambient Air									
Benzene	8850000	ppbv	34400	17200	68812.		05/22/12 11:40	71-43-2	C0,E
Chlorobenzene	1090000	ppbv	34400	17200	68812.		05/22/12 11:40	108-90-7	C0,IS
1,2-Dichlorobenzene	1460	ppbv	1080	538	2150.4		05/22/12 04:10	95-50-1	
1,3-Dichlorobenzene	ND	ppbv	1080	538	2150.4		05/22/12 04:10	541-73-1	A4
1,4-Dichlorobenzene	5540	ppbv	1080	538	2150.4		05/22/12 04:10	106-46-7	
1,2,4-Trichlorobenzene	ND	ppbv	1080	538	2150.4		05/22/12 04:10	120-82-1	

QUALITY CONTROL DATA

Project: BIG MO SVE SYSTEM
Pace Project No.: 60121366

QC Batch:	AIR/14932	Analysis Method:	TO-14 Ambient Air
QC Batch Method:	TO-14 Ambient Air	Analysis Description:	TO14 MSV AIR - AMBIENT
Associated Lab Samples:	60121366003		

METHOD BLANK: 1200763 Matrix: Air
Associated Lab Samples: 60121366003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2,4-Trichlorobenzene	ppbv	ND	0.50	05/21/12 14:30	
1,2-Dichlorobenzene	ppbv	ND	0.50	05/21/12 14:30	
1,3-Dichlorobenzene	ppbv	ND	0.50	05/21/12 14:30	
1,4-Dichlorobenzene	ppbv	ND	0.50	05/21/12 14:30	
Benzene	ppbv	ND	0.50	05/21/12 14:30	
Chlorobenzene	ppbv	ND	0.50	05/21/12 14:30	

LABORATORY CONTROL SAMPLE: 1200764

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ppbv	10	12.8	128	48-150	
1,2-Dichlorobenzene	ppbv	10	10.9	109	71-132	
1,3-Dichlorobenzene	ppbv	10	10.6	106	71-128	
1,4-Dichlorobenzene	ppbv	10	10.3	103	72-131	
Benzene	ppbv	10	9.3	93	69-134	
Chlorobenzene	ppbv	10	10	100	75-128	

SAMPLE DUPLICATE: 1201676

Parameter	Units	10191599001 Result	Dup Result	RPD	Max RPD	Qualifiers
1,2,4-Trichlorobenzene	ppbv	ND	ND		30	
1,2-Dichlorobenzene	ppbv	ND	ND		30	
1,3-Dichlorobenzene	ppbv	ND	ND		30	
1,4-Dichlorobenzene	ppbv	ND	ND		30	
Benzene	ppbv	ND	ND		30	
Chlorobenzene	ppbv	ND	ND		30	

QUALIFIERS

Project: BIG MO SVE SYSTEM

Pace Project No.: 60121366

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

LABORATORIES

PASI-M Pace Analytical Services - Minneapolis

SAMPLE QUALIFIERS

Sample: 60121366003

[1] The sample was analyzed by serial dilution.

ANALYTE QUALIFIERS

A4 Sample was transferred from a sampling bag into a Summa Canister within 48 hours of collection.

C0 Result confirmed by second analysis.

E Analyte concentration exceeded the calibration range. The reported result is estimated.

IS The internal standard recovery associated with this result exceeds the lower control limit. The reported result should be considered an estimated value.

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: BIG MO SVE SYSTEM

Pace Project No.: 60121366

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60121366003	WGK-BIGMO-TOXINF-051412	TO-14 Ambient Air	AIR/14932		

APPENDIX E

BASELINE SOIL SAMPLING RESULTS AND COC MASS ESTIMATES

Appendix E - Table E1A
Soil Sampling Results - Baseline 2009 and 2010
 Big Mo Treatment Area
 Solutia Inc., W.G. Krummrich Facility, Sauget, Illinois

Location	Depth (ft bgs)	Benzene (mg/kg)	Chlorobenzene (mg/kg)
Sandy Fill / Upper Silty Sand			
WGK-SVE-82	0 - 2 ft	<0.45	<0.45
WGK-SVE-60	1 - 2 ft	0.0039 J	<0.0049
WGK-SVE-66	2 - 3 ft	0.04	<0.0058
WGK-SVE-30	3 - 4 ft	0.002 J	<0.0049
WGK-SVE-32	3 - 4 ft	<0.0056	<0.0056
WGK-SVE-34	3 - 4 ft	0.0019 J	<0.0055
WGK-SVE-36	3 - 4 ft	1,100	<76
WGK-SVE-39	3 - 4 ft	180	<7.5
WGK-SVE-61	3 - 4 ft	0.0022 J*	0.0026 J*
WGK-SVE-62	3 - 4 ft	<0.0064*	<0.0064*
WGK-SVE-63	3 - 4 ft	55	97
WGK-SVE-67	3 - 4 ft	0.029*	0.0093*
WGK-SVE-68	3 - 4 ft	620	<45
WGK-SVE-70	3 - 4 ft	0.73	2.4
WGK-SVE-71	3 - 4 ft	30	<2.1
WGK-SVE-72	3 - 4 ft	0.23 J	0.69 J
WGK-SVE-73	3 - 4 ft	<0.0097*	<0.0097*
WGK-SVE-80	3 - 4 ft	66	140
WGK-SVE-81	3 - 4 ft	<0.0053	<0.0053
WGK-SVE-33	4 - 5 ft	0.0019 J	<0.0054
WGK-SVE-35	4 - 5 ft	<0.0054	<0.0054
WGK-SVE-38	4 - 5 ft	0.19	0.0014 J
WGK-SVE-60A	4 - 5 ft	0.0023 J	0.0058
WGK-SVE-60A-DUP	4 - 5 ft	<0.2	0.047 DJ
WGK-SVE-64	4 - 5 ft	720	<33
WGK-SVE-65	4 - 5 ft	1	<0.19
WGK-SVE-69	4 - 5 ft	0.22	<0.0044
WGK-SVE-69-DUP	4 - 5 ft	0.24 D	<0.2
WGK-SVE-70	5 - 6 ft	81	2.5
WGK-SVE-62	7 - 8 ft	0.0019 J*	<0.0056*
WGK-SVE-69	7 - 8 ft	630	<48
WGK-SVE-34	8 - 9 ft	1.8	<0.52
WGK-SVE-61	8 - 9 ft	0.96 J	75
WGK-SVE-80	8 - 9 ft	180	420
WGK-SVE-80-DUP	8 - 9 ft	180	480
WGK-SVE-60	9 - 10 ft	0.39	7.4
Average:		366	NA
Maximum (not including Hot Spots):		1,100	480
Hot Spot (averaged, if applicable):		NA	NA
Intermediate Silty Clay			
WGK-SVE-79	3 - 4 ft	250	48
WGK-SVE-37	4 - 5 ft	140	<12
WGK-SVE-78	4 - 5 ft	<0.0051	<0.0051
WGK-SVE-83	4 - 5 ft	<0.38	1.6
WGK-SVE-38	6 - 7 ft	3.2	<0.52
WGK-SVE-64	6 - 7 ft	390	<28
WGK-SVE-72	6 - 7 ft	0.61	12
WGK-SVE-39	7 - 8 ft	30	<1.2
WGK-SVE-67	7 - 8 ft	0.0023 J*	0.032*
WGK-SVE-68	7 - 8 ft	3,900	49
WGK-SVE-73	7 - 8 ft	0.0042 J*	0.01*
WGK-SVE-83	7 - 8 ft	0.086 J	2.6
WGK-SVE-60A	8 - 9 ft	0.064	<0.0062
WGK-SVE-66	8 - 9 ft	0.011	0.51 E
WGK-SVE-66-DUP	8 - 9 ft	0.083 JD	2.3 D
WGK-SVE-81	8 - 9 ft	<0.0077	<0.0077
WGK-SVE-82	8 - 9 ft	<0.0058	<0.0058
WGK-SVE-30	9 - 10 ft	<0.0051	<0.0051
WGK-SVE-33	9 - 10 ft	190	<12
WGK-SVE-36	9 - 10 ft	1,100	<53

Appendix E - Table E1A
Soil Sampling Results - Baseline 2009 and 2010
 Big Mo Treatment Area
 Solutia Inc., W.G. Krummrich Facility, Sauget, Illinois

Location	Depth (ft bgs)	Benzene (mg/kg)	Chlorobenzene (mg/kg)
Intermediate Silty Clay (continued)			
WGK-SVE-37	9 - 10 ft	400	<31
WGK-SVE-65	9 - 10 ft	29,000	<6,000
WGK-SVE-65-DUP	9 - 10 ft	25,000	<5,800
WGK-SVE-71	9 - 10 ft	330	<11
WGK-SVE-78	9 - 10 ft	<0.006	<0.006
WGK-SVE-70	12 - 13 ft	16	2.1
Average:		748	no exceedences
Maximum (not including Hot Spots):		3,900	49
Hot Spot (averaged, if applicable):		29,000	no exceedences
Lower Silty Sand			
WGK-SVE-32	8 - 9 ft	0.0036 J	<0.0061
WGK-SVE-32-DUP	8 - 9 ft	<0.0056	<0.0056
WGK-SVE-35	8 - 9 ft	<0.0055	<0.0055
WGK-SVE-35-DUP	8 - 9 ft	<0.0052	<0.0052
WGK-SVE-63	9 - 10 ft	370	15 J
WGK-SVE-79	9 - 10 ft	680	620
WGK-SVE-71	10 - 11 ft	42,000	<4,800
WGK-SVE-72	10 - 11 ft	0.0037 J*	0.021*
WGK-SVE-78	10 - 11 ft	<0.005	0.027
WGK-SVE-78-DUP	10 - 11 ft	0.0013 J	0.032
WGK-SVE-33	11 - 12 ft	15,000	<570
WGK-SVE-60	11 - 12 ft	0.35 J	28
WGK-SVE-61	11 - 12 ft	47	200
WGK-SVE-61-DUP	11 - 12 ft	47	230
WGK-SVE-66	11 - 12 ft	29	2.9
WGK-SVE-69	11 - 12 ft	610	<30
WGK-SVE-60A	12 - 13 ft	0.0033 J	0.0027 J
WGK-SVE-79	12 - 13 ft	680	810
WGK-SVE-80	12 - 13 ft	3	15
WGK-SVE-82	12 - 13 ft	<0.0064	0.0077
WGK-SVE-32	13 - 14 ft	0.0015 J	<0.0056
WGK-SVE-34	13 - 14 ft	38	0.89
WGK-SVE-36	13 - 14 ft	7,000	<560
WGK-SVE-38	13 - 14 ft	1,500	21
WGK-SVE-39	13 - 14 ft	2,300	<110
WGK-SVE-63	13 - 14 ft	1,100	41
WGK-SVE-63-DUP	13 - 14 ft	1,400	56
WGK-SVE-64	13 - 14 ft	820	<28
WGK-SVE-67	13 - 14 ft	19	2.2
WGK-SVE-68	13 - 14 ft	5,900	<260
WGK-SVE-73	13 - 14 ft	0.004 J*	0.084*
WGK-SVE-30	14 - 15 ft	<3.2	81
WGK-SVE-35	14 - 15 ft	5.3	3.6
WGK-SVE-37	14 - 15 ft	2,600	<110
WGK-SVE-62	14 - 15 ft	8.7	0.092 J
WGK-SVE-65	14 - 15 ft	6,500	<270
WGK-SVE-83	14 - 15 ft	140	3.5 J
WGK-SVE-81	14 - 15 ft	0.0022 J	0.11
Average:		1,976	NA
Maximum (not including Hot Spots):		7,000	810
Hot Spot (averaged, if applicable):		42,000	NA

ft bgs = feet below ground surface
 mg/Kg = milligrams per Kilogram
 NA = Not Applicable

= Value included in the average

= Indicates contaminant hot spot

Note:

1. Duplicates are not included in the averages.

Appendix E - Table E1B
Soil Sampling Results - Baseline 2009 and 2010
Former Benzene Pipeline Treatment Area
Solutia Inc., W.G. Krummrich Facility, Sauget, Illinois

Location	Depth (ft bgs)	Benzene (mg/kg)	Chlorobenzene (mg/kg)
Sandy Fill / Upper Silty Sand			
WGK-SVE-27	3 - 4 ft	10	<3.7
WGK-SVE-28	9 - 10 ft	520	1,900
WGK-SVE-29	4 - 5 ft	<0.0045	<0.0045
WGK-SVE-28	9 - 10 ft	160	590
WGK-SVE-28-DUP	9 - 10 ft	31	130
WGK-SVE-28-DUP DL	9 - 10 ft	33	150
Average:		340	1,245
Maximum:		520	1,900
Intermediate Silty Clay			
WGK-SVE-26	3 - 4 ft	<0.0054	<0.0054
WGK-SVE-29	7 - 8 ft	<0.0054	<0.0054
WGK-SVE-27	8 - 9 ft	990	2,000
Average:		990	2,000
Maximum:		990	2,000
Lower Silty Sand			
WGK-SVE-26	9 - 10 ft	<0.0065	<0.0065
WGK-SVE-28	11 - 12 ft	400	1,300
WGK-SVE-26	14 - 15 ft	<0.0059	<0.0059
WGK-SVE-27	14 - 15 ft	68	16
WGK-SVE-29	14 - 15 ft	<0.0054	<0.0054
Average:		234	1,300
Maximum:		400	1,300

ft bgs = feet below ground surface

mg/Kg = milligrams per Kilogram

NA = Not Applicable

 = Value included in the average

 = Indicates contaminant hot spot

Note:

1. Duplicates are not included in the averages.

Appendix E - Table E2

Soil Saturation Limit (C_{sat}) Calculations - 10% NAPL Saturation Assumption

Big Mo and Former Benzene Pipeline Treatment Areas
Solutia Inc., W.G. Krummrich Facility, Sauget, Illinois

Compound	Molecular Wt.	Solubility Limit (C _{sol})	Henry's Law Contant (H')	Organic Carbon Partitioning Coefficient (K _{oc})	Density	Soil Partitioning Coefficient (K _d)	Max Soil Conc.	Max. Pore Water Conc. (C _{water})	Max. Pore Air Conc. (C _{air})	Soil Saturation Limit (C _{sat})	Max NAPL Content Based on Pore NAPL Saturation (C _{NAPL})	Maximum Soil Conc.
						K _d = K _{oc} * f _{oc}	Eq. 1	Eq. 2	Eq. 3	Eq. 4	Eq. 5	Eq. 6
	g/Mol	mg/L	V/V unitless	L/Kg	Kg/L	L/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Benzene	78.11	1800	0.228	98	0.879	0.49	882	84	50.0	1,016	16,462	17,478
Chlorobenzene	112.56	466.3	0.152	126	1.1058	0.63	294	22	8.6	324	20,710	21,034

Constants						
Soil Bulk Density	Total Porosity	NAPL Sat.	Water Sat.	Air Sat.	Freundlich "N"	F _{oc}
LBs/CF	n	%	%	%		Fraction
100	0.3	10%	25%	65%	1	0.005

LBs = pounds

g = grams

L = liters

f_{oc} = Fraction of Organic Carbon

Mol = Moles

V/V = Volume/Volume basis

CF = Cubic Feet

mg = milligrams

Kg = Kilograms

Equations:

Eq. 1: $C_{soil} = (K_d * C_{sol})^{(1/N)}$ (Freundlich Isotherm)

Eq. 2: $C_{water} = C_{sol} * \text{Water Sat.} * n / \text{Bulk Density}$

Eq. 3: $C_{air} = C_{sol} * H' * \text{Air Sat.} * n / \text{Bulk Density}$

Eq. 4: $C_{sat} = C_{soil} + C_{water} + C_{air}$

Eq. 5: $C_{NAPL} = \text{Density} * n * \text{NAPL Sat.} / \text{Bulk Density}$

Eq. 6: $C_{sat} + C_{NAPL}$

Appendix E - Table E3A
COC Mass Estimate - Baseline 2009 and 2010
 Big Mo Treatment Area
 Solutia Inc., W.G. Krummrich Facility, Sauget, Illinois

Impacted Area Description	Sandy Fill/Upper Silty Sand		Intermediate Silty Clay			Lower Silty Sand			
	Average Over Majority of Area ¹	SVE Pilot Test Area ²	Average Over Majority of Area ¹	SVE Pilot Test Area ²	SVE-65 Hot Spot	Average Over Majority of Area ¹	SVE Pilot Test Area ²	SVE-71 Hot Spot	SVE-33 Hot Spot
Avg. Conc. (mg/Kg) - BENZENE	366	2,059	748	2,731	29,000	1,976	3,083	42,000	15,000
Avg. Conc. (mg/Kg) - CHLOROBENZENE	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total Conc. (mg/Kg)	366	2,059	748	2,731	29,000	1,976	3,083	42,000	15,000
Area (SF)	78,900	4,800	76,000	4,800	2,900	80,600	4,800	5,400	7,200
Thickness (Feet)	6	7	5	5	5	5	5	5	5
Soil Volume (CY)	17,600	1,300	14,100	900	600	15,000	900	1,000	1,400
Soil Mass (LBs) ³	47,340,000	3,360,000	38,000,000	2,400,000	1,450,000	40,300,000	2,400,000	2,700,000	3,600,000
COC Mass Adsorbed To Soil (LBs)	17,000	7,000	28,000	7,000	42,000	80,000	7,000	113,000	54,000
Assumed NAPL Mass (LBs) ^{4,5}	NA	55,000	NA	39,000	NA	NA	39,000	NA	NA
Subtotal Mass (LBs)	17,000	62,000	28,000	46,000	42,000	80,000	46,000	113,000	54,000
Subtotal Mass in Layer (LBs)	80,000		120,000			290,000			
% of Total COC Mass Layer	16%		24%			59%			
Total COC Mass (LBs)	490,000								

Notes:

COC = Contaminant of Concern

NA = Not Applicable

mg/Kg = milligrams per kilogram

1. The surface area of the entire treatment area is used, minus the SVE pilot test area and specific hot spot areas, as applicable.

2. The SVE pilot test area mass estimate is based on soil samples collected during the baseline and intermediate sampling events during the SVE pilot test.

3. Soil Bulk Density (LBs/CF) = 100

4. A 10% saturation of NAPL was assumed for the SVE pilot test area based on field observations and SVE performance during the pilot test.

5. NAPL mass calculation: (10% Sat. NAPL)*0.30 (porosity)*Soil Volume (ft3)*7.48 gal/ft3*879 g/L (benzene density)*3.785 L/gal* 1 lb/454 g

Density of benzene = 879 g/L (grams per liter)

Porosity = 0.30

Exceeds Csat + 10% NAPL Saturation



Appendix E - Table E3B
COC Mass Estimate - Baseline 2009 and 2010
Former Benzene Pipeline Treatment Area
Solutia Inc., W.G. Krummrich Facility, Sauget, Illinois

Impacted Area Description	Sandy Fill/Upper Silty Sand	Intermediate Silty Clay	Lower Silty Sand
	Average Over Majority of Area ¹	Average Over Majority of Area ¹	Average Over Majority of Area ¹
Avg. Conc. (mg/Kg) - BENZENE	340	990	234
Avg. Conc. (mg/Kg) - CHLOROBENZENE	1,245	2,000	1,300
Total Conc. (mg/Kg)	1,585	2,990	1,534
Area (SF)	8,500	8,500	8,500
Thickness (Feet)	7	4	6
Soil Volume (CY)	2,300	1,300	1,900
Soil Mass (LBs) ²	5,950,000	3,400,000	5,100,000
COC Mass Adsorbed To Soil (LBs)	9,000	10,000	8,000
Assumed NAPL Mass (LBs) ³	NA	NA	NA
Subtotal Mass (LBs)	9,000	10,000	8,000
Subtotal Mass in Layer (LBs)	9,000	10,000	8,000
% of Total COC Mass Layer	33%	37%	30%
Total COC Mass (LBs)	27,000		

Notes:

COC = Contaminant of Concern

NA = Not Applicable

mg/Kg = milligrams per kilogram

1. The surface area of the entire treatment area is used, minus the SVE Pilot Test area and specific hot spot areas, as applicable.

2. Soil Bulk Density (LBs/CF) = 100

3. NAPL mass calculation: (10% Sat. NAPL)*0.30 (porosity)*Soil Volume (ft3)*7.48 gal/ft3*879 g/L (benzene density)*3.785 L/gal* 1 lb/454 g
Density of benzene = 879 g/L
Porosity = 0.30

APPENDIX F

SOIL LABORATORY REPORTS

(Not printed – Included on CD)

February 2013 Soil Laboratory Reports

March 15, 2013

Erin Stanisewski
XDD, LLC
22 Marin Way #3
Stratham, NH 03885

RE: Project: Big MO Soil Sampling
Pace Project No.: 60139568

Dear Erin Stanisewski:

Enclosed are the analytical results for sample(s) received by the laboratory on March 01, 2013. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Jamie Church

jamie.church@pacelabs.com
Project Manager

Enclosures

cc: William Johnson, Solutia, Inc.



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: Big MO Soil Sampling

Pace Project No.: 60139568

Kansas Certification IDs

9608 Loiret Boulevard, Lenexa, KS 66219

A2LA Certification #: 2456.01

Arkansas Certification #: 12-019-0

Illinois Certification #: 002885

Iowa Certification #: 118

Kansas/NELAP Certification #: E-10116

Louisiana Certification #: 03055

Nevada Certification #: KS000212008A

Oklahoma Certification #: 9205/9935

Texas Certification #: T104704407-12-3

Utah Certification #: KS000212012-2

Illinois Certification #: 003097

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: Big MO Soil Sampling

Pace Project No.: 60139568

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60139568001	TB-01	Solid	02/26/13 08:00	03/01/13 03:10
60139568002	TB-02	Solid	02/26/13 08:00	03/01/13 03:10
60139568003	TB-03	Solid	02/26/13 08:00	03/01/13 03:10
60139568004	TB-04	Solid	02/26/13 08:00	03/01/13 03:10
60139568005	BM-022513-SB63-8.8-9.4	Solid	02/25/13 10:45	03/01/13 03:10
60139568006	BM-022513-SB63-10-10.4	Solid	02/25/13 10:50	03/01/13 03:10
60139568007	BM-022513-SB63-12-12.6	Solid	02/25/13 10:55	03/01/13 03:10
60139568008	BM-022513-SB63-13.2-13.8	Solid	02/25/13 11:00	03/01/13 03:10
60139568009	BM-022513-SB38-9.9-10.4	Solid	02/25/13 11:40	03/01/13 03:10
60139568010	BM-022513-SB38-13-13.5	Solid	02/25/13 11:45	03/01/13 03:10
60139568011	BM-022513-SB38-13.5-14	Solid	02/25/13 11:50	03/01/13 03:10
60139568012	BM-022513-SB65-10.5	Solid	02/25/13 16:25	03/01/13 03:10
60139568013	BM-022513-SB65-12.5	Solid	02/25/13 16:30	03/01/13 03:10
60139568014	BM-022513-SB65-11.2-11.5	Solid	02/25/13 16:45	03/01/13 03:10
60139568015	BM-022513-SB39-12-12.2	Solid	02/25/13 15:25	03/01/13 03:10
60139568016	BM-022513-SB39-13.5-13.7	Solid	02/25/13 15:30	03/01/13 03:10
60139568017	BM-022513-SB39-13-13.5	Solid	02/25/13 15:55	03/01/13 03:10
60139568018	BM-022513-SB64-10.3-10.5	Solid	02/25/13 14:30	03/01/13 03:10
60139568019	BM-022513-SB64-12.3-12.5	Solid	02/25/13 14:40	03/01/13 03:10
60139568020	BM-022513-SB64-11.5-12	Solid	02/25/13 14:50	03/01/13 03:10
60139568021	BM-022513-SB36-10-10.2	Solid	02/25/13 13:30	03/01/13 03:10
60139568022	BM-022513-SB36-11.9-12.1	Solid	02/25/13 13:45	03/01/13 03:10
60139568023	BM-022513-SB36-13-13.5	Solid	02/25/13 14:00	03/01/13 03:10
60139568024	TB-05	Solid	02/27/13 08:00	03/01/13 03:10
60139568025	TB-06	Solid	02/27/13 08:00	03/01/13 03:10
60139568026	BM-022613-SB69-10.7-10.9	Solid	02/26/13 09:00	03/01/13 03:10
60139568027	BM-022613-SB69-13.2-13.4	Solid	02/26/13 09:10	03/01/13 03:10
60139568028	BM-022613-SB69-12-12.4	Solid	02/26/13 09:30	03/01/13 03:10
60139568029	BM-022613-SB69-16-16.4	Solid	02/26/13 09:35	03/01/13 03:10
60139568030	BM-022613-SB66-8.5-8.7	Solid	02/26/13 10:45	03/01/13 03:10
60139568031	BM-022613-SB66-11-11.2	Solid	02/26/13 10:50	03/01/13 03:10
60139568032	BM-022613-SB66-12.9-13.1	Solid	02/26/13 10:55	03/01/13 03:10
60139568033	BM-022613-SB66-10-10.5	Solid	02/26/13 11:10	03/01/13 03:10
60139568034	BM-022613-SB83-6.8-7	Solid	02/26/13 16:25	03/01/13 03:10
60139568035	BM-022613-SB83-10.9-11.1	Solid	02/26/13 16:30	03/01/13 03:10
60139568036	BM-022613-SB83-12.9-13.1	Solid	02/26/13 16:35	03/01/13 03:10
60139568037	BM-022613-SB83-11-11.5	Solid	02/26/13 17:00	03/01/13 03:10

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SAMPLE SUMMARY

Project: Big MO Soil Sampling

Pace Project No.: 60139568

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60139568038	BM-022613-SB83-16.8-17	Solid	02/26/13 16:45	03/01/13 03:10
60139568039	BM-022613-SB71-8-8.2	Solid	02/26/13 15:30	03/01/13 03:10
60139568040	BM-022613-SB71-11.5-11.7	Solid	02/26/13 15:35	03/01/13 03:10
60139568041	BM-022613-SB71-13.1-13.3	Solid	02/26/13 15:40	03/01/13 03:10
60139568042	BM-022613-SB71-12-12.5	Solid	02/26/13 15:05	03/01/13 03:10
60139568043	BM-022613-SB33-7.8-8	Solid	02/26/13 14:35	03/01/13 03:10
60139568044	BM-022613-SB33-11.3-11.5	Solid	02/26/13 14:40	03/01/13 03:10
60139568045	BM-022613-SB33-13.3-13.5	Solid	02/26/13 14:45	03/01/13 03:10
60139568046	BM-022613-SB33-12.5-13	Solid	02/26/13 15:00	03/01/13 03:10
60139568047	BM-022613-SB34-10.9-11.1	Solid	02/26/13 13:50	03/01/13 03:10
60139568048	BM-022613-SB34-13.3-13.5	Solid	02/26/13 13:55	03/01/13 03:10
60139568049	BM-022613-SB34-7.3-7.5	Solid	02/26/13 14:00	03/01/13 03:10
60139568050	BM-022613-SB34-13-13.3	Solid	02/26/13 14:05	03/01/13 03:10
60139568051	BM-022613-SB37-10-10.2	Solid	02/26/13 11:50	03/01/13 03:10
60139568052	BM-022613-SB37-11.8-12	Solid	02/26/13 11:55	03/01/13 03:10
60139568053	BM-022613-SB37-14-14.2	Solid	02/26/13 12:00	03/01/13 03:10
60139568054	BM-022613-SB37-16.2-16.4	Solid	02/26/13 13:15	03/01/13 03:10
60139568055	BM-022713-SB68-8.6-8.8	Solid	02/27/13 13:45	03/01/13 03:10
60139568056	BM-022713-SB68-11.6-11.8	Solid	02/27/13 13:50	03/01/13 03:10
60139568057	BM-022713-SB68-13.4-13.6	Solid	02/27/13 13:55	03/01/13 03:10
60139568058	BM-022713-SB68-11-11.5	Solid	02/27/13 14:30	03/01/13 03:10
60139568059	BM-022713-SB68-16-16.5	Solid	02/27/13 15:35	03/01/13 03:10
60139568060	BM-022713-SB79-7.6-7.8	Solid	02/27/13 14:15	03/01/13 03:10
60139568061	BM-022713-SB79-11.2-11.4	Solid	02/27/13 14:20	03/01/13 03:10
60139568062	BM-022713-SB79-13.2-13.4	Solid	02/27/13 14:25	03/01/13 03:10
60139568063	BM-022713-SB79-13.0-13.5	Solid	02/27/13 14:40	03/01/13 03:10
60139568064	BM-022713-SB79-16-16.4	Solid	02/27/13 14:45	03/01/13 03:10
60139568065	BM-022713-SB80-7.5-7.7	Solid	02/27/13 11:45	03/01/13 03:10
60139568066	BM-022713-SB80-11.3-11.5	Solid	02/27/13 11:50	03/01/13 03:10
60139568067	BM-022713-SB80-13-13.2	Solid	02/27/13 11:55	03/01/13 03:10
60139568068	BM-022713-SB80-10.5-11	Solid	02/27/13 13:15	03/01/13 03:10
60139568069	BM-022713-SB80-16.5-17	Solid	02/27/13 13:20	03/01/13 03:10
60139568070	BM-022713-SB27-8.4-8.6	Solid	02/27/13 09:45	03/01/13 03:10
60139568071	BM-022713-SB27-11.5-11.7	Solid	02/27/13 09:50	03/01/13 03:10
60139568072	BM-022713-SB27-10-10.5	Solid	02/27/13 11:00	03/01/13 03:10
60139568073	BM-022713-SB28-8.6-8.8	Solid	02/27/13 08:35	03/01/13 03:10
60139568074	BM-022713-SB28-11.1-11.3	Solid	02/27/13 08:45	03/01/13 03:10

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SAMPLE SUMMARY

Project: Big MO Soil Sampling

Pace Project No.: 60139568

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60139568075	BM-022713-SB28-13-13.2	Solid	02/27/13 08:55	03/01/13 03:10
60139568076	BM-022713-SB28-12.5-13	Solid	02/27/13 09:25	03/01/13 03:10
60139568077	BM-022613-SB37-14.2-14.4	Solid	02/26/13 13:10	03/01/13 03:10

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: Big MO Soil Sampling
Pace Project No.: 60139568

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60139568001	TB-01	EPA 8260	RAB	69	PASI-K
60139568002	TB-02	EPA 8260	RAB	69	PASI-K
60139568003	TB-03	EPA 8260	RAB	69	PASI-K
60139568004	TB-04	EPA 8260	RAB	69	PASI-K
60139568005	BM-022513-SB63-8.8-9.4	EPA 8260	RAB	69	PASI-K
		ASTM D2974	DWC	1	PASI-K
60139568006	BM-022513-SB63-10-10.4	EPA 8260	RAB	69	PASI-K
		ASTM D2974	DWC	1	PASI-K
60139568007	BM-022513-SB63-12-12.6	EPA 8260	RAB	69	PASI-K
		ASTM D2974	DWC	1	PASI-K
60139568008	BM-022513-SB63-13.2-13.8	EPA 8260	RAB	69	PASI-K
		ASTM D2974	DWC	1	PASI-K
60139568009	BM-022513-SB38-9.9-10.4	EPA 8260	RAB	69	PASI-K
		ASTM D2974	DWC	1	PASI-K
60139568010	BM-022513-SB38-13-13.5	EPA 8260	RAB	69	PASI-K
		ASTM D2974	DWC	1	PASI-K
60139568011	BM-022513-SB38-13.5-14	EPA 8260	RAB	69	PASI-K
		ASTM D2974	DWC	1	PASI-K
60139568012	BM-022513-SB65-10.5	EPA 8260	RAB	69	PASI-K
		ASTM D2974	DWC	1	PASI-K
60139568013	BM-022513-SB65-12.5	EPA 8260	RAB	69	PASI-K
		ASTM D2974	DWC	1	PASI-K
60139568014	BM-022513-SB65-11.2-11.5	EPA 8260	RAB	69	PASI-K
		ASTM D2974	DWC	1	PASI-K
60139568015	BM-022513-SB39-12-12.2	EPA 8260	RAB	69	PASI-K
		ASTM D2974	DWC	1	PASI-K
60139568016	BM-022513-SB39-13.5-13.7	EPA 8260	RAB	69	PASI-K
		ASTM D2974	DWC	1	PASI-K
60139568017	BM-022513-SB39-13-13.5	EPA 8260	RAB	69	PASI-K
		ASTM D2974	DWC	1	PASI-K
60139568018	BM-022513-SB64-10.3-10.5	EPA 8260	RAB	69	PASI-K
		ASTM D2974	DWC	1	PASI-K
60139568019	BM-022513-SB64-12.3-12.5	EPA 8260	RAB	69	PASI-K
		ASTM D2974	DWC	1	PASI-K
60139568020	BM-022513-SB64-11.5-12	EPA 8260	JTS	69	PASI-K
		ASTM D2974	DWC	1	PASI-K
60139568021	BM-022513-SB36-10-10.2	EPA 8260	JTS	69	PASI-K

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SAMPLE ANALYTE COUNT

Project: Big MO Soil Sampling

Pace Project No.: 60139568

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		ASTM D2974	DWC	1	PASI-K
60139568022	BM-022513-SB36-11.9-12.1	EPA 8260	JTS	69	PASI-K
		ASTM D2974	DWC	1	PASI-K
60139568023	BM-022513-SB36-13-13.5	EPA 8260	JTS	69	PASI-K
		ASTM D2974	DWC	1	PASI-K
60139568024	TB-05	EPA 8260	RAB	69	PASI-K
60139568025	TB-06	EPA 8260	RAB	69	PASI-K
60139568026	BM-022613-SB69-10.7-10.9	EPA 8260	JTS	69	PASI-K
		ASTM D2974	DWC	1	PASI-K
60139568027	BM-022613-SB69-13.2-13.4	EPA 8260	JTS	69	PASI-K
		ASTM D2974	DWC	1	PASI-K
60139568028	BM-022613-SB69-12-12.4	EPA 8260	JTS	69	PASI-K
		ASTM D2974	DWC	1	PASI-K
60139568029	BM-022613-SB69-16-16.4	EPA 8260	JTS	69	PASI-K
		ASTM D2974	DWC	1	PASI-K
60139568030	BM-022613-SB66-8.5-8.7	EPA 8260	JTS	69	PASI-K
		ASTM D2974	DWC	1	PASI-K
60139568031	BM-022613-SB66-11-11.2	EPA 8260	JTS	69	PASI-K
		ASTM D2974	DWC	1	PASI-K
60139568032	BM-022613-SB66-12.9-13.1	EPA 8260	JTS	69	PASI-K
		ASTM D2974	DWC	1	PASI-K
60139568033	BM-022613-SB66-10-10.5	EPA 8260	JTS	69	PASI-K
		ASTM D2974	DWC	1	PASI-K
60139568034	BM-022613-SB83-6.8-7	EPA 8260	JTS	69	PASI-K
		ASTM D2974	DWC	1	PASI-K
60139568035	BM-022613-SB83-10.9-11.1	EPA 8260	JTS	69	PASI-K
		ASTM D2974	DWC	1	PASI-K
60139568036	BM-022613-SB83-12.9-13.1	EPA 8260	JTS	69	PASI-K
		ASTM D2974	DWC	1	PASI-K
60139568037	BM-022613-SB83-11-11.5	EPA 8260	JTS	69	PASI-K
		ASTM D2974	DWC	1	PASI-K
60139568038	BM-022613-SB83-16.8-17	EPA 8260	JTS	69	PASI-K
		ASTM D2974	DWC	1	PASI-K
60139568039	BM-022613-SB71-8-8.2	EPA 8260	JTS	69	PASI-K
		ASTM D2974	DWC	1	PASI-K
60139568040	BM-022613-SB71-11.5-11.7	EPA 8260	JTS	69	PASI-K
		ASTM D2974	DWC	1	PASI-K

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SAMPLE ANALYTE COUNT

Project: Big MO Soil Sampling
Pace Project No.: 60139568

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60139568041	BM-022613-SB71-13.1-13.3	EPA 8260	JTS	69	PASI-K
		ASTM D2974	DWC	1	PASI-K
60139568042	BM-022613-SB71-12-12.5	EPA 8260	JTS	69	PASI-K
		ASTM D2974	DWC	1	PASI-K
60139568043	BM-022613-SB33-7.8-8	EPA 8260	JTS	69	PASI-K
		ASTM D2974	DWC	1	PASI-K
60139568044	BM-022613-SB33-11.3-11.5	EPA 8260	JTS	69	PASI-K
		ASTM D2974	DWC	1	PASI-K
60139568045	BM-022613-SB33-13.3-13.5	EPA 8260	JTS	69	PASI-K
		ASTM D2974	DWC	1	PASI-K
60139568046	BM-022613-SB33-12.5-13	EPA 8260	JTS	69	PASI-K
		ASTM D2974	DWC	1	PASI-K
60139568047	BM-022613-SB34-10.9-11.1	EPA 8260	JTS	69	PASI-K
		ASTM D2974	DWC	1	PASI-K
60139568048	BM-022613-SB34-13.3-13.5	EPA 8260	JTS	69	PASI-K
		ASTM D2974	DWC	1	PASI-K
60139568049	BM-022613-SB34-7.3-7.5	EPA 8260	JTS	69	PASI-K
		ASTM D2974	DWC	1	PASI-K
60139568050	BM-022613-SB34-13-13.3	EPA 8260	JTS	69	PASI-K
		ASTM D2974	DWC	1	PASI-K
60139568051	BM-022613-SB37-10-10.2	EPA 8260	JTS	69	PASI-K
		ASTM D2974	DWC	1	PASI-K
60139568052	BM-022613-SB37-11.8-12	EPA 8260	JTS	69	PASI-K
		ASTM D2974	DWC	1	PASI-K
60139568053	BM-022613-SB37-14-14.2	EPA 8260	JTS	69	PASI-K
		ASTM D2974	DWC	1	PASI-K
60139568054	BM-022613-SB37-16.2-16.4	EPA 8260	JTS	69	PASI-K
		ASTM D2974	DWC	1	PASI-K
60139568055	BM-022713-SB68-8.6-8.8	EPA 8260	JTS	69	PASI-K
		ASTM D2974	DWC	1	PASI-K
60139568056	BM-022713-SB68-11.6-11.8	EPA 8260	JTS	69	PASI-K
		ASTM D2974	DWC	1	PASI-K
60139568057	BM-022713-SB68-13.4-13.6	EPA 8260	JTS	69	PASI-K
		ASTM D2974	DWC	1	PASI-K
60139568058	BM-022713-SB68-11-11.5	EPA 8260	JTS	69	PASI-K
		ASTM D2974	DWC	1	PASI-K
60139568059	BM-022713-SB68-16-16.5	EPA 8260	JTS	69	PASI-K

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: Big MO Soil Sampling
Pace Project No.: 60139568

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60139568060	BM-022713-SB79-7.6-7.8	ASTM D2974	DWC	1	PASI-K
		EPA 8260	JTS	69	PASI-K
60139568061	BM-022713-SB79-11.2-11.4	ASTM D2974	DWC	1	PASI-K
		EPA 8260	JTS	69	PASI-K
60139568062	BM-022713-SB79-13.2-13.4	ASTM D2974	DWC	1	PASI-K
		EPA 8260	JTS	69	PASI-K
60139568063	BM-022713-SB79-13.0-13.5	ASTM D2974	DWC	1	PASI-K
		EPA 8260	JTS	69	PASI-K
60139568064	BM-022713-SB79-16-16.4	ASTM D2974	DWC	1	PASI-K
		EPA 8260	JTS	69	PASI-K
60139568065	BM-022713-SB80-7.5-7.7	ASTM D2974	DWC	1	PASI-K
		EPA 8260	JTS	69	PASI-K
60139568066	BM-022713-SB80-11.3-11.5	ASTM D2974	DWC	1	PASI-K
		EPA 8260	JTS	69	PASI-K
60139568067	BM-022713-SB80-13-13.2	ASTM D2974	DWC	1	PASI-K
		EPA 8260	RAB	69	PASI-K
60139568068	BM-022713-SB80-10.5-11	ASTM D2974	DWC	1	PASI-K
		EPA 8260	JTS	69	PASI-K
60139568069	BM-022713-SB80-16.5-17	ASTM D2974	DWC	1	PASI-K
		EPA 8260	RAB	69	PASI-K
60139568070	BM-022713-SB27-8.4-8.6	ASTM D2974	DWC	1	PASI-K
		EPA 8260	JTS	69	PASI-K
60139568071	BM-022713-SB27-11.5-11.7	ASTM D2974	DWC	1	PASI-K
		EPA 8260	JTS	69	PASI-K
60139568072	BM-022713-SB27-10-10.5	ASTM D2974	DWC	1	PASI-K
		EPA 8260	JTS	69	PASI-K
60139568073	BM-022713-SB28-8.6-8.8	ASTM D2974	DWC	1	PASI-K
		EPA 8260	JTS, RAB	69	PASI-K
60139568074	BM-022713-SB28-11.1-11.3	ASTM D2974	DWC	1	PASI-K
		EPA 8260	JTS	69	PASI-K
60139568075	BM-022713-SB28-13-13.2	ASTM D2974	DWC	1	PASI-K
		EPA 8260	RAB	69	PASI-K
60139568076	BM-022713-SB28-12.5-13	ASTM D2974	DWC	1	PASI-K
		EPA 8260	RAB	69	PASI-K
60139568077	BM-022613-SB37-14.2-14.4	ASTM D2974	DWC	1	PASI-K
		EPA 8260	JTS	69	PASI-K
		ASTM D2974	DWC	1	PASI-K

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: Big MO Soil Sampling

Pace Project No.: 60139568

Method: EPA 8260

Description: 8260 MSV 5035A VOA

Client: XDD_SOLUTION, LLC

Date: March 15, 2013

General Information:

77 samples were analyzed for EPA 8260. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

QC Batch: MSV/52296

IO: The internal standard response was outside the laboratory acceptance limits confirmed by reanalysis. The results reported are from the most QC compliant analysis.

- BM-022613-SB83-10.9-11.1 (Lab ID: 60139568035)
- Dibromofluoromethane (S)

QC Batch: MSV/52297

IO: The internal standard response was outside the laboratory acceptance limits confirmed by reanalysis. The results reported are from the most QC compliant analysis.

- BM-022713-SB80-10.5-11 (Lab ID: 60139568068)
- Dibromofluoromethane (S)

Surrogates:

All surrogates were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: MSV/52235

A matrix spike and matrix spike duplicate (MS/MSD) were performed on the following sample(s): 60139568021

M1: Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

- MS (Lab ID: 1150503)
 - 1,1,2-Trichloroethane
 - 1,2-Dichloroethane

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PROJECT NARRATIVE

Project: Big MO Soil Sampling

Pace Project No.: 60139568

Method: EPA 8260

Description: 8260 MSV 5035A VOA

Client: XDD_SOLUTION, LLC

Date: March 15, 2013

QC Batch: MSV/52235

A matrix spike and matrix spike duplicate (MS/MSD) were performed on the following sample(s): 60139568021

M1: Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

- Benzene
- Bromomethane
- MSD (Lab ID: 1150504)
 - 1,1,2-Trichloroethane
 - 1,2-Dichloroethane
- Benzene
- Bromomethane

QC Batch: MSV/52238

A matrix spike and matrix spike duplicate (MS/MSD) were performed on the following sample(s): 60139407005

M1: Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

- MS (Lab ID: 1150736)
 - 1,2-Dibromo-3-chloropropane

QC Batch: MSV/52244

A matrix spike/matrix spike duplicate was not performed due to insufficient sample volume.

QC Batch: MSV/52245

A matrix spike/matrix spike duplicate was not performed due to insufficient sample volume.

QC Batch: MSV/52272

A matrix spike/matrix spike duplicate was not performed due to insufficient sample volume.

QC Batch: MSV/52296

A matrix spike/matrix spike duplicate was not performed due to insufficient sample volume.

QC Batch: MSV/52313

A matrix spike/matrix spike duplicate was not performed due to insufficient sample volume.

Additional Comments:

Analyte Comments:

QC Batch: MSV/52272

1e: The internal standard recoveries were outside control limits due to matrix interferences (confirmed by re-analysis).

- BM-022613-SB34-7.3-7.5 (Lab ID: 60139568049)
 - Dibromofluoromethane (S)

QC Batch: MSV/52297

B: Analyte was detected in the associated method blank.

- BM-022713-SB80-10.5-11 (Lab ID: 60139568068)
 - Bromomethane

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PROJECT NARRATIVE

Project: Big MO Soil Sampling

Pace Project No.: 60139568

Method: EPA 8260

Description: 8260 MSV 5035A VOA

Client: XDD_SOLUTIONIA, LLC

Date: March 15, 2013

Analyte Comments:

QC Batch: MSV/52313

B: Analyte was detected in the associated method blank.

- BM-022713-SB28-12.5-13 (Lab ID: 60139568076)
 - Methylene chloride
- BM-022713-SB28-13-13.2 (Lab ID: 60139568075)
 - Methylene chloride

This data package has been reviewed for quality and completeness and is approved for release.

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ANALYTICAL RESULTS

Project: Big MO Soil Sampling

Pace Project No.: 60139568

Sample: TB-01 Lab ID: 60139568001 Collected: 02/26/13 08:00 Received: 03/01/13 03:10 Matrix: Solid

Results reported on a "wet-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA		Analytical Method: EPA 8260							
Acetone	ND	ug/kg	20.0	10.0	1		03/09/13 14:02	67-64-1	
Benzene	ND	ug/kg	5.0	2.5	1		03/09/13 14:02	71-43-2	
Bromobenzene	ND	ug/kg	5.0	2.5	1		03/09/13 14:02	108-86-1	
Bromochloromethane	ND	ug/kg	5.0	2.5	1		03/09/13 14:02	74-97-5	
Bromodichloromethane	ND	ug/kg	5.0	2.5	1		03/09/13 14:02	75-27-4	
Bromoform	ND	ug/kg	5.0	2.5	1		03/09/13 14:02	75-25-2	
Bromomethane	ND	ug/kg	5.0	2.5	1		03/09/13 14:02	74-83-9	
2-Butanone (MEK)	ND	ug/kg	10.0	5.0	1		03/09/13 14:02	78-93-3	
n-Butylbenzene	ND	ug/kg	5.0	2.5	1		03/09/13 14:02	104-51-8	
sec-Butylbenzene	ND	ug/kg	5.0	2.5	1		03/09/13 14:02	135-98-8	
tert-Butylbenzene	ND	ug/kg	5.0	2.5	1		03/09/13 14:02	98-06-6	
Carbon disulfide	ND	ug/kg	5.0	2.5	1		03/09/13 14:02	75-15-0	
Carbon tetrachloride	ND	ug/kg	5.0	2.5	1		03/09/13 14:02	56-23-5	
Chlorobenzene	ND	ug/kg	5.0	2.5	1		03/09/13 14:02	108-90-7	
Chloroethane	ND	ug/kg	5.0	2.5	1		03/09/13 14:02	75-00-3	
Chloroform	ND	ug/kg	5.0	2.5	1		03/09/13 14:02	67-66-3	
Chloromethane	ND	ug/kg	5.0	2.5	1		03/09/13 14:02	74-87-3	
2-Chlorotoluene	ND	ug/kg	5.0	2.5	1		03/09/13 14:02	95-49-8	
4-Chlorotoluene	ND	ug/kg	5.0	2.5	1		03/09/13 14:02	106-43-4	
1,2-Dibromo-3-chloropropane	ND	ug/kg	10.0	5.0	1		03/09/13 14:02	96-12-8	
Dibromochloromethane	ND	ug/kg	5.0	2.5	1		03/09/13 14:02	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/kg	5.0	2.5	1		03/09/13 14:02	106-93-4	
Dibromomethane	ND	ug/kg	5.0	2.5	1		03/09/13 14:02	74-95-3	
1,2-Dichlorobenzene	ND	ug/kg	5.0	2.5	1		03/09/13 14:02	95-50-1	
1,3-Dichlorobenzene	ND	ug/kg	5.0	2.5	1		03/09/13 14:02	541-73-1	
1,4-Dichlorobenzene	ND	ug/kg	5.0	2.5	1		03/09/13 14:02	106-46-7	
Dichlorodifluoromethane	ND	ug/kg	5.0	2.5	1		03/09/13 14:02	75-71-8	
1,1-Dichloroethane	ND	ug/kg	5.0	2.5	1		03/09/13 14:02	75-34-3	
1,2-Dichloroethane	ND	ug/kg	5.0	2.5	1		03/09/13 14:02	107-06-2	
1,2-Dichloroethene (Total)	ND	ug/kg	5.0	2.5	1		03/09/13 14:02	540-59-0	
1,1-Dichloroethene	ND	ug/kg	5.0	2.5	1		03/09/13 14:02	75-35-4	
cis-1,2-Dichloroethene	ND	ug/kg	5.0	2.5	1		03/09/13 14:02	156-59-2	
trans-1,2-Dichloroethene	ND	ug/kg	5.0	2.5	1		03/09/13 14:02	156-60-5	
1,2-Dichloropropane	ND	ug/kg	5.0	2.5	1		03/09/13 14:02	78-87-5	
1,3-Dichloropropane	ND	ug/kg	5.0	2.5	1		03/09/13 14:02	142-28-9	
2,2-Dichloropropane	ND	ug/kg	5.0	2.5	1		03/09/13 14:02	594-20-7	
1,1-Dichloropropene	ND	ug/kg	5.0	2.5	1		03/09/13 14:02	563-58-6	
cis-1,3-Dichloropropene	ND	ug/kg	5.0	2.5	1		03/09/13 14:02	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/kg	5.0	2.5	1		03/09/13 14:02	10061-02-6	
Ethylbenzene	ND	ug/kg	5.0	2.5	1		03/09/13 14:02	100-41-4	
Hexachloro-1,3-butadiene	ND	ug/kg	5.0	2.5	1		03/09/13 14:02	87-68-3	
2-Hexanone	ND	ug/kg	20.0	10.0	1		03/09/13 14:02	591-78-6	
Isopropylbenzene (Cumene)	ND	ug/kg	5.0	2.5	1		03/09/13 14:02	98-82-8	
p-Isopropyltoluene	ND	ug/kg	5.0	2.5	1		03/09/13 14:02	99-87-6	
Methylene chloride	ND	ug/kg	5.0	2.5	1		03/09/13 14:02	75-09-2	

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ANALYTICAL RESULTS

Project: Big MO Soil Sampling

Pace Project No.: 60139568

Sample: TB-01 **Lab ID: 60139568001** Collected: 02/26/13 08:00 Received: 03/01/13 03:10 Matrix: Solid

Results reported on a "wet-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA Analytical Method: EPA 8260									
4-Methyl-2-pentanone (MIBK)	ND	ug/kg	10.0	5.0	1		03/09/13 14:02	108-10-1	
Methyl-tert-butyl ether	ND	ug/kg	5.0	2.5	1		03/09/13 14:02	1634-04-4	
Naphthalene	ND	ug/kg	10.0	5.0	1		03/09/13 14:02	91-20-3	
n-Propylbenzene	ND	ug/kg	5.0	2.5	1		03/09/13 14:02	103-65-1	
Styrene	ND	ug/kg	5.0	2.5	1		03/09/13 14:02	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/kg	5.0	2.5	1		03/09/13 14:02	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/kg	5.0	2.5	1		03/09/13 14:02	79-34-5	
Tetrachloroethene	ND	ug/kg	5.0	2.5	1		03/09/13 14:02	127-18-4	
Toluene	ND	ug/kg	5.0	2.5	1		03/09/13 14:02	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/kg	5.0	2.5	1		03/09/13 14:02	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/kg	5.0	2.5	1		03/09/13 14:02	120-82-1	
1,1,1-Trichloroethane	ND	ug/kg	5.0	2.5	1		03/09/13 14:02	71-55-6	
1,1,2-Trichloroethane	ND	ug/kg	5.0	2.5	1		03/09/13 14:02	79-00-5	
Trichloroethene	ND	ug/kg	5.0	2.5	1		03/09/13 14:02	79-01-6	
Trichlorofluoromethane	ND	ug/kg	5.0	2.5	1		03/09/13 14:02	75-69-4	
1,2,3-Trichloropropane	ND	ug/kg	5.0	2.5	1		03/09/13 14:02	96-18-4	
1,2,4-Trimethylbenzene	ND	ug/kg	5.0	2.5	1		03/09/13 14:02	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/kg	5.0	2.5	1		03/09/13 14:02	108-67-8	
Vinyl chloride	ND	ug/kg	5.0	2.5	1		03/09/13 14:02	75-01-4	
Xylene (Total)	ND	ug/kg	5.0	2.5	1		03/09/13 14:02	1330-20-7	
Surrogates									
Dibromofluoromethane (S)	97 %		76-125		1		03/09/13 14:02	1868-53-7	
Toluene-d8 (S)	101 %		80-120		1		03/09/13 14:02	2037-26-5	
4-Bromofluorobenzene (S)	94 %		80-120		1		03/09/13 14:02	460-00-4	
1,2-Dichloroethane-d4 (S)	98 %		76-132		1		03/09/13 14:02	17060-07-0	

ANALYTICAL RESULTS

Project: Big MO Soil Sampling

Pace Project No.: 60139568

Sample: TB-02 Lab ID: 60139568002 Collected: 02/26/13 08:00 Received: 03/01/13 03:10 Matrix: Solid

Results reported on a "wet-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA		Analytical Method: EPA 8260							
Acetone	ND	ug/kg	20.0	10.0	1		03/09/13 14:17	67-64-1	
Benzene	ND	ug/kg	5.0	2.5	1		03/09/13 14:17	71-43-2	
Bromobenzene	ND	ug/kg	5.0	2.5	1		03/09/13 14:17	108-86-1	
Bromochloromethane	ND	ug/kg	5.0	2.5	1		03/09/13 14:17	74-97-5	
Bromodichloromethane	ND	ug/kg	5.0	2.5	1		03/09/13 14:17	75-27-4	
Bromoform	ND	ug/kg	5.0	2.5	1		03/09/13 14:17	75-25-2	
Bromomethane	ND	ug/kg	5.0	2.5	1		03/09/13 14:17	74-83-9	
2-Butanone (MEK)	ND	ug/kg	10.0	5.0	1		03/09/13 14:17	78-93-3	
n-Butylbenzene	ND	ug/kg	5.0	2.5	1		03/09/13 14:17	104-51-8	
sec-Butylbenzene	ND	ug/kg	5.0	2.5	1		03/09/13 14:17	135-98-8	
tert-Butylbenzene	ND	ug/kg	5.0	2.5	1		03/09/13 14:17	98-06-6	
Carbon disulfide	ND	ug/kg	5.0	2.5	1		03/09/13 14:17	75-15-0	
Carbon tetrachloride	ND	ug/kg	5.0	2.5	1		03/09/13 14:17	56-23-5	
Chlorobenzene	ND	ug/kg	5.0	2.5	1		03/09/13 14:17	108-90-7	
Chloroethane	ND	ug/kg	5.0	2.5	1		03/09/13 14:17	75-00-3	
Chloroform	ND	ug/kg	5.0	2.5	1		03/09/13 14:17	67-66-3	
Chloromethane	ND	ug/kg	5.0	2.5	1		03/09/13 14:17	74-87-3	
2-Chlorotoluene	ND	ug/kg	5.0	2.5	1		03/09/13 14:17	95-49-8	
4-Chlorotoluene	ND	ug/kg	5.0	2.5	1		03/09/13 14:17	106-43-4	
1,2-Dibromo-3-chloropropane	ND	ug/kg	10.0	5.0	1		03/09/13 14:17	96-12-8	
Dibromochloromethane	ND	ug/kg	5.0	2.5	1		03/09/13 14:17	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/kg	5.0	2.5	1		03/09/13 14:17	106-93-4	
Dibromomethane	ND	ug/kg	5.0	2.5	1		03/09/13 14:17	74-95-3	
1,2-Dichlorobenzene	ND	ug/kg	5.0	2.5	1		03/09/13 14:17	95-50-1	
1,3-Dichlorobenzene	ND	ug/kg	5.0	2.5	1		03/09/13 14:17	541-73-1	
1,4-Dichlorobenzene	ND	ug/kg	5.0	2.5	1		03/09/13 14:17	106-46-7	
Dichlorodifluoromethane	ND	ug/kg	5.0	2.5	1		03/09/13 14:17	75-71-8	
1,1-Dichloroethane	ND	ug/kg	5.0	2.5	1		03/09/13 14:17	75-34-3	
1,2-Dichloroethane	ND	ug/kg	5.0	2.5	1		03/09/13 14:17	107-06-2	
1,2-Dichloroethene (Total)	ND	ug/kg	5.0	2.5	1		03/09/13 14:17	540-59-0	
1,1-Dichloroethene	ND	ug/kg	5.0	2.5	1		03/09/13 14:17	75-35-4	
cis-1,2-Dichloroethene	ND	ug/kg	5.0	2.5	1		03/09/13 14:17	156-59-2	
trans-1,2-Dichloroethene	ND	ug/kg	5.0	2.5	1		03/09/13 14:17	156-60-5	
1,2-Dichloropropane	ND	ug/kg	5.0	2.5	1		03/09/13 14:17	78-87-5	
1,3-Dichloropropane	ND	ug/kg	5.0	2.5	1		03/09/13 14:17	142-28-9	
2,2-Dichloropropane	ND	ug/kg	5.0	2.5	1		03/09/13 14:17	594-20-7	
1,1-Dichloropropene	ND	ug/kg	5.0	2.5	1		03/09/13 14:17	563-58-6	
cis-1,3-Dichloropropene	ND	ug/kg	5.0	2.5	1		03/09/13 14:17	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/kg	5.0	2.5	1		03/09/13 14:17	10061-02-6	
Ethylbenzene	ND	ug/kg	5.0	2.5	1		03/09/13 14:17	100-41-4	
Hexachloro-1,3-butadiene	ND	ug/kg	5.0	2.5	1		03/09/13 14:17	87-68-3	
2-Hexanone	ND	ug/kg	20.0	10.0	1		03/09/13 14:17	591-78-6	
Isopropylbenzene (Cumene)	ND	ug/kg	5.0	2.5	1		03/09/13 14:17	98-82-8	
p-Isopropyltoluene	ND	ug/kg	5.0	2.5	1		03/09/13 14:17	99-87-6	
Methylene chloride	ND	ug/kg	5.0	2.5	1		03/09/13 14:17	75-09-2	

Date: 03/15/2013 10:48 AM

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ANALYTICAL RESULTS

Project: Big MO Soil Sampling

Pace Project No.: 60139568

Sample: TB-02 **Lab ID: 60139568002** Collected: 02/26/13 08:00 Received: 03/01/13 03:10 Matrix: Solid

Results reported on a "wet-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA Analytical Method: EPA 8260									
4-Methyl-2-pentanone (MIBK)	ND	ug/kg	10.0	5.0	1		03/09/13 14:17	108-10-1	
Methyl-tert-butyl ether	ND	ug/kg	5.0	2.5	1		03/09/13 14:17	1634-04-4	
Naphthalene	ND	ug/kg	10.0	5.0	1		03/09/13 14:17	91-20-3	
n-Propylbenzene	ND	ug/kg	5.0	2.5	1		03/09/13 14:17	103-65-1	
Styrene	ND	ug/kg	5.0	2.5	1		03/09/13 14:17	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/kg	5.0	2.5	1		03/09/13 14:17	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/kg	5.0	2.5	1		03/09/13 14:17	79-34-5	
Tetrachloroethene	ND	ug/kg	5.0	2.5	1		03/09/13 14:17	127-18-4	
Toluene	ND	ug/kg	5.0	2.5	1		03/09/13 14:17	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/kg	5.0	2.5	1		03/09/13 14:17	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/kg	5.0	2.5	1		03/09/13 14:17	120-82-1	
1,1,1-Trichloroethane	ND	ug/kg	5.0	2.5	1		03/09/13 14:17	71-55-6	
1,1,2-Trichloroethane	ND	ug/kg	5.0	2.5	1		03/09/13 14:17	79-00-5	
Trichloroethene	ND	ug/kg	5.0	2.5	1		03/09/13 14:17	79-01-6	
Trichlorofluoromethane	ND	ug/kg	5.0	2.5	1		03/09/13 14:17	75-69-4	
1,2,3-Trichloropropane	ND	ug/kg	5.0	2.5	1		03/09/13 14:17	96-18-4	
1,2,4-Trimethylbenzene	ND	ug/kg	5.0	2.5	1		03/09/13 14:17	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/kg	5.0	2.5	1		03/09/13 14:17	108-67-8	
Vinyl chloride	ND	ug/kg	5.0	2.5	1		03/09/13 14:17	75-01-4	
Xylene (Total)	ND	ug/kg	5.0	2.5	1		03/09/13 14:17	1330-20-7	
Surrogates									
Dibromofluoromethane (S)	97 %		76-125		1		03/09/13 14:17	1868-53-7	
Toluene-d8 (S)	99 %		80-120		1		03/09/13 14:17	2037-26-5	
4-Bromofluorobenzene (S)	96 %		80-120		1		03/09/13 14:17	460-00-4	
1,2-Dichloroethane-d4 (S)	97 %		76-132		1		03/09/13 14:17	17060-07-0	

ANALYTICAL RESULTS

Project: Big MO Soil Sampling

Pace Project No.: 60139568

Sample: TB-03 Lab ID: 60139568003 Collected: 02/26/13 08:00 Received: 03/01/13 03:10 Matrix: Solid

Results reported on a "wet-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA		Analytical Method: EPA 8260							
Acetone	ND	ug/kg	20.0	10.0	1		03/09/13 14:33	67-64-1	
Benzene	ND	ug/kg	5.0	2.5	1		03/09/13 14:33	71-43-2	
Bromobenzene	ND	ug/kg	5.0	2.5	1		03/09/13 14:33	108-86-1	
Bromochloromethane	ND	ug/kg	5.0	2.5	1		03/09/13 14:33	74-97-5	
Bromodichloromethane	ND	ug/kg	5.0	2.5	1		03/09/13 14:33	75-27-4	
Bromoform	ND	ug/kg	5.0	2.5	1		03/09/13 14:33	75-25-2	
Bromomethane	ND	ug/kg	5.0	2.5	1		03/09/13 14:33	74-83-9	
2-Butanone (MEK)	ND	ug/kg	10.0	5.0	1		03/09/13 14:33	78-93-3	
n-Butylbenzene	ND	ug/kg	5.0	2.5	1		03/09/13 14:33	104-51-8	
sec-Butylbenzene	ND	ug/kg	5.0	2.5	1		03/09/13 14:33	135-98-8	
tert-Butylbenzene	ND	ug/kg	5.0	2.5	1		03/09/13 14:33	98-06-6	
Carbon disulfide	ND	ug/kg	5.0	2.5	1		03/09/13 14:33	75-15-0	
Carbon tetrachloride	ND	ug/kg	5.0	2.5	1		03/09/13 14:33	56-23-5	
Chlorobenzene	ND	ug/kg	5.0	2.5	1		03/09/13 14:33	108-90-7	
Chloroethane	ND	ug/kg	5.0	2.5	1		03/09/13 14:33	75-00-3	
Chloroform	ND	ug/kg	5.0	2.5	1		03/09/13 14:33	67-66-3	
Chloromethane	ND	ug/kg	5.0	2.5	1		03/09/13 14:33	74-87-3	
2-Chlorotoluene	ND	ug/kg	5.0	2.5	1		03/09/13 14:33	95-49-8	
4-Chlorotoluene	ND	ug/kg	5.0	2.5	1		03/09/13 14:33	106-43-4	
1,2-Dibromo-3-chloropropane	ND	ug/kg	10.0	5.0	1		03/09/13 14:33	96-12-8	
Dibromochloromethane	ND	ug/kg	5.0	2.5	1		03/09/13 14:33	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/kg	5.0	2.5	1		03/09/13 14:33	106-93-4	
Dibromomethane	ND	ug/kg	5.0	2.5	1		03/09/13 14:33	74-95-3	
1,2-Dichlorobenzene	ND	ug/kg	5.0	2.5	1		03/09/13 14:33	95-50-1	
1,3-Dichlorobenzene	ND	ug/kg	5.0	2.5	1		03/09/13 14:33	541-73-1	
1,4-Dichlorobenzene	ND	ug/kg	5.0	2.5	1		03/09/13 14:33	106-46-7	
Dichlorodifluoromethane	ND	ug/kg	5.0	2.5	1		03/09/13 14:33	75-71-8	
1,1-Dichloroethane	ND	ug/kg	5.0	2.5	1		03/09/13 14:33	75-34-3	
1,2-Dichloroethane	ND	ug/kg	5.0	2.5	1		03/09/13 14:33	107-06-2	
1,2-Dichloroethene (Total)	ND	ug/kg	5.0	2.5	1		03/09/13 14:33	540-59-0	
1,1-Dichloroethene	ND	ug/kg	5.0	2.5	1		03/09/13 14:33	75-35-4	
cis-1,2-Dichloroethene	ND	ug/kg	5.0	2.5	1		03/09/13 14:33	156-59-2	
trans-1,2-Dichloroethene	ND	ug/kg	5.0	2.5	1		03/09/13 14:33	156-60-5	
1,2-Dichloropropane	ND	ug/kg	5.0	2.5	1		03/09/13 14:33	78-87-5	
1,3-Dichloropropane	ND	ug/kg	5.0	2.5	1		03/09/13 14:33	142-28-9	
2,2-Dichloropropane	ND	ug/kg	5.0	2.5	1		03/09/13 14:33	594-20-7	
1,1-Dichloropropene	ND	ug/kg	5.0	2.5	1		03/09/13 14:33	563-58-6	
cis-1,3-Dichloropropene	ND	ug/kg	5.0	2.5	1		03/09/13 14:33	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/kg	5.0	2.5	1		03/09/13 14:33	10061-02-6	
Ethylbenzene	ND	ug/kg	5.0	2.5	1		03/09/13 14:33	100-41-4	
Hexachloro-1,3-butadiene	ND	ug/kg	5.0	2.5	1		03/09/13 14:33	87-68-3	
2-Hexanone	ND	ug/kg	20.0	10.0	1		03/09/13 14:33	591-78-6	
Isopropylbenzene (Cumene)	ND	ug/kg	5.0	2.5	1		03/09/13 14:33	98-82-8	
p-Isopropyltoluene	ND	ug/kg	5.0	2.5	1		03/09/13 14:33	99-87-6	
Methylene chloride	ND	ug/kg	5.0	2.5	1		03/09/13 14:33	75-09-2	

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ANALYTICAL RESULTS

Project: Big MO Soil Sampling

Pace Project No.: 60139568

Sample: TB-03 **Lab ID: 60139568003** Collected: 02/26/13 08:00 Received: 03/01/13 03:10 Matrix: Solid

Results reported on a "wet-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA Analytical Method: EPA 8260									
4-Methyl-2-pentanone (MIBK)	ND	ug/kg	10.0	5.0	1		03/09/13 14:33	108-10-1	
Methyl-tert-butyl ether	ND	ug/kg	5.0	2.5	1		03/09/13 14:33	1634-04-4	
Naphthalene	ND	ug/kg	10.0	5.0	1		03/09/13 14:33	91-20-3	
n-Propylbenzene	ND	ug/kg	5.0	2.5	1		03/09/13 14:33	103-65-1	
Styrene	ND	ug/kg	5.0	2.5	1		03/09/13 14:33	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/kg	5.0	2.5	1		03/09/13 14:33	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/kg	5.0	2.5	1		03/09/13 14:33	79-34-5	
Tetrachloroethene	ND	ug/kg	5.0	2.5	1		03/09/13 14:33	127-18-4	
Toluene	ND	ug/kg	5.0	2.5	1		03/09/13 14:33	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/kg	5.0	2.5	1		03/09/13 14:33	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/kg	5.0	2.5	1		03/09/13 14:33	120-82-1	
1,1,1-Trichloroethane	ND	ug/kg	5.0	2.5	1		03/09/13 14:33	71-55-6	
1,1,2-Trichloroethane	ND	ug/kg	5.0	2.5	1		03/09/13 14:33	79-00-5	
Trichloroethene	ND	ug/kg	5.0	2.5	1		03/09/13 14:33	79-01-6	
Trichlorofluoromethane	ND	ug/kg	5.0	2.5	1		03/09/13 14:33	75-69-4	
1,2,3-Trichloropropane	ND	ug/kg	5.0	2.5	1		03/09/13 14:33	96-18-4	
1,2,4-Trimethylbenzene	ND	ug/kg	5.0	2.5	1		03/09/13 14:33	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/kg	5.0	2.5	1		03/09/13 14:33	108-67-8	
Vinyl chloride	ND	ug/kg	5.0	2.5	1		03/09/13 14:33	75-01-4	
Xylene (Total)	ND	ug/kg	5.0	2.5	1		03/09/13 14:33	1330-20-7	
Surrogates									
Dibromofluoromethane (S)	98 %		76-125		1		03/09/13 14:33	1868-53-7	
Toluene-d8 (S)	99 %		80-120		1		03/09/13 14:33	2037-26-5	
4-Bromofluorobenzene (S)	97 %		80-120		1		03/09/13 14:33	460-00-4	
1,2-Dichloroethane-d4 (S)	96 %		76-132		1		03/09/13 14:33	17060-07-0	

ANALYTICAL RESULTS

Project: Big MO Soil Sampling

Pace Project No.: 60139568

Sample: TB-04 Lab ID: 60139568004 Collected: 02/26/13 08:00 Received: 03/01/13 03:10 Matrix: Solid

Results reported on a "wet-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA		Analytical Method: EPA 8260							
Acetone	ND	ug/kg	20.0	10.0	1		03/09/13 14:48	67-64-1	
Benzene	ND	ug/kg	5.0	2.5	1		03/09/13 14:48	71-43-2	
Bromobenzene	ND	ug/kg	5.0	2.5	1		03/09/13 14:48	108-86-1	
Bromochloromethane	ND	ug/kg	5.0	2.5	1		03/09/13 14:48	74-97-5	
Bromodichloromethane	ND	ug/kg	5.0	2.5	1		03/09/13 14:48	75-27-4	
Bromoform	ND	ug/kg	5.0	2.5	1		03/09/13 14:48	75-25-2	
Bromomethane	ND	ug/kg	5.0	2.5	1		03/09/13 14:48	74-83-9	
2-Butanone (MEK)	ND	ug/kg	10.0	5.0	1		03/09/13 14:48	78-93-3	
n-Butylbenzene	ND	ug/kg	5.0	2.5	1		03/09/13 14:48	104-51-8	
sec-Butylbenzene	ND	ug/kg	5.0	2.5	1		03/09/13 14:48	135-98-8	
tert-Butylbenzene	ND	ug/kg	5.0	2.5	1		03/09/13 14:48	98-06-6	
Carbon disulfide	ND	ug/kg	5.0	2.5	1		03/09/13 14:48	75-15-0	
Carbon tetrachloride	ND	ug/kg	5.0	2.5	1		03/09/13 14:48	56-23-5	
Chlorobenzene	ND	ug/kg	5.0	2.5	1		03/09/13 14:48	108-90-7	
Chloroethane	ND	ug/kg	5.0	2.5	1		03/09/13 14:48	75-00-3	
Chloroform	ND	ug/kg	5.0	2.5	1		03/09/13 14:48	67-66-3	
Chloromethane	ND	ug/kg	5.0	2.5	1		03/09/13 14:48	74-87-3	
2-Chlorotoluene	ND	ug/kg	5.0	2.5	1		03/09/13 14:48	95-49-8	
4-Chlorotoluene	ND	ug/kg	5.0	2.5	1		03/09/13 14:48	106-43-4	
1,2-Dibromo-3-chloropropane	ND	ug/kg	10.0	5.0	1		03/09/13 14:48	96-12-8	
Dibromochloromethane	ND	ug/kg	5.0	2.5	1		03/09/13 14:48	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/kg	5.0	2.5	1		03/09/13 14:48	106-93-4	
Dibromomethane	ND	ug/kg	5.0	2.5	1		03/09/13 14:48	74-95-3	
1,2-Dichlorobenzene	ND	ug/kg	5.0	2.5	1		03/09/13 14:48	95-50-1	
1,3-Dichlorobenzene	ND	ug/kg	5.0	2.5	1		03/09/13 14:48	541-73-1	
1,4-Dichlorobenzene	ND	ug/kg	5.0	2.5	1		03/09/13 14:48	106-46-7	
Dichlorodifluoromethane	ND	ug/kg	5.0	2.5	1		03/09/13 14:48	75-71-8	
1,1-Dichloroethane	ND	ug/kg	5.0	2.5	1		03/09/13 14:48	75-34-3	
1,2-Dichloroethane	ND	ug/kg	5.0	2.5	1		03/09/13 14:48	107-06-2	
1,2-Dichloroethene (Total)	ND	ug/kg	5.0	2.5	1		03/09/13 14:48	540-59-0	
1,1-Dichloroethene	ND	ug/kg	5.0	2.5	1		03/09/13 14:48	75-35-4	
cis-1,2-Dichloroethene	ND	ug/kg	5.0	2.5	1		03/09/13 14:48	156-59-2	
trans-1,2-Dichloroethene	ND	ug/kg	5.0	2.5	1		03/09/13 14:48	156-60-5	
1,2-Dichloropropane	ND	ug/kg	5.0	2.5	1		03/09/13 14:48	78-87-5	
1,3-Dichloropropane	ND	ug/kg	5.0	2.5	1		03/09/13 14:48	142-28-9	
2,2-Dichloropropane	ND	ug/kg	5.0	2.5	1		03/09/13 14:48	594-20-7	
1,1-Dichloropropene	ND	ug/kg	5.0	2.5	1		03/09/13 14:48	563-58-6	
cis-1,3-Dichloropropene	ND	ug/kg	5.0	2.5	1		03/09/13 14:48	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/kg	5.0	2.5	1		03/09/13 14:48	10061-02-6	
Ethylbenzene	ND	ug/kg	5.0	2.5	1		03/09/13 14:48	100-41-4	
Hexachloro-1,3-butadiene	ND	ug/kg	5.0	2.5	1		03/09/13 14:48	87-68-3	
2-Hexanone	ND	ug/kg	20.0	10.0	1		03/09/13 14:48	591-78-6	
Isopropylbenzene (Cumene)	ND	ug/kg	5.0	2.5	1		03/09/13 14:48	98-82-8	
p-Isopropyltoluene	ND	ug/kg	5.0	2.5	1		03/09/13 14:48	99-87-6	
Methylene chloride	ND	ug/kg	5.0	2.5	1		03/09/13 14:48	75-09-2	

Date: 03/15/2013 10:48 AM

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ANALYTICAL RESULTS

Project: Big MO Soil Sampling

Pace Project No.: 60139568

Sample: TB-04 **Lab ID: 60139568004** Collected: 02/26/13 08:00 Received: 03/01/13 03:10 Matrix: Solid

Results reported on a "wet-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA Analytical Method: EPA 8260									
4-Methyl-2-pentanone (MIBK)	ND	ug/kg	10.0	5.0	1		03/09/13 14:48	108-10-1	
Methyl-tert-butyl ether	ND	ug/kg	5.0	2.5	1		03/09/13 14:48	1634-04-4	
Naphthalene	ND	ug/kg	10.0	5.0	1		03/09/13 14:48	91-20-3	
n-Propylbenzene	ND	ug/kg	5.0	2.5	1		03/09/13 14:48	103-65-1	
Styrene	ND	ug/kg	5.0	2.5	1		03/09/13 14:48	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/kg	5.0	2.5	1		03/09/13 14:48	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/kg	5.0	2.5	1		03/09/13 14:48	79-34-5	
Tetrachloroethene	ND	ug/kg	5.0	2.5	1		03/09/13 14:48	127-18-4	
Toluene	ND	ug/kg	5.0	2.5	1		03/09/13 14:48	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/kg	5.0	2.5	1		03/09/13 14:48	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/kg	5.0	2.5	1		03/09/13 14:48	120-82-1	
1,1,1-Trichloroethane	ND	ug/kg	5.0	2.5	1		03/09/13 14:48	71-55-6	
1,1,2-Trichloroethane	ND	ug/kg	5.0	2.5	1		03/09/13 14:48	79-00-5	
Trichloroethene	ND	ug/kg	5.0	2.5	1		03/09/13 14:48	79-01-6	
Trichlorofluoromethane	ND	ug/kg	5.0	2.5	1		03/09/13 14:48	75-69-4	
1,2,3-Trichloropropane	ND	ug/kg	5.0	2.5	1		03/09/13 14:48	96-18-4	
1,2,4-Trimethylbenzene	ND	ug/kg	5.0	2.5	1		03/09/13 14:48	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/kg	5.0	2.5	1		03/09/13 14:48	108-67-8	
Vinyl chloride	ND	ug/kg	5.0	2.5	1		03/09/13 14:48	75-01-4	
Xylene (Total)	ND	ug/kg	5.0	2.5	1		03/09/13 14:48	1330-20-7	
Surrogates									
Dibromofluoromethane (S)	99 %		76-125		1		03/09/13 14:48	1868-53-7	
Toluene-d8 (S)	99 %		80-120		1		03/09/13 14:48	2037-26-5	
4-Bromofluorobenzene (S)	96 %		80-120		1		03/09/13 14:48	460-00-4	
1,2-Dichloroethane-d4 (S)	97 %		76-132		1		03/09/13 14:48	17060-07-0	

ANALYTICAL RESULTS

Project: Big MO Soil Sampling

Pace Project No.: 60139568

Sample: **BM-022513-SB63-8.8-9.4** Lab ID: **60139568005** Collected: 02/25/13 10:45 Received: 03/01/13 03:10 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA		Analytical Method: EPA 8260							
Acetone	ND	ug/kg	12.0	6.0	1		03/07/13 12:53	67-64-1	
Benzene	1840	ug/kg	169	84.3	50		03/07/13 17:32	71-43-2	
Bromobenzene	ND	ug/kg	3.0	1.5	1		03/07/13 12:53	108-86-1	
Bromochloromethane	ND	ug/kg	3.0	1.5	1		03/07/13 12:53	74-97-5	
Bromodichloromethane	ND	ug/kg	3.0	1.5	1		03/07/13 12:53	75-27-4	
Bromoform	ND	ug/kg	3.0	1.5	1		03/07/13 12:53	75-25-2	
Bromomethane	ND	ug/kg	3.0	1.5	1		03/07/13 12:53	74-83-9	
2-Butanone (MEK)	ND	ug/kg	6.0	3.0	1		03/07/13 12:53	78-93-3	
n-Butylbenzene	ND	ug/kg	3.0	1.5	1		03/07/13 12:53	104-51-8	
sec-Butylbenzene	ND	ug/kg	3.0	1.5	1		03/07/13 12:53	135-98-8	
tert-Butylbenzene	ND	ug/kg	3.0	1.5	1		03/07/13 12:53	98-06-6	
Carbon disulfide	ND	ug/kg	3.0	1.5	1		03/07/13 12:53	75-15-0	
Carbon tetrachloride	ND	ug/kg	3.0	1.5	1		03/07/13 12:53	56-23-5	
Chlorobenzene	7.3	ug/kg	3.0	1.5	1		03/07/13 12:53	108-90-7	
Chloroethane	ND	ug/kg	3.0	1.5	1		03/07/13 12:53	75-00-3	
Chloroform	ND	ug/kg	3.0	1.5	1		03/07/13 12:53	67-66-3	
Chloromethane	ND	ug/kg	3.0	1.5	1		03/07/13 12:53	74-87-3	
2-Chlorotoluene	ND	ug/kg	3.0	1.5	1		03/07/13 12:53	95-49-8	
4-Chlorotoluene	ND	ug/kg	3.0	1.5	1		03/07/13 12:53	106-43-4	
1,2-Dibromo-3-chloropropane	ND	ug/kg	6.0	3.0	1		03/07/13 12:53	96-12-8	
Dibromochloromethane	ND	ug/kg	3.0	1.5	1		03/07/13 12:53	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/kg	3.0	1.5	1		03/07/13 12:53	106-93-4	
Dibromomethane	ND	ug/kg	3.0	1.5	1		03/07/13 12:53	74-95-3	
1,2-Dichlorobenzene	ND	ug/kg	3.0	1.5	1		03/07/13 12:53	95-50-1	
1,3-Dichlorobenzene	ND	ug/kg	3.0	1.5	1		03/07/13 12:53	541-73-1	
1,4-Dichlorobenzene	1.7J	ug/kg	3.0	1.5	1		03/07/13 12:53	106-46-7	
Dichlorodifluoromethane	ND	ug/kg	3.0	1.5	1		03/07/13 12:53	75-71-8	
1,1-Dichloroethane	ND	ug/kg	3.0	1.5	1		03/07/13 12:53	75-34-3	
1,2-Dichloroethane	ND	ug/kg	3.0	1.5	1		03/07/13 12:53	107-06-2	
1,2-Dichloroethene (Total)	ND	ug/kg	3.0	1.5	1		03/07/13 12:53	540-59-0	
1,1-Dichloroethene	ND	ug/kg	3.0	1.5	1		03/07/13 12:53	75-35-4	
cis-1,2-Dichloroethene	ND	ug/kg	3.0	1.5	1		03/07/13 12:53	156-59-2	
trans-1,2-Dichloroethene	ND	ug/kg	3.0	1.5	1		03/07/13 12:53	156-60-5	
1,2-Dichloropropane	ND	ug/kg	3.0	1.5	1		03/07/13 12:53	78-87-5	
1,3-Dichloropropane	ND	ug/kg	3.0	1.5	1		03/07/13 12:53	142-28-9	
2,2-Dichloropropane	ND	ug/kg	3.0	1.5	1		03/07/13 12:53	594-20-7	
1,1-Dichloropropene	ND	ug/kg	3.0	1.5	1		03/07/13 12:53	563-58-6	
cis-1,3-Dichloropropene	ND	ug/kg	3.0	1.5	1		03/07/13 12:53	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/kg	3.0	1.5	1		03/07/13 12:53	10061-02-6	
Ethylbenzene	ND	ug/kg	3.0	1.5	1		03/07/13 12:53	100-41-4	
Hexachloro-1,3-butadiene	ND	ug/kg	3.0	1.5	1		03/07/13 12:53	87-68-3	
2-Hexanone	ND	ug/kg	12.0	6.0	1		03/07/13 12:53	591-78-6	
Isopropylbenzene (Cumene)	ND	ug/kg	3.0	1.5	1		03/07/13 12:53	98-82-8	
p-Isopropyltoluene	ND	ug/kg	3.0	1.5	1		03/07/13 12:53	99-87-6	
Methylene chloride	ND	ug/kg	3.0	1.5	1		03/07/13 12:53	75-09-2	

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ANALYTICAL RESULTS

Project: Big MO Soil Sampling

Pace Project No.: 60139568

Sample: BM-022513-SB63-8.8-9.4 **Lab ID:** 60139568005 Collected: 02/25/13 10:45 Received: 03/01/13 03:10 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA									
Analytical Method: EPA 8260									
4-Methyl-2-pentanone (MIBK)	ND	ug/kg	6.0	3.0	1		03/07/13 12:53	108-10-1	
Methyl-tert-butyl ether	ND	ug/kg	3.0	1.5	1		03/07/13 12:53	1634-04-4	
Naphthalene	ND	ug/kg	6.0	3.0	1		03/07/13 12:53	91-20-3	
n-Propylbenzene	ND	ug/kg	3.0	1.5	1		03/07/13 12:53	103-65-1	
Styrene	ND	ug/kg	3.0	1.5	1		03/07/13 12:53	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/kg	3.0	1.5	1		03/07/13 12:53	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/kg	3.0	1.5	1		03/07/13 12:53	79-34-5	
Tetrachloroethene	ND	ug/kg	3.0	1.5	1		03/07/13 12:53	127-18-4	
Toluene	ND	ug/kg	3.0	1.5	1		03/07/13 12:53	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/kg	3.0	1.5	1		03/07/13 12:53	87-61-6	
1,2,4-Trichlorobenzene	36.8	ug/kg	3.0	1.5	1		03/07/13 12:53	120-82-1	
1,1,1-Trichloroethane	ND	ug/kg	3.0	1.5	1		03/07/13 12:53	71-55-6	
1,1,2-Trichloroethane	ND	ug/kg	3.0	1.5	1		03/07/13 12:53	79-00-5	
Trichloroethene	ND	ug/kg	3.0	1.5	1		03/07/13 12:53	79-01-6	
Trichlorofluoromethane	ND	ug/kg	3.0	1.5	1		03/07/13 12:53	75-69-4	
1,2,3-Trichloropropane	ND	ug/kg	3.0	1.5	1		03/07/13 12:53	96-18-4	
1,2,4-Trimethylbenzene	ND	ug/kg	3.0	1.5	1		03/07/13 12:53	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/kg	3.0	1.5	1		03/07/13 12:53	108-67-8	
Vinyl chloride	ND	ug/kg	3.0	1.5	1		03/07/13 12:53	75-01-4	
Xylene (Total)	ND	ug/kg	3.0	1.5	1		03/07/13 12:53	1330-20-7	
Surrogates									
Dibromofluoromethane (S)	104	%	76-125		1		03/07/13 12:53	1868-53-7	
Toluene-d8 (S)	99	%	80-120		1		03/07/13 12:53	2037-26-5	
4-Bromofluorobenzene (S)	95	%	80-120		1		03/07/13 12:53	460-00-4	
1,2-Dichloroethane-d4 (S)	104	%	76-132		1		03/07/13 12:53	17060-07-0	
Percent Moisture									
Analytical Method: ASTM D2974									
Percent Moisture	10.0	%	0.50	0.50	1		03/06/13 00:00		

ANALYTICAL RESULTS

Project: Big MO Soil Sampling

Pace Project No.: 60139568

Sample: **BM-022513-SB63-10-10.4** Lab ID: **60139568006** Collected: 02/25/13 10:50 Received: 03/01/13 03:10 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA		Analytical Method: EPA 8260							
Acetone	ND	ug/kg	14.6	7.3	1		03/07/13 13:09	67-64-1	
Benzene	7330	ug/kg	265	132	50		03/07/13 17:48	71-43-2	
Bromobenzene	ND	ug/kg	3.6	1.8	1		03/07/13 13:09	108-86-1	
Bromochloromethane	ND	ug/kg	3.6	1.8	1		03/07/13 13:09	74-97-5	
Bromodichloromethane	ND	ug/kg	3.6	1.8	1		03/07/13 13:09	75-27-4	
Bromoform	ND	ug/kg	3.6	1.8	1		03/07/13 13:09	75-25-2	
Bromomethane	ND	ug/kg	3.6	1.8	1		03/07/13 13:09	74-83-9	
2-Butanone (MEK)	ND	ug/kg	7.3	3.6	1		03/07/13 13:09	78-93-3	
n-Butylbenzene	ND	ug/kg	3.6	1.8	1		03/07/13 13:09	104-51-8	
sec-Butylbenzene	ND	ug/kg	3.6	1.8	1		03/07/13 13:09	135-98-8	
tert-Butylbenzene	ND	ug/kg	3.6	1.8	1		03/07/13 13:09	98-06-6	
Carbon disulfide	ND	ug/kg	3.6	1.8	1		03/07/13 13:09	75-15-0	
Carbon tetrachloride	ND	ug/kg	3.6	1.8	1		03/07/13 13:09	56-23-5	
Chlorobenzene	33.1	ug/kg	3.6	1.8	1		03/07/13 13:09	108-90-7	
Chloroethane	ND	ug/kg	3.6	1.8	1		03/07/13 13:09	75-00-3	
Chloroform	ND	ug/kg	3.6	1.8	1		03/07/13 13:09	67-66-3	
Chloromethane	ND	ug/kg	3.6	1.8	1		03/07/13 13:09	74-87-3	
2-Chlorotoluene	ND	ug/kg	3.6	1.8	1		03/07/13 13:09	95-49-8	
4-Chlorotoluene	ND	ug/kg	3.6	1.8	1		03/07/13 13:09	106-43-4	
1,2-Dibromo-3-chloropropane	ND	ug/kg	7.3	3.6	1		03/07/13 13:09	96-12-8	
Dibromochloromethane	ND	ug/kg	3.6	1.8	1		03/07/13 13:09	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/kg	3.6	1.8	1		03/07/13 13:09	106-93-4	
Dibromomethane	ND	ug/kg	3.6	1.8	1		03/07/13 13:09	74-95-3	
1,2-Dichlorobenzene	ND	ug/kg	3.6	1.8	1		03/07/13 13:09	95-50-1	
1,3-Dichlorobenzene	ND	ug/kg	3.6	1.8	1		03/07/13 13:09	541-73-1	
1,4-Dichlorobenzene	2.1J	ug/kg	3.6	1.8	1		03/07/13 13:09	106-46-7	
Dichlorodifluoromethane	ND	ug/kg	3.6	1.8	1		03/07/13 13:09	75-71-8	
1,1-Dichloroethane	ND	ug/kg	3.6	1.8	1		03/07/13 13:09	75-34-3	
1,2-Dichloroethane	ND	ug/kg	3.6	1.8	1		03/07/13 13:09	107-06-2	
1,2-Dichloroethene (Total)	ND	ug/kg	3.6	1.8	1		03/07/13 13:09	540-59-0	
1,1-Dichloroethene	ND	ug/kg	3.6	1.8	1		03/07/13 13:09	75-35-4	
cis-1,2-Dichloroethene	ND	ug/kg	3.6	1.8	1		03/07/13 13:09	156-59-2	
trans-1,2-Dichloroethene	ND	ug/kg	3.6	1.8	1		03/07/13 13:09	156-60-5	
1,2-Dichloropropane	ND	ug/kg	3.6	1.8	1		03/07/13 13:09	78-87-5	
1,3-Dichloropropane	ND	ug/kg	3.6	1.8	1		03/07/13 13:09	142-28-9	
2,2-Dichloropropane	ND	ug/kg	3.6	1.8	1		03/07/13 13:09	594-20-7	
1,1-Dichloropropene	ND	ug/kg	3.6	1.8	1		03/07/13 13:09	563-58-6	
cis-1,3-Dichloropropene	ND	ug/kg	3.6	1.8	1		03/07/13 13:09	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/kg	3.6	1.8	1		03/07/13 13:09	10061-02-6	
Ethylbenzene	ND	ug/kg	3.6	1.8	1		03/07/13 13:09	100-41-4	
Hexachloro-1,3-butadiene	ND	ug/kg	3.6	1.8	1		03/07/13 13:09	87-68-3	
2-Hexanone	ND	ug/kg	14.6	7.3	1		03/07/13 13:09	591-78-6	
Isopropylbenzene (Cumene)	ND	ug/kg	3.6	1.8	1		03/07/13 13:09	98-82-8	
p-Isopropyltoluene	ND	ug/kg	3.6	1.8	1		03/07/13 13:09	99-87-6	
Methylene chloride	ND	ug/kg	3.6	1.8	1		03/07/13 13:09	75-09-2	

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ANALYTICAL RESULTS

Project: Big MO Soil Sampling

Pace Project No.: 60139568

Sample: BM-022513-SB63-10-10.4 **Lab ID: 60139568006** Collected: 02/25/13 10:50 Received: 03/01/13 03:10 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA									
Analytical Method: EPA 8260									
4-Methyl-2-pentanone (MIBK)	ND	ug/kg	7.3	3.6	1		03/07/13 13:09	108-10-1	
Methyl-tert-butyl ether	ND	ug/kg	3.6	1.8	1		03/07/13 13:09	1634-04-4	
Naphthalene	ND	ug/kg	7.3	3.6	1		03/07/13 13:09	91-20-3	
n-Propylbenzene	ND	ug/kg	3.6	1.8	1		03/07/13 13:09	103-65-1	
Styrene	ND	ug/kg	3.6	1.8	1		03/07/13 13:09	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/kg	3.6	1.8	1		03/07/13 13:09	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/kg	3.6	1.8	1		03/07/13 13:09	79-34-5	
Tetrachloroethene	ND	ug/kg	3.6	1.8	1		03/07/13 13:09	127-18-4	
Toluene	ND	ug/kg	3.6	1.8	1		03/07/13 13:09	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/kg	3.6	1.8	1		03/07/13 13:09	87-61-6	
1,2,4-Trichlorobenzene	38.9	ug/kg	3.6	1.8	1		03/07/13 13:09	120-82-1	
1,1,1-Trichloroethane	ND	ug/kg	3.6	1.8	1		03/07/13 13:09	71-55-6	
1,1,2-Trichloroethane	ND	ug/kg	3.6	1.8	1		03/07/13 13:09	79-00-5	
Trichloroethene	ND	ug/kg	3.6	1.8	1		03/07/13 13:09	79-01-6	
Trichlorofluoromethane	ND	ug/kg	3.6	1.8	1		03/07/13 13:09	75-69-4	
1,2,3-Trichloropropane	ND	ug/kg	3.6	1.8	1		03/07/13 13:09	96-18-4	
1,2,4-Trimethylbenzene	ND	ug/kg	3.6	1.8	1		03/07/13 13:09	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/kg	3.6	1.8	1		03/07/13 13:09	108-67-8	
Vinyl chloride	ND	ug/kg	3.6	1.8	1		03/07/13 13:09	75-01-4	
Xylene (Total)	ND	ug/kg	3.6	1.8	1		03/07/13 13:09	1330-20-7	
Surrogates									
Dibromofluoromethane (S)	115	%	76-125		1		03/07/13 13:09	1868-53-7	
Toluene-d8 (S)	99	%	80-120		1		03/07/13 13:09	2037-26-5	
4-Bromofluorobenzene (S)	96	%	80-120		1		03/07/13 13:09	460-00-4	
1,2-Dichloroethane-d4 (S)	105	%	76-132		1		03/07/13 13:09	17060-07-0	
Percent Moisture									
Analytical Method: ASTM D2974									
Percent Moisture	4.3	%	0.50	0.50	1		03/06/13 00:00		

ANALYTICAL RESULTS

Project: Big MO Soil Sampling

Pace Project No.: 60139568

Sample: BM-022513-SB63-12-12.6 **Lab ID: 60139568007** Collected: 02/25/13 10:55 Received: 03/01/13 03:10 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA		Analytical Method: EPA 8260							
Acetone	ND	ug/kg	13.6	6.8	1		03/07/13 13:24	67-64-1	
Benzene	811	ug/kg	190	94.8	50		03/07/13 18:03	71-43-2	
Bromobenzene	ND	ug/kg	3.4	1.7	1		03/07/13 13:24	108-86-1	
Bromochloromethane	ND	ug/kg	3.4	1.7	1		03/07/13 13:24	74-97-5	
Bromodichloromethane	ND	ug/kg	3.4	1.7	1		03/07/13 13:24	75-27-4	
Bromoform	ND	ug/kg	3.4	1.7	1		03/07/13 13:24	75-25-2	
Bromomethane	ND	ug/kg	3.4	1.7	1		03/07/13 13:24	74-83-9	
2-Butanone (MEK)	ND	ug/kg	6.8	3.4	1		03/07/13 13:24	78-93-3	
n-Butylbenzene	ND	ug/kg	3.4	1.7	1		03/07/13 13:24	104-51-8	
sec-Butylbenzene	ND	ug/kg	3.4	1.7	1		03/07/13 13:24	135-98-8	
tert-Butylbenzene	ND	ug/kg	3.4	1.7	1		03/07/13 13:24	98-06-6	
Carbon disulfide	ND	ug/kg	3.4	1.7	1		03/07/13 13:24	75-15-0	
Carbon tetrachloride	ND	ug/kg	3.4	1.7	1		03/07/13 13:24	56-23-5	
Chlorobenzene	22.6	ug/kg	3.4	1.7	1		03/07/13 13:24	108-90-7	
Chloroethane	ND	ug/kg	3.4	1.7	1		03/07/13 13:24	75-00-3	
Chloroform	ND	ug/kg	3.4	1.7	1		03/07/13 13:24	67-66-3	
Chloromethane	ND	ug/kg	3.4	1.7	1		03/07/13 13:24	74-87-3	
2-Chlorotoluene	ND	ug/kg	3.4	1.7	1		03/07/13 13:24	95-49-8	
4-Chlorotoluene	ND	ug/kg	3.4	1.7	1		03/07/13 13:24	106-43-4	
1,2-Dibromo-3-chloropropane	ND	ug/kg	6.8	3.4	1		03/07/13 13:24	96-12-8	
Dibromochloromethane	ND	ug/kg	3.4	1.7	1		03/07/13 13:24	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/kg	3.4	1.7	1		03/07/13 13:24	106-93-4	
Dibromomethane	ND	ug/kg	3.4	1.7	1		03/07/13 13:24	74-95-3	
1,2-Dichlorobenzene	ND	ug/kg	3.4	1.7	1		03/07/13 13:24	95-50-1	
1,3-Dichlorobenzene	ND	ug/kg	3.4	1.7	1		03/07/13 13:24	541-73-1	
1,4-Dichlorobenzene	ND	ug/kg	3.4	1.7	1		03/07/13 13:24	106-46-7	
Dichlorodifluoromethane	ND	ug/kg	3.4	1.7	1		03/07/13 13:24	75-71-8	
1,1-Dichloroethane	ND	ug/kg	3.4	1.7	1		03/07/13 13:24	75-34-3	
1,2-Dichloroethane	ND	ug/kg	3.4	1.7	1		03/07/13 13:24	107-06-2	
1,2-Dichloroethene (Total)	ND	ug/kg	3.4	1.7	1		03/07/13 13:24	540-59-0	
1,1-Dichloroethene	ND	ug/kg	3.4	1.7	1		03/07/13 13:24	75-35-4	
cis-1,2-Dichloroethene	ND	ug/kg	3.4	1.7	1		03/07/13 13:24	156-59-2	
trans-1,2-Dichloroethene	ND	ug/kg	3.4	1.7	1		03/07/13 13:24	156-60-5	
1,2-Dichloropropane	ND	ug/kg	3.4	1.7	1		03/07/13 13:24	78-87-5	
1,3-Dichloropropane	ND	ug/kg	3.4	1.7	1		03/07/13 13:24	142-28-9	
2,2-Dichloropropane	ND	ug/kg	3.4	1.7	1		03/07/13 13:24	594-20-7	
1,1-Dichloropropene	ND	ug/kg	3.4	1.7	1		03/07/13 13:24	563-58-6	
cis-1,3-Dichloropropene	ND	ug/kg	3.4	1.7	1		03/07/13 13:24	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/kg	3.4	1.7	1		03/07/13 13:24	10061-02-6	
Ethylbenzene	ND	ug/kg	3.4	1.7	1		03/07/13 13:24	100-41-4	
Hexachloro-1,3-butadiene	ND	ug/kg	3.4	1.7	1		03/07/13 13:24	87-68-3	
2-Hexanone	ND	ug/kg	13.6	6.8	1		03/07/13 13:24	591-78-6	
Isopropylbenzene (Cumene)	ND	ug/kg	3.4	1.7	1		03/07/13 13:24	98-82-8	
p-Isopropyltoluene	ND	ug/kg	3.4	1.7	1		03/07/13 13:24	99-87-6	
Methylene chloride	ND	ug/kg	3.4	1.7	1		03/07/13 13:24	75-09-2	

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ANALYTICAL RESULTS

Project: Big MO Soil Sampling

Pace Project No.: 60139568

Sample: BM-022513-SB63-12-12.6 **Lab ID: 60139568007** Collected: 02/25/13 10:55 Received: 03/01/13 03:10 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA Analytical Method: EPA 8260									
4-Methyl-2-pentanone (MIBK)	ND	ug/kg	6.8	3.4	1		03/07/13 13:24	108-10-1	
Methyl-tert-butyl ether	ND	ug/kg	3.4	1.7	1		03/07/13 13:24	1634-04-4	
Naphthalene	ND	ug/kg	6.8	3.4	1		03/07/13 13:24	91-20-3	
n-Propylbenzene	ND	ug/kg	3.4	1.7	1		03/07/13 13:24	103-65-1	
Styrene	ND	ug/kg	3.4	1.7	1		03/07/13 13:24	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/kg	3.4	1.7	1		03/07/13 13:24	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/kg	3.4	1.7	1		03/07/13 13:24	79-34-5	
Tetrachloroethene	ND	ug/kg	3.4	1.7	1		03/07/13 13:24	127-18-4	
Toluene	ND	ug/kg	3.4	1.7	1		03/07/13 13:24	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/kg	3.4	1.7	1		03/07/13 13:24	87-61-6	
1,2,4-Trichlorobenzene	26.4	ug/kg	3.4	1.7	1		03/07/13 13:24	120-82-1	
1,1,1-Trichloroethane	ND	ug/kg	3.4	1.7	1		03/07/13 13:24	71-55-6	
1,1,2-Trichloroethane	ND	ug/kg	3.4	1.7	1		03/07/13 13:24	79-00-5	
Trichloroethene	ND	ug/kg	3.4	1.7	1		03/07/13 13:24	79-01-6	
Trichlorofluoromethane	ND	ug/kg	3.4	1.7	1		03/07/13 13:24	75-69-4	
1,2,3-Trichloropropane	ND	ug/kg	3.4	1.7	1		03/07/13 13:24	96-18-4	
1,2,4-Trimethylbenzene	ND	ug/kg	3.4	1.7	1		03/07/13 13:24	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/kg	3.4	1.7	1		03/07/13 13:24	108-67-8	
Vinyl chloride	ND	ug/kg	3.4	1.7	1		03/07/13 13:24	75-01-4	
Xylene (Total)	ND	ug/kg	3.4	1.7	1		03/07/13 13:24	1330-20-7	
Surrogates									
Dibromofluoromethane (S)	116	%	76-125		1		03/07/13 13:24	1868-53-7	
Toluene-d8 (S)	103	%	80-120		1		03/07/13 13:24	2037-26-5	
4-Bromofluorobenzene (S)	99	%	80-120		1		03/07/13 13:24	460-00-4	
1,2-Dichloroethane-d4 (S)	105	%	76-132		1		03/07/13 13:24	17060-07-0	
Percent Moisture Analytical Method: ASTM D2974									
Percent Moisture	6.0	%	0.50	0.50	1		03/06/13 00:00		

ANALYTICAL RESULTS

Project: Big MO Soil Sampling

Pace Project No.: 60139568

Sample: **BM-022513-SB63-13.2-13.8** Lab ID: **60139568008** Collected: 02/25/13 11:00 Received: 03/01/13 03:10 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA		Analytical Method: EPA 8260							
Acetone	178	ug/kg	13.3	6.6	1		03/07/13 13:40	67-64-1	
Benzene	610	ug/kg	162	81.1	50		03/07/13 18:18	71-43-2	
Bromobenzene	ND	ug/kg	3.3	1.7	1		03/07/13 13:40	108-86-1	
Bromochloromethane	ND	ug/kg	3.3	1.7	1		03/07/13 13:40	74-97-5	
Bromodichloromethane	ND	ug/kg	3.3	1.7	1		03/07/13 13:40	75-27-4	
Bromoform	ND	ug/kg	3.3	1.7	1		03/07/13 13:40	75-25-2	
Bromomethane	ND	ug/kg	3.3	1.7	1		03/07/13 13:40	74-83-9	
2-Butanone (MEK)	7.2	ug/kg	6.6	3.3	1		03/07/13 13:40	78-93-3	
n-Butylbenzene	ND	ug/kg	3.3	1.7	1		03/07/13 13:40	104-51-8	
sec-Butylbenzene	ND	ug/kg	3.3	1.7	1		03/07/13 13:40	135-98-8	
tert-Butylbenzene	ND	ug/kg	3.3	1.7	1		03/07/13 13:40	98-06-6	
Carbon disulfide	ND	ug/kg	3.3	1.7	1		03/07/13 13:40	75-15-0	
Carbon tetrachloride	ND	ug/kg	3.3	1.7	1		03/07/13 13:40	56-23-5	
Chlorobenzene	60.6	ug/kg	3.3	1.7	1		03/07/13 13:40	108-90-7	
Chloroethane	ND	ug/kg	3.3	1.7	1		03/07/13 13:40	75-00-3	
Chloroform	ND	ug/kg	3.3	1.7	1		03/07/13 13:40	67-66-3	
Chloromethane	ND	ug/kg	3.3	1.7	1		03/07/13 13:40	74-87-3	
2-Chlorotoluene	ND	ug/kg	3.3	1.7	1		03/07/13 13:40	95-49-8	
4-Chlorotoluene	ND	ug/kg	3.3	1.7	1		03/07/13 13:40	106-43-4	
1,2-Dibromo-3-chloropropane	ND	ug/kg	6.6	3.3	1		03/07/13 13:40	96-12-8	
Dibromochloromethane	ND	ug/kg	3.3	1.7	1		03/07/13 13:40	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/kg	3.3	1.7	1		03/07/13 13:40	106-93-4	
Dibromomethane	ND	ug/kg	3.3	1.7	1		03/07/13 13:40	74-95-3	
1,2-Dichlorobenzene	9.0	ug/kg	3.3	1.7	1		03/07/13 13:40	95-50-1	
1,3-Dichlorobenzene	6.9	ug/kg	3.3	1.7	1		03/07/13 13:40	541-73-1	
1,4-Dichlorobenzene	6.5	ug/kg	3.3	1.7	1		03/07/13 13:40	106-46-7	
Dichlorodifluoromethane	ND	ug/kg	3.3	1.7	1		03/07/13 13:40	75-71-8	
1,1-Dichloroethane	ND	ug/kg	3.3	1.7	1		03/07/13 13:40	75-34-3	
1,2-Dichloroethane	ND	ug/kg	3.3	1.7	1		03/07/13 13:40	107-06-2	
1,2-Dichloroethene (Total)	ND	ug/kg	3.3	1.7	1		03/07/13 13:40	540-59-0	
1,1-Dichloroethene	ND	ug/kg	3.3	1.7	1		03/07/13 13:40	75-35-4	
cis-1,2-Dichloroethene	ND	ug/kg	3.3	1.7	1		03/07/13 13:40	156-59-2	
trans-1,2-Dichloroethene	ND	ug/kg	3.3	1.7	1		03/07/13 13:40	156-60-5	
1,2-Dichloropropane	ND	ug/kg	3.3	1.7	1		03/07/13 13:40	78-87-5	
1,3-Dichloropropane	ND	ug/kg	3.3	1.7	1		03/07/13 13:40	142-28-9	
2,2-Dichloropropane	ND	ug/kg	3.3	1.7	1		03/07/13 13:40	594-20-7	
1,1-Dichloropropene	ND	ug/kg	3.3	1.7	1		03/07/13 13:40	563-58-6	
cis-1,3-Dichloropropene	ND	ug/kg	3.3	1.7	1		03/07/13 13:40	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/kg	3.3	1.7	1		03/07/13 13:40	10061-02-6	
Ethylbenzene	ND	ug/kg	3.3	1.7	1		03/07/13 13:40	100-41-4	
Hexachloro-1,3-butadiene	ND	ug/kg	3.3	1.7	1		03/07/13 13:40	87-68-3	
2-Hexanone	ND	ug/kg	13.3	6.6	1		03/07/13 13:40	591-78-6	
Isopropylbenzene (Cumene)	ND	ug/kg	3.3	1.7	1		03/07/13 13:40	98-82-8	
p-Isopropyltoluene	ND	ug/kg	3.3	1.7	1		03/07/13 13:40	99-87-6	
Methylene chloride	ND	ug/kg	3.3	1.7	1		03/07/13 13:40	75-09-2	

Date: 03/15/2013 10:48 AM

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Big MO Soil Sampling

Pace Project No.: 60139568

Sample: BM-022513-SB63-13.2-13.8 **Lab ID:** 60139568008 **Collected:** 02/25/13 11:00 **Received:** 03/01/13 03:10 **Matrix:** Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA									
Analytical Method: EPA 8260									
4-Methyl-2-pentanone (MIBK)	ND	ug/kg	6.6	3.3	1		03/07/13 13:40	108-10-1	
Methyl-tert-butyl ether	ND	ug/kg	3.3	1.7	1		03/07/13 13:40	1634-04-4	
Naphthalene	ND	ug/kg	6.6	3.3	1		03/07/13 13:40	91-20-3	
n-Propylbenzene	ND	ug/kg	3.3	1.7	1		03/07/13 13:40	103-65-1	
Styrene	ND	ug/kg	3.3	1.7	1		03/07/13 13:40	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/kg	3.3	1.7	1		03/07/13 13:40	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/kg	3.3	1.7	1		03/07/13 13:40	79-34-5	
Tetrachloroethene	ND	ug/kg	3.3	1.7	1		03/07/13 13:40	127-18-4	
Toluene	ND	ug/kg	3.3	1.7	1		03/07/13 13:40	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/kg	3.3	1.7	1		03/07/13 13:40	87-61-6	
1,2,4-Trichlorobenzene	117	ug/kg	3.3	1.7	1		03/07/13 13:40	120-82-1	
1,1,1-Trichloroethane	ND	ug/kg	3.3	1.7	1		03/07/13 13:40	71-55-6	
1,1,2-Trichloroethane	ND	ug/kg	3.3	1.7	1		03/07/13 13:40	79-00-5	
Trichloroethene	ND	ug/kg	3.3	1.7	1		03/07/13 13:40	79-01-6	
Trichlorofluoromethane	ND	ug/kg	3.3	1.7	1		03/07/13 13:40	75-69-4	
1,2,3-Trichloropropane	ND	ug/kg	3.3	1.7	1		03/07/13 13:40	96-18-4	
1,2,4-Trimethylbenzene	ND	ug/kg	3.3	1.7	1		03/07/13 13:40	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/kg	3.3	1.7	1		03/07/13 13:40	108-67-8	
Vinyl chloride	ND	ug/kg	3.3	1.7	1		03/07/13 13:40	75-01-4	
Xylene (Total)	ND	ug/kg	3.3	1.7	1		03/07/13 13:40	1330-20-7	
Surrogates									
Dibromofluoromethane (S)	116	%	76-125		1		03/07/13 13:40	1868-53-7	
Toluene-d8 (S)	99	%	80-120		1		03/07/13 13:40	2037-26-5	
4-Bromofluorobenzene (S)	96	%	80-120		1		03/07/13 13:40	460-00-4	
1,2-Dichloroethane-d4 (S)	108	%	76-132		1		03/07/13 13:40	17060-07-0	
Percent Moisture									
Analytical Method: ASTM D2974									
Percent Moisture	4.4	%	0.50	0.50	1		03/06/13 00:00		

ANALYTICAL RESULTS

Project: Big MO Soil Sampling

Pace Project No.: 60139568

Sample: **BM-022513-SB38-9.9-10.4** Lab ID: **60139568009** Collected: 02/25/13 11:40 Received: 03/01/13 03:10 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA Analytical Method: EPA 8260									
Acetone	12.3J	ug/kg	13.4	6.7	1		03/07/13 13:55	67-64-1	
Benzene	2560	ug/kg	242	121	50		03/07/13 18:34	71-43-2	
Bromobenzene	ND	ug/kg	3.4	1.7	1		03/07/13 13:55	108-86-1	
Bromochloromethane	ND	ug/kg	3.4	1.7	1		03/07/13 13:55	74-97-5	
Bromodichloromethane	ND	ug/kg	3.4	1.7	1		03/07/13 13:55	75-27-4	
Bromoform	ND	ug/kg	3.4	1.7	1		03/07/13 13:55	75-25-2	
Bromomethane	ND	ug/kg	3.4	1.7	1		03/07/13 13:55	74-83-9	
2-Butanone (MEK)	ND	ug/kg	6.7	3.4	1		03/07/13 13:55	78-93-3	
n-Butylbenzene	ND	ug/kg	3.4	1.7	1		03/07/13 13:55	104-51-8	
sec-Butylbenzene	ND	ug/kg	3.4	1.7	1		03/07/13 13:55	135-98-8	
tert-Butylbenzene	ND	ug/kg	3.4	1.7	1		03/07/13 13:55	98-06-6	
Carbon disulfide	19.7	ug/kg	3.4	1.7	1		03/07/13 13:55	75-15-0	
Carbon tetrachloride	ND	ug/kg	3.4	1.7	1		03/07/13 13:55	56-23-5	
Chlorobenzene	ND	ug/kg	3.4	1.7	1		03/07/13 13:55	108-90-7	
Chloroethane	ND	ug/kg	3.4	1.7	1		03/07/13 13:55	75-00-3	
Chloroform	ND	ug/kg	3.4	1.7	1		03/07/13 13:55	67-66-3	
Chloromethane	ND	ug/kg	3.4	1.7	1		03/07/13 13:55	74-87-3	
2-Chlorotoluene	ND	ug/kg	3.4	1.7	1		03/07/13 13:55	95-49-8	
4-Chlorotoluene	ND	ug/kg	3.4	1.7	1		03/07/13 13:55	106-43-4	
1,2-Dibromo-3-chloropropane	ND	ug/kg	6.7	3.4	1		03/07/13 13:55	96-12-8	
Dibromochloromethane	ND	ug/kg	3.4	1.7	1		03/07/13 13:55	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/kg	3.4	1.7	1		03/07/13 13:55	106-93-4	
Dibromomethane	ND	ug/kg	3.4	1.7	1		03/07/13 13:55	74-95-3	
1,2-Dichlorobenzene	1.7J	ug/kg	3.4	1.7	1		03/07/13 13:55	95-50-1	
1,3-Dichlorobenzene	7.7	ug/kg	3.4	1.7	1		03/07/13 13:55	541-73-1	
1,4-Dichlorobenzene	43.7	ug/kg	3.4	1.7	1		03/07/13 13:55	106-46-7	
Dichlorodifluoromethane	ND	ug/kg	3.4	1.7	1		03/07/13 13:55	75-71-8	
1,1-Dichloroethane	ND	ug/kg	3.4	1.7	1		03/07/13 13:55	75-34-3	
1,2-Dichloroethane	ND	ug/kg	3.4	1.7	1		03/07/13 13:55	107-06-2	
1,2-Dichloroethene (Total)	ND	ug/kg	3.4	1.7	1		03/07/13 13:55	540-59-0	
1,1-Dichloroethene	ND	ug/kg	3.4	1.7	1		03/07/13 13:55	75-35-4	
cis-1,2-Dichloroethene	ND	ug/kg	3.4	1.7	1		03/07/13 13:55	156-59-2	
trans-1,2-Dichloroethene	ND	ug/kg	3.4	1.7	1		03/07/13 13:55	156-60-5	
1,2-Dichloropropane	ND	ug/kg	3.4	1.7	1		03/07/13 13:55	78-87-5	
1,3-Dichloropropane	ND	ug/kg	3.4	1.7	1		03/07/13 13:55	142-28-9	
2,2-Dichloropropane	ND	ug/kg	3.4	1.7	1		03/07/13 13:55	594-20-7	
1,1-Dichloropropene	ND	ug/kg	3.4	1.7	1		03/07/13 13:55	563-58-6	
cis-1,3-Dichloropropene	ND	ug/kg	3.4	1.7	1		03/07/13 13:55	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/kg	3.4	1.7	1		03/07/13 13:55	10061-02-6	
Ethylbenzene	ND	ug/kg	3.4	1.7	1		03/07/13 13:55	100-41-4	
Hexachloro-1,3-butadiene	ND	ug/kg	3.4	1.7	1		03/07/13 13:55	87-68-3	
2-Hexanone	ND	ug/kg	13.4	6.7	1		03/07/13 13:55	591-78-6	
Isopropylbenzene (Cumene)	ND	ug/kg	3.4	1.7	1		03/07/13 13:55	98-82-8	
p-Isopropyltoluene	ND	ug/kg	3.4	1.7	1		03/07/13 13:55	99-87-6	
Methylene chloride	ND	ug/kg	3.4	1.7	1		03/07/13 13:55	75-09-2	

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REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Big MO Soil Sampling

Pace Project No.: 60139568

Sample: BM-022513-SB38-9.9-10.4 **Lab ID: 60139568009** Collected: 02/25/13 11:40 Received: 03/01/13 03:10 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA Analytical Method: EPA 8260									
4-Methyl-2-pentanone (MIBK)	ND	ug/kg	6.7	3.4	1		03/07/13 13:55	108-10-1	
Methyl-tert-butyl ether	ND	ug/kg	3.4	1.7	1		03/07/13 13:55	1634-04-4	
Naphthalene	ND	ug/kg	6.7	3.4	1		03/07/13 13:55	91-20-3	
n-Propylbenzene	ND	ug/kg	3.4	1.7	1		03/07/13 13:55	103-65-1	
Styrene	ND	ug/kg	3.4	1.7	1		03/07/13 13:55	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/kg	3.4	1.7	1		03/07/13 13:55	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/kg	3.4	1.7	1		03/07/13 13:55	79-34-5	
Tetrachloroethene	ND	ug/kg	3.4	1.7	1		03/07/13 13:55	127-18-4	
Toluene	ND	ug/kg	3.4	1.7	1		03/07/13 13:55	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/kg	3.4	1.7	1		03/07/13 13:55	87-61-6	
1,2,4-Trichlorobenzene	15.9	ug/kg	3.4	1.7	1		03/07/13 13:55	120-82-1	
1,1,1-Trichloroethane	ND	ug/kg	3.4	1.7	1		03/07/13 13:55	71-55-6	
1,1,2-Trichloroethane	ND	ug/kg	3.4	1.7	1		03/07/13 13:55	79-00-5	
Trichloroethene	ND	ug/kg	3.4	1.7	1		03/07/13 13:55	79-01-6	
Trichlorofluoromethane	ND	ug/kg	3.4	1.7	1		03/07/13 13:55	75-69-4	
1,2,3-Trichloropropane	ND	ug/kg	3.4	1.7	1		03/07/13 13:55	96-18-4	
1,2,4-Trimethylbenzene	ND	ug/kg	3.4	1.7	1		03/07/13 13:55	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/kg	3.4	1.7	1		03/07/13 13:55	108-67-8	
Vinyl chloride	ND	ug/kg	3.4	1.7	1		03/07/13 13:55	75-01-4	
Xylene (Total)	ND	ug/kg	3.4	1.7	1		03/07/13 13:55	1330-20-7	
Surrogates									
Dibromofluoromethane (S)	117	%	76-125		1		03/07/13 13:55	1868-53-7	
Toluene-d8 (S)	99	%	80-120		1		03/07/13 13:55	2037-26-5	
4-Bromofluorobenzene (S)	101	%	80-120		1		03/07/13 13:55	460-00-4	
1,2-Dichloroethane-d4 (S)	111	%	76-132		1		03/07/13 13:55	17060-07-0	
Percent Moisture Analytical Method: ASTM D2974									
Percent Moisture	7.9	%	0.50	0.50	1		03/06/13 00:00		

ANALYTICAL RESULTS

Project: Big MO Soil Sampling

Pace Project No.: 60139568

Sample: BM-022513-SB38-13-13.5 Lab ID: 60139568010 Collected: 02/25/13 11:45 Received: 03/01/13 03:10 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA		Analytical Method: EPA 8260							
Acetone	41.5	ug/kg	14.7	7.3	1		03/07/13 14:11	67-64-1	
Benzene	2420	ug/kg	169	84.6	50		03/07/13 18:49	71-43-2	
Bromobenzene	ND	ug/kg	3.7	1.8	1		03/07/13 14:11	108-86-1	
Bromochloromethane	ND	ug/kg	3.7	1.8	1		03/07/13 14:11	74-97-5	
Bromodichloromethane	ND	ug/kg	3.7	1.8	1		03/07/13 14:11	75-27-4	
Bromoform	ND	ug/kg	3.7	1.8	1		03/07/13 14:11	75-25-2	
Bromomethane	ND	ug/kg	3.7	1.8	1		03/07/13 14:11	74-83-9	
2-Butanone (MEK)	ND	ug/kg	7.3	3.7	1		03/07/13 14:11	78-93-3	
n-Butylbenzene	ND	ug/kg	3.7	1.8	1		03/07/13 14:11	104-51-8	
sec-Butylbenzene	ND	ug/kg	3.7	1.8	1		03/07/13 14:11	135-98-8	
tert-Butylbenzene	13.0	ug/kg	3.7	1.8	1		03/07/13 14:11	98-06-6	
Carbon disulfide	1.8J	ug/kg	3.7	1.8	1		03/07/13 14:11	75-15-0	
Carbon tetrachloride	ND	ug/kg	3.7	1.8	1		03/07/13 14:11	56-23-5	
Chlorobenzene	32.5	ug/kg	3.7	1.8	1		03/07/13 14:11	108-90-7	
Chloroethane	ND	ug/kg	3.7	1.8	1		03/07/13 14:11	75-00-3	
Chloroform	ND	ug/kg	3.7	1.8	1		03/07/13 14:11	67-66-3	
Chloromethane	ND	ug/kg	3.7	1.8	1		03/07/13 14:11	74-87-3	
2-Chlorotoluene	ND	ug/kg	3.7	1.8	1		03/07/13 14:11	95-49-8	
4-Chlorotoluene	ND	ug/kg	3.7	1.8	1		03/07/13 14:11	106-43-4	
1,2-Dibromo-3-chloropropane	ND	ug/kg	7.3	3.7	1		03/07/13 14:11	96-12-8	
Dibromochloromethane	ND	ug/kg	3.7	1.8	1		03/07/13 14:11	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/kg	3.7	1.8	1		03/07/13 14:11	106-93-4	
Dibromomethane	ND	ug/kg	3.7	1.8	1		03/07/13 14:11	74-95-3	
1,2-Dichlorobenzene	11.5	ug/kg	3.7	1.8	1		03/07/13 14:11	95-50-1	
1,3-Dichlorobenzene	9.8	ug/kg	3.7	1.8	1		03/07/13 14:11	541-73-1	
1,4-Dichlorobenzene	62.8	ug/kg	3.7	1.8	1		03/07/13 14:11	106-46-7	
Dichlorodifluoromethane	ND	ug/kg	3.7	1.8	1		03/07/13 14:11	75-71-8	
1,1-Dichloroethane	ND	ug/kg	3.7	1.8	1		03/07/13 14:11	75-34-3	
1,2-Dichloroethane	ND	ug/kg	3.7	1.8	1		03/07/13 14:11	107-06-2	
1,2-Dichloroethene (Total)	ND	ug/kg	3.7	1.8	1		03/07/13 14:11	540-59-0	
1,1-Dichloroethene	ND	ug/kg	3.7	1.8	1		03/07/13 14:11	75-35-4	
cis-1,2-Dichloroethene	ND	ug/kg	3.7	1.8	1		03/07/13 14:11	156-59-2	
trans-1,2-Dichloroethene	ND	ug/kg	3.7	1.8	1		03/07/13 14:11	156-60-5	
1,2-Dichloropropane	ND	ug/kg	3.7	1.8	1		03/07/13 14:11	78-87-5	
1,3-Dichloropropane	ND	ug/kg	3.7	1.8	1		03/07/13 14:11	142-28-9	
2,2-Dichloropropane	ND	ug/kg	3.7	1.8	1		03/07/13 14:11	594-20-7	
1,1-Dichloropropene	ND	ug/kg	3.7	1.8	1		03/07/13 14:11	563-58-6	
cis-1,3-Dichloropropene	ND	ug/kg	3.7	1.8	1		03/07/13 14:11	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/kg	3.7	1.8	1		03/07/13 14:11	10061-02-6	
Ethylbenzene	ND	ug/kg	3.7	1.8	1		03/07/13 14:11	100-41-4	
Hexachloro-1,3-butadiene	ND	ug/kg	3.7	1.8	1		03/07/13 14:11	87-68-3	
2-Hexanone	ND	ug/kg	14.7	7.3	1		03/07/13 14:11	591-78-6	
Isopropylbenzene (Cumene)	4.2	ug/kg	3.7	1.8	1		03/07/13 14:11	98-82-8	
p-Isopropyltoluene	ND	ug/kg	3.7	1.8	1		03/07/13 14:11	99-87-6	
Methylene chloride	ND	ug/kg	3.7	1.8	1		03/07/13 14:11	75-09-2	

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ANALYTICAL RESULTS

Project: Big MO Soil Sampling

Pace Project No.: 60139568

Sample: BM-022513-SB38-13-13.5 **Lab ID: 60139568010** Collected: 02/25/13 11:45 Received: 03/01/13 03:10 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA Analytical Method: EPA 8260									
4-Methyl-2-pentanone (MIBK)	ND	ug/kg	7.3	3.7	1		03/07/13 14:11	108-10-1	
Methyl-tert-butyl ether	ND	ug/kg	3.7	1.8	1		03/07/13 14:11	1634-04-4	
Naphthalene	ND	ug/kg	7.3	3.7	1		03/07/13 14:11	91-20-3	
n-Propylbenzene	ND	ug/kg	3.7	1.8	1		03/07/13 14:11	103-65-1	
Styrene	ND	ug/kg	3.7	1.8	1		03/07/13 14:11	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/kg	3.7	1.8	1		03/07/13 14:11	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/kg	3.7	1.8	1		03/07/13 14:11	79-34-5	
Tetrachloroethene	ND	ug/kg	3.7	1.8	1		03/07/13 14:11	127-18-4	
Toluene	ND	ug/kg	3.7	1.8	1		03/07/13 14:11	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/kg	3.7	1.8	1		03/07/13 14:11	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/kg	3.7	1.8	1		03/07/13 14:11	120-82-1	
1,1,1-Trichloroethane	ND	ug/kg	3.7	1.8	1		03/07/13 14:11	71-55-6	
1,1,2-Trichloroethane	ND	ug/kg	3.7	1.8	1		03/07/13 14:11	79-00-5	
Trichloroethene	ND	ug/kg	3.7	1.8	1		03/07/13 14:11	79-01-6	
Trichlorofluoromethane	ND	ug/kg	3.7	1.8	1		03/07/13 14:11	75-69-4	
1,2,3-Trichloropropane	ND	ug/kg	3.7	1.8	1		03/07/13 14:11	96-18-4	
1,2,4-Trimethylbenzene	ND	ug/kg	3.7	1.8	1		03/07/13 14:11	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/kg	3.7	1.8	1		03/07/13 14:11	108-67-8	
Vinyl chloride	ND	ug/kg	3.7	1.8	1		03/07/13 14:11	75-01-4	
Xylene (Total)	ND	ug/kg	3.7	1.8	1		03/07/13 14:11	1330-20-7	
Surrogates									
Dibromofluoromethane (S)	117	%	76-125		1		03/07/13 14:11	1868-53-7	
Toluene-d8 (S)	101	%	80-120		1		03/07/13 14:11	2037-26-5	
4-Bromofluorobenzene (S)	106	%	80-120		1		03/07/13 14:11	460-00-4	
1,2-Dichloroethane-d4 (S)	109	%	76-132		1		03/07/13 14:11	17060-07-0	
Percent Moisture Analytical Method: ASTM D2974									
Percent Moisture	19.8	%	0.50	0.50	1		03/06/13 00:00		

ANALYTICAL RESULTS

Project: Big MO Soil Sampling

Pace Project No.: 60139568

Sample: **BM-022513-SB38-13.5-14** Lab ID: **60139568011** Collected: 02/25/13 11:50 Received: 03/01/13 03:10 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA		Analytical Method: EPA 8260							
Acetone	ND	ug/kg	16.2	8.1	1		03/07/13 14:26	67-64-1	
Benzene	1120	ug/kg	178	89.0	50		03/07/13 19:05	71-43-2	
Bromobenzene	ND	ug/kg	4.0	2.0	1		03/07/13 14:26	108-86-1	
Bromochloromethane	ND	ug/kg	4.0	2.0	1		03/07/13 14:26	74-97-5	
Bromodichloromethane	ND	ug/kg	4.0	2.0	1		03/07/13 14:26	75-27-4	
Bromoform	ND	ug/kg	4.0	2.0	1		03/07/13 14:26	75-25-2	
Bromomethane	ND	ug/kg	4.0	2.0	1		03/07/13 14:26	74-83-9	
2-Butanone (MEK)	ND	ug/kg	8.1	4.0	1		03/07/13 14:26	78-93-3	
n-Butylbenzene	ND	ug/kg	4.0	2.0	1		03/07/13 14:26	104-51-8	
sec-Butylbenzene	24.4	ug/kg	4.0	2.0	1		03/07/13 14:26	135-98-8	
tert-Butylbenzene	ND	ug/kg	4.0	2.0	1		03/07/13 14:26	98-06-6	
Carbon disulfide	29.9	ug/kg	4.0	2.0	1		03/07/13 14:26	75-15-0	
Carbon tetrachloride	ND	ug/kg	4.0	2.0	1		03/07/13 14:26	56-23-5	
Chlorobenzene	ND	ug/kg	4.0	2.0	1		03/07/13 14:26	108-90-7	
Chloroethane	ND	ug/kg	4.0	2.0	1		03/07/13 14:26	75-00-3	
Chloroform	ND	ug/kg	4.0	2.0	1		03/07/13 14:26	67-66-3	
Chloromethane	ND	ug/kg	4.0	2.0	1		03/07/13 14:26	74-87-3	
2-Chlorotoluene	ND	ug/kg	4.0	2.0	1		03/07/13 14:26	95-49-8	
4-Chlorotoluene	ND	ug/kg	4.0	2.0	1		03/07/13 14:26	106-43-4	
1,2-Dibromo-3-chloropropane	ND	ug/kg	8.1	4.0	1		03/07/13 14:26	96-12-8	
Dibromochloromethane	ND	ug/kg	4.0	2.0	1		03/07/13 14:26	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/kg	4.0	2.0	1		03/07/13 14:26	106-93-4	
Dibromomethane	ND	ug/kg	4.0	2.0	1		03/07/13 14:26	74-95-3	
1,2-Dichlorobenzene	12.6	ug/kg	4.0	2.0	1		03/07/13 14:26	95-50-1	
1,3-Dichlorobenzene	14.3	ug/kg	4.0	2.0	1		03/07/13 14:26	541-73-1	
1,4-Dichlorobenzene	70.2	ug/kg	4.0	2.0	1		03/07/13 14:26	106-46-7	
Dichlorodifluoromethane	ND	ug/kg	4.0	2.0	1		03/07/13 14:26	75-71-8	
1,1-Dichloroethane	ND	ug/kg	4.0	2.0	1		03/07/13 14:26	75-34-3	
1,2-Dichloroethane	ND	ug/kg	4.0	2.0	1		03/07/13 14:26	107-06-2	
1,2-Dichloroethene (Total)	ND	ug/kg	4.0	2.0	1		03/07/13 14:26	540-59-0	
1,1-Dichloroethene	ND	ug/kg	4.0	2.0	1		03/07/13 14:26	75-35-4	
cis-1,2-Dichloroethene	ND	ug/kg	4.0	2.0	1		03/07/13 14:26	156-59-2	
trans-1,2-Dichloroethene	ND	ug/kg	4.0	2.0	1		03/07/13 14:26	156-60-5	
1,2-Dichloropropane	ND	ug/kg	4.0	2.0	1		03/07/13 14:26	78-87-5	
1,3-Dichloropropane	ND	ug/kg	4.0	2.0	1		03/07/13 14:26	142-28-9	
2,2-Dichloropropane	ND	ug/kg	4.0	2.0	1		03/07/13 14:26	594-20-7	
1,1-Dichloropropene	ND	ug/kg	4.0	2.0	1		03/07/13 14:26	563-58-6	
cis-1,3-Dichloropropene	ND	ug/kg	4.0	2.0	1		03/07/13 14:26	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/kg	4.0	2.0	1		03/07/13 14:26	10061-02-6	
Ethylbenzene	ND	ug/kg	4.0	2.0	1		03/07/13 14:26	100-41-4	
Hexachloro-1,3-butadiene	ND	ug/kg	4.0	2.0	1		03/07/13 14:26	87-68-3	
2-Hexanone	ND	ug/kg	16.2	8.1	1		03/07/13 14:26	591-78-6	
Isopropylbenzene (Cumene)	3.5J	ug/kg	4.0	2.0	1		03/07/13 14:26	98-82-8	
p-Isopropyltoluene	2.7J	ug/kg	4.0	2.0	1		03/07/13 14:26	99-87-6	
Methylene chloride	ND	ug/kg	4.0	2.0	1		03/07/13 14:26	75-09-2	

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ANALYTICAL RESULTS

Project: Big MO Soil Sampling

Pace Project No.: 60139568

Sample: BM-022513-SB38-13.5-14 **Lab ID: 60139568011** Collected: 02/25/13 11:50 Received: 03/01/13 03:10 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA Analytical Method: EPA 8260									
4-Methyl-2-pentanone (MIBK)	4.4J	ug/kg	8.1	4.0	1		03/07/13 14:26	108-10-1	
Methyl-tert-butyl ether	ND	ug/kg	4.0	2.0	1		03/07/13 14:26	1634-04-4	
Naphthalene	ND	ug/kg	8.1	4.0	1		03/07/13 14:26	91-20-3	
n-Propylbenzene	ND	ug/kg	4.0	2.0	1		03/07/13 14:26	103-65-1	
Styrene	ND	ug/kg	4.0	2.0	1		03/07/13 14:26	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/kg	4.0	2.0	1		03/07/13 14:26	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/kg	4.0	2.0	1		03/07/13 14:26	79-34-5	
Tetrachloroethene	ND	ug/kg	4.0	2.0	1		03/07/13 14:26	127-18-4	
Toluene	ND	ug/kg	4.0	2.0	1		03/07/13 14:26	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/kg	4.0	2.0	1		03/07/13 14:26	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/kg	4.0	2.0	1		03/07/13 14:26	120-82-1	
1,1,1-Trichloroethane	ND	ug/kg	4.0	2.0	1		03/07/13 14:26	71-55-6	
1,1,2-Trichloroethane	ND	ug/kg	4.0	2.0	1		03/07/13 14:26	79-00-5	
Trichloroethene	ND	ug/kg	4.0	2.0	1		03/07/13 14:26	79-01-6	
Trichlorofluoromethane	ND	ug/kg	4.0	2.0	1		03/07/13 14:26	75-69-4	
1,2,3-Trichloropropane	ND	ug/kg	4.0	2.0	1		03/07/13 14:26	96-18-4	
1,2,4-Trimethylbenzene	5.1	ug/kg	4.0	2.0	1		03/07/13 14:26	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/kg	4.0	2.0	1		03/07/13 14:26	108-67-8	
Vinyl chloride	ND	ug/kg	4.0	2.0	1		03/07/13 14:26	75-01-4	
Xylene (Total)	ND	ug/kg	4.0	2.0	1		03/07/13 14:26	1330-20-7	
Surrogates									
Dibromofluoromethane (S)	122	%	76-125		1		03/07/13 14:26	1868-53-7	
Toluene-d8 (S)	94	%	80-120		1		03/07/13 14:26	2037-26-5	
4-Bromofluorobenzene (S)	114	%	80-120		1		03/07/13 14:26	460-00-4	
1,2-Dichloroethane-d4 (S)	115	%	76-132		1		03/07/13 14:26	17060-07-0	
Percent Moisture Analytical Method: ASTM D2974									
Percent Moisture	5.8	%	0.50	0.50	1		03/06/13 00:00		

ANALYTICAL RESULTS

Project: Big MO Soil Sampling

Pace Project No.: 60139568

Sample: BM-022513-SB65-10.5 **Lab ID: 60139568012** Collected: 02/25/13 16:25 Received: 03/01/13 03:10 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA		Analytical Method: EPA 8260							
Acetone	ND	ug/kg	69000	34500	5000		03/07/13 14:57	67-64-1	
Benzene	5210000	ug/kg	172000	86200	50000		03/07/13 19:20	71-43-2	
Bromobenzene	ND	ug/kg	17200	8620	5000		03/07/13 14:57	108-86-1	
Bromochloromethane	ND	ug/kg	17200	8620	5000		03/07/13 14:57	74-97-5	
Bromodichloromethane	ND	ug/kg	17200	8620	5000		03/07/13 14:57	75-27-4	
Bromoform	ND	ug/kg	17200	8620	5000		03/07/13 14:57	75-25-2	
Bromomethane	ND	ug/kg	17200	8620	5000		03/07/13 14:57	74-83-9	
2-Butanone (MEK)	ND	ug/kg	34500	17200	5000		03/07/13 14:57	78-93-3	
n-Butylbenzene	ND	ug/kg	17200	8620	5000		03/07/13 14:57	104-51-8	
sec-Butylbenzene	ND	ug/kg	17200	8620	5000		03/07/13 14:57	135-98-8	
tert-Butylbenzene	ND	ug/kg	17200	8620	5000		03/07/13 14:57	98-06-6	
Carbon disulfide	ND	ug/kg	17200	8620	5000		03/07/13 14:57	75-15-0	
Carbon tetrachloride	ND	ug/kg	17200	8620	5000		03/07/13 14:57	56-23-5	
Chlorobenzene	ND	ug/kg	17200	8620	5000		03/07/13 14:57	108-90-7	
Chloroethane	ND	ug/kg	17200	8620	5000		03/07/13 14:57	75-00-3	
Chloroform	ND	ug/kg	17200	8620	5000		03/07/13 14:57	67-66-3	
Chloromethane	ND	ug/kg	17200	8620	5000		03/07/13 14:57	74-87-3	
2-Chlorotoluene	ND	ug/kg	17200	8620	5000		03/07/13 14:57	95-49-8	
4-Chlorotoluene	ND	ug/kg	17200	8620	5000		03/07/13 14:57	106-43-4	
1,2-Dibromo-3-chloropropane	ND	ug/kg	34500	17200	5000		03/07/13 14:57	96-12-8	
Dibromochloromethane	ND	ug/kg	17200	8620	5000		03/07/13 14:57	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/kg	17200	8620	5000		03/07/13 14:57	106-93-4	
Dibromomethane	ND	ug/kg	17200	8620	5000		03/07/13 14:57	74-95-3	
1,2-Dichlorobenzene	ND	ug/kg	17200	8620	5000		03/07/13 14:57	95-50-1	
1,3-Dichlorobenzene	ND	ug/kg	17200	8620	5000		03/07/13 14:57	541-73-1	
1,4-Dichlorobenzene	ND	ug/kg	17200	8620	5000		03/07/13 14:57	106-46-7	
Dichlorodifluoromethane	ND	ug/kg	17200	8620	5000		03/07/13 14:57	75-71-8	
1,1-Dichloroethane	ND	ug/kg	17200	8620	5000		03/07/13 14:57	75-34-3	
1,2-Dichloroethane	ND	ug/kg	17200	8620	5000		03/07/13 14:57	107-06-2	
1,2-Dichloroethene (Total)	ND	ug/kg	17200	8620	5000		03/07/13 14:57	540-59-0	
1,1-Dichloroethene	ND	ug/kg	17200	8620	5000		03/07/13 14:57	75-35-4	
cis-1,2-Dichloroethene	ND	ug/kg	17200	8620	5000		03/07/13 14:57	156-59-2	
trans-1,2-Dichloroethene	ND	ug/kg	17200	8620	5000		03/07/13 14:57	156-60-5	
1,2-Dichloropropane	ND	ug/kg	17200	8620	5000		03/07/13 14:57	78-87-5	
1,3-Dichloropropane	ND	ug/kg	17200	8620	5000		03/07/13 14:57	142-28-9	
2,2-Dichloropropane	ND	ug/kg	17200	8620	5000		03/07/13 14:57	594-20-7	
1,1-Dichloropropene	ND	ug/kg	17200	8620	5000		03/07/13 14:57	563-58-6	
cis-1,3-Dichloropropene	ND	ug/kg	17200	8620	5000		03/07/13 14:57	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/kg	17200	8620	5000		03/07/13 14:57	10061-02-6	
Ethylbenzene	ND	ug/kg	17200	8620	5000		03/07/13 14:57	100-41-4	
Hexachloro-1,3-butadiene	ND	ug/kg	17200	8620	5000		03/07/13 14:57	87-68-3	
2-Hexanone	ND	ug/kg	69000	34500	5000		03/07/13 14:57	591-78-6	
Isopropylbenzene (Cumene)	ND	ug/kg	17200	8620	5000		03/07/13 14:57	98-82-8	
p-Isopropyltoluene	ND	ug/kg	17200	8620	5000		03/07/13 14:57	99-87-6	
Methylene chloride	ND	ug/kg	17200	8620	5000		03/07/13 14:57	75-09-2	

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ANALYTICAL RESULTS

Project: Big MO Soil Sampling

Pace Project No.: 60139568

Sample: BM-022513-SB65-10.5 **Lab ID: 60139568012** Collected: 02/25/13 16:25 Received: 03/01/13 03:10 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA									
Analytical Method: EPA 8260									
4-Methyl-2-pentanone (MIBK)	ND	ug/kg	34500	17200	5000		03/07/13 14:57	108-10-1	
Methyl-tert-butyl ether	ND	ug/kg	17200	8620	5000		03/07/13 14:57	1634-04-4	
Naphthalene	ND	ug/kg	34500	17200	5000		03/07/13 14:57	91-20-3	
n-Propylbenzene	ND	ug/kg	17200	8620	5000		03/07/13 14:57	103-65-1	
Styrene	ND	ug/kg	17200	8620	5000		03/07/13 14:57	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/kg	17200	8620	5000		03/07/13 14:57	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/kg	17200	8620	5000		03/07/13 14:57	79-34-5	
Tetrachloroethene	ND	ug/kg	17200	8620	5000		03/07/13 14:57	127-18-4	
Toluene	ND	ug/kg	17200	8620	5000		03/07/13 14:57	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/kg	17200	8620	5000		03/07/13 14:57	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/kg	17200	8620	5000		03/07/13 14:57	120-82-1	
1,1,1-Trichloroethane	ND	ug/kg	17200	8620	5000		03/07/13 14:57	71-55-6	
1,1,2-Trichloroethane	ND	ug/kg	17200	8620	5000		03/07/13 14:57	79-00-5	
Trichloroethene	ND	ug/kg	17200	8620	5000		03/07/13 14:57	79-01-6	
Trichlorofluoromethane	ND	ug/kg	17200	8620	5000		03/07/13 14:57	75-69-4	
1,2,3-Trichloropropane	ND	ug/kg	17200	8620	5000		03/07/13 14:57	96-18-4	
1,2,4-Trimethylbenzene	ND	ug/kg	17200	8620	5000		03/07/13 14:57	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/kg	17200	8620	5000		03/07/13 14:57	108-67-8	
Vinyl chloride	ND	ug/kg	17200	8620	5000		03/07/13 14:57	75-01-4	
Xylene (Total)	ND	ug/kg	17200	8620	5000		03/07/13 14:57	1330-20-7	
Surrogates									
Dibromofluoromethane (S)	114	%	76-125		5000		03/07/13 14:57	1868-53-7	
Toluene-d8 (S)	99	%	80-120		5000		03/07/13 14:57	2037-26-5	
4-Bromofluorobenzene (S)	98	%	80-120		5000		03/07/13 14:57	460-00-4	
1,2-Dichloroethane-d4 (S)	102	%	76-132		5000		03/07/13 14:57	17060-07-0	
Percent Moisture									
Analytical Method: ASTM D2974									
Percent Moisture	20.3	%	0.50	0.50	1		03/06/13 00:00		

ANALYTICAL RESULTS

Project: Big MO Soil Sampling

Pace Project No.: 60139568

Sample: BM-022513-SB65-12.5 **Lab ID: 60139568013** Collected: 02/25/13 16:30 Received: 03/01/13 03:10 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA		Analytical Method: EPA 8260							
Acetone	ND	ug/kg	651	326	50		03/07/13 15:13	67-64-1	
Benzene	13100	ug/kg	651	326	200		03/07/13 19:36	71-43-2	
Bromobenzene	ND	ug/kg	163	81.4	50		03/07/13 15:13	108-86-1	
Bromochloromethane	ND	ug/kg	163	81.4	50		03/07/13 15:13	74-97-5	
Bromodichloromethane	ND	ug/kg	163	81.4	50		03/07/13 15:13	75-27-4	
Bromoform	ND	ug/kg	163	81.4	50		03/07/13 15:13	75-25-2	
Bromomethane	ND	ug/kg	163	81.4	50		03/07/13 15:13	74-83-9	
2-Butanone (MEK)	ND	ug/kg	326	163	50		03/07/13 15:13	78-93-3	
n-Butylbenzene	167	ug/kg	163	81.4	50		03/07/13 15:13	104-51-8	
sec-Butylbenzene	440	ug/kg	163	81.4	50		03/07/13 15:13	135-98-8	
tert-Butylbenzene	ND	ug/kg	163	81.4	50		03/07/13 15:13	98-06-6	
Carbon disulfide	ND	ug/kg	163	81.4	50		03/07/13 15:13	75-15-0	
Carbon tetrachloride	ND	ug/kg	163	81.4	50		03/07/13 15:13	56-23-5	
Chlorobenzene	254	ug/kg	163	81.4	50		03/07/13 15:13	108-90-7	
Chloroethane	ND	ug/kg	163	81.4	50		03/07/13 15:13	75-00-3	
Chloroform	ND	ug/kg	163	81.4	50		03/07/13 15:13	67-66-3	
Chloromethane	ND	ug/kg	163	81.4	50		03/07/13 15:13	74-87-3	
2-Chlorotoluene	ND	ug/kg	163	81.4	50		03/07/13 15:13	95-49-8	
4-Chlorotoluene	ND	ug/kg	163	81.4	50		03/07/13 15:13	106-43-4	
1,2-Dibromo-3-chloropropane	ND	ug/kg	326	163	50		03/07/13 15:13	96-12-8	
Dibromochloromethane	ND	ug/kg	163	81.4	50		03/07/13 15:13	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/kg	163	81.4	50		03/07/13 15:13	106-93-4	
Dibromomethane	ND	ug/kg	163	81.4	50		03/07/13 15:13	74-95-3	
1,2-Dichlorobenzene	ND	ug/kg	163	81.4	50		03/07/13 15:13	95-50-1	
1,3-Dichlorobenzene	ND	ug/kg	163	81.4	50		03/07/13 15:13	541-73-1	
1,4-Dichlorobenzene	93.9J	ug/kg	163	81.4	50		03/07/13 15:13	106-46-7	
Dichlorodifluoromethane	ND	ug/kg	163	81.4	50		03/07/13 15:13	75-71-8	
1,1-Dichloroethane	ND	ug/kg	163	81.4	50		03/07/13 15:13	75-34-3	
1,2-Dichloroethane	ND	ug/kg	163	81.4	50		03/07/13 15:13	107-06-2	
1,2-Dichloroethene (Total)	ND	ug/kg	163	81.4	50		03/07/13 15:13	540-59-0	
1,1-Dichloroethene	ND	ug/kg	163	81.4	50		03/07/13 15:13	75-35-4	
cis-1,2-Dichloroethene	ND	ug/kg	163	81.4	50		03/07/13 15:13	156-59-2	
trans-1,2-Dichloroethene	ND	ug/kg	163	81.4	50		03/07/13 15:13	156-60-5	
1,2-Dichloropropane	ND	ug/kg	163	81.4	50		03/07/13 15:13	78-87-5	
1,3-Dichloropropane	ND	ug/kg	163	81.4	50		03/07/13 15:13	142-28-9	
2,2-Dichloropropane	ND	ug/kg	163	81.4	50		03/07/13 15:13	594-20-7	
1,1-Dichloropropene	ND	ug/kg	163	81.4	50		03/07/13 15:13	563-58-6	
cis-1,3-Dichloropropene	ND	ug/kg	163	81.4	50		03/07/13 15:13	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/kg	163	81.4	50		03/07/13 15:13	10061-02-6	
Ethylbenzene	ND	ug/kg	163	81.4	50		03/07/13 15:13	100-41-4	
Hexachloro-1,3-butadiene	ND	ug/kg	163	81.4	50		03/07/13 15:13	87-68-3	
2-Hexanone	ND	ug/kg	651	326	50		03/07/13 15:13	591-78-6	
Isopropylbenzene (Cumene)	253	ug/kg	163	81.4	50		03/07/13 15:13	98-82-8	
p-Isopropyltoluene	110J	ug/kg	163	81.4	50		03/07/13 15:13	99-87-6	
Methylene chloride	ND	ug/kg	163	81.4	50		03/07/13 15:13	75-09-2	

Date: 03/15/2013 10:48 AM

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Big MO Soil Sampling

Pace Project No.: 60139568

Sample: BM-022513-SB65-12.5 **Lab ID: 60139568013** Collected: 02/25/13 16:30 Received: 03/01/13 03:10 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA Analytical Method: EPA 8260									
4-Methyl-2-pentanone (MIBK)	ND	ug/kg	326	163	50		03/07/13 15:13	108-10-1	
Methyl-tert-butyl ether	ND	ug/kg	163	81.4	50		03/07/13 15:13	1634-04-4	
Naphthalene	259J	ug/kg	326	163	50		03/07/13 15:13	91-20-3	
n-Propylbenzene	467	ug/kg	163	81.4	50		03/07/13 15:13	103-65-1	
Styrene	ND	ug/kg	163	81.4	50		03/07/13 15:13	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/kg	163	81.4	50		03/07/13 15:13	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/kg	163	81.4	50		03/07/13 15:13	79-34-5	
Tetrachloroethene	ND	ug/kg	163	81.4	50		03/07/13 15:13	127-18-4	
Toluene	ND	ug/kg	163	81.4	50		03/07/13 15:13	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/kg	163	81.4	50		03/07/13 15:13	87-61-6	
1,2,4-Trichlorobenzene	400	ug/kg	163	81.4	50		03/07/13 15:13	120-82-1	
1,1,1-Trichloroethane	ND	ug/kg	163	81.4	50		03/07/13 15:13	71-55-6	
1,1,2-Trichloroethane	ND	ug/kg	163	81.4	50		03/07/13 15:13	79-00-5	
Trichloroethene	ND	ug/kg	163	81.4	50		03/07/13 15:13	79-01-6	
Trichlorofluoromethane	ND	ug/kg	163	81.4	50		03/07/13 15:13	75-69-4	
1,2,3-Trichloropropane	ND	ug/kg	163	81.4	50		03/07/13 15:13	96-18-4	
1,2,4-Trimethylbenzene	358	ug/kg	163	81.4	50		03/07/13 15:13	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/kg	163	81.4	50		03/07/13 15:13	108-67-8	
Vinyl chloride	ND	ug/kg	163	81.4	50		03/07/13 15:13	75-01-4	
Xylene (Total)	ND	ug/kg	163	81.4	50		03/07/13 15:13	1330-20-7	
Surrogates									
Dibromofluoromethane (S)	112	%	76-125		50		03/07/13 15:13	1868-53-7	
Toluene-d8 (S)	101	%	80-120		50		03/07/13 15:13	2037-26-5	
4-Bromofluorobenzene (S)	113	%	80-120		50		03/07/13 15:13	460-00-4	
1,2-Dichloroethane-d4 (S)	99	%	76-132		50		03/07/13 15:13	17060-07-0	
Percent Moisture Analytical Method: ASTM D2974									
Percent Moisture	2.8	%	0.50	0.50	1		03/06/13 00:00		

ANALYTICAL RESULTS

Project: Big MO Soil Sampling

Pace Project No.: 60139568

Sample: BM-022513-SB65-11.2-11.5 Lab ID: 60139568014 Collected: 02/25/13 16:45 Received: 03/01/13 03:10 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA		Analytical Method: EPA 8260							
Acetone	ND	ug/kg	720	360	50		03/07/13 15:28	67-64-1	
Benzene	93500	ug/kg	3600	1800	1000		03/07/13 19:51	71-43-2	
Bromobenzene	ND	ug/kg	180	90.0	50		03/07/13 15:28	108-86-1	
Bromochloromethane	ND	ug/kg	180	90.0	50		03/07/13 15:28	74-97-5	
Bromodichloromethane	ND	ug/kg	180	90.0	50		03/07/13 15:28	75-27-4	
Bromoform	ND	ug/kg	180	90.0	50		03/07/13 15:28	75-25-2	
Bromomethane	ND	ug/kg	180	90.0	50		03/07/13 15:28	74-83-9	
2-Butanone (MEK)	ND	ug/kg	360	180	50		03/07/13 15:28	78-93-3	
n-Butylbenzene	179J	ug/kg	180	90.0	50		03/07/13 15:28	104-51-8	
sec-Butylbenzene	514	ug/kg	180	90.0	50		03/07/13 15:28	135-98-8	
tert-Butylbenzene	ND	ug/kg	180	90.0	50		03/07/13 15:28	98-06-6	
Carbon disulfide	ND	ug/kg	180	90.0	50		03/07/13 15:28	75-15-0	
Carbon tetrachloride	ND	ug/kg	180	90.0	50		03/07/13 15:28	56-23-5	
Chlorobenzene	489	ug/kg	180	90.0	50		03/07/13 15:28	108-90-7	
Chloroethane	ND	ug/kg	180	90.0	50		03/07/13 15:28	75-00-3	
Chloroform	ND	ug/kg	180	90.0	50		03/07/13 15:28	67-66-3	
Chloromethane	ND	ug/kg	180	90.0	50		03/07/13 15:28	74-87-3	
2-Chlorotoluene	ND	ug/kg	180	90.0	50		03/07/13 15:28	95-49-8	
4-Chlorotoluene	ND	ug/kg	180	90.0	50		03/07/13 15:28	106-43-4	
1,2-Dibromo-3-chloropropane	ND	ug/kg	360	180	50		03/07/13 15:28	96-12-8	
Dibromochloromethane	ND	ug/kg	180	90.0	50		03/07/13 15:28	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/kg	180	90.0	50		03/07/13 15:28	106-93-4	
Dibromomethane	ND	ug/kg	180	90.0	50		03/07/13 15:28	74-95-3	
1,2-Dichlorobenzene	ND	ug/kg	180	90.0	50		03/07/13 15:28	95-50-1	
1,3-Dichlorobenzene	ND	ug/kg	180	90.0	50		03/07/13 15:28	541-73-1	
1,4-Dichlorobenzene	143J	ug/kg	180	90.0	50		03/07/13 15:28	106-46-7	
Dichlorodifluoromethane	ND	ug/kg	180	90.0	50		03/07/13 15:28	75-71-8	
1,1-Dichloroethane	ND	ug/kg	180	90.0	50		03/07/13 15:28	75-34-3	
1,2-Dichloroethane	ND	ug/kg	180	90.0	50		03/07/13 15:28	107-06-2	
1,2-Dichloroethene (Total)	ND	ug/kg	180	90.0	50		03/07/13 15:28	540-59-0	
1,1-Dichloroethene	ND	ug/kg	180	90.0	50		03/07/13 15:28	75-35-4	
cis-1,2-Dichloroethene	ND	ug/kg	180	90.0	50		03/07/13 15:28	156-59-2	
trans-1,2-Dichloroethene	ND	ug/kg	180	90.0	50		03/07/13 15:28	156-60-5	
1,2-Dichloropropane	ND	ug/kg	180	90.0	50		03/07/13 15:28	78-87-5	
1,3-Dichloropropane	ND	ug/kg	180	90.0	50		03/07/13 15:28	142-28-9	
2,2-Dichloropropane	ND	ug/kg	180	90.0	50		03/07/13 15:28	594-20-7	
1,1-Dichloropropene	ND	ug/kg	180	90.0	50		03/07/13 15:28	563-58-6	
cis-1,3-Dichloropropene	ND	ug/kg	180	90.0	50		03/07/13 15:28	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/kg	180	90.0	50		03/07/13 15:28	10061-02-6	
Ethylbenzene	ND	ug/kg	180	90.0	50		03/07/13 15:28	100-41-4	
Hexachloro-1,3-butadiene	ND	ug/kg	180	90.0	50		03/07/13 15:28	87-68-3	
2-Hexanone	ND	ug/kg	720	360	50		03/07/13 15:28	591-78-6	
Isopropylbenzene (Cumene)	615	ug/kg	180	90.0	50		03/07/13 15:28	98-82-8	
p-Isopropyltoluene	154J	ug/kg	180	90.0	50		03/07/13 15:28	99-87-6	
Methylene chloride	ND	ug/kg	180	90.0	50		03/07/13 15:28	75-09-2	

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REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Big MO Soil Sampling

Pace Project No.: 60139568

Sample: BM-022513-SB65-11.2-11.5 **Lab ID:** 60139568014 **Collected:** 02/25/13 16:45 **Received:** 03/01/13 03:10 **Matrix:** Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA									
Analytical Method: EPA 8260									
4-Methyl-2-pentanone (MIBK)	ND	ug/kg	360	180	50		03/07/13 15:28	108-10-1	
Methyl-tert-butyl ether	ND	ug/kg	180	90.0	50		03/07/13 15:28	1634-04-4	
Naphthalene	216J	ug/kg	360	180	50		03/07/13 15:28	91-20-3	
n-Propylbenzene	812	ug/kg	180	90.0	50		03/07/13 15:28	103-65-1	
Styrene	ND	ug/kg	180	90.0	50		03/07/13 15:28	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/kg	180	90.0	50		03/07/13 15:28	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/kg	180	90.0	50		03/07/13 15:28	79-34-5	
Tetrachloroethene	ND	ug/kg	180	90.0	50		03/07/13 15:28	127-18-4	
Toluene	ND	ug/kg	180	90.0	50		03/07/13 15:28	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/kg	180	90.0	50		03/07/13 15:28	87-61-6	
1,2,4-Trichlorobenzene	347	ug/kg	180	90.0	50		03/07/13 15:28	120-82-1	
1,1,1-Trichloroethane	ND	ug/kg	180	90.0	50		03/07/13 15:28	71-55-6	
1,1,2-Trichloroethane	ND	ug/kg	180	90.0	50		03/07/13 15:28	79-00-5	
Trichloroethene	ND	ug/kg	180	90.0	50		03/07/13 15:28	79-01-6	
Trichlorofluoromethane	ND	ug/kg	180	90.0	50		03/07/13 15:28	75-69-4	
1,2,3-Trichloropropane	ND	ug/kg	180	90.0	50		03/07/13 15:28	96-18-4	
1,2,4-Trimethylbenzene	444	ug/kg	180	90.0	50		03/07/13 15:28	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/kg	180	90.0	50		03/07/13 15:28	108-67-8	
Vinyl chloride	ND	ug/kg	180	90.0	50		03/07/13 15:28	75-01-4	
Xylene (Total)	ND	ug/kg	180	90.0	50		03/07/13 15:28	1330-20-7	
Surrogates									
Dibromofluoromethane (S)	108 %		76-125		50		03/07/13 15:28	1868-53-7	
Toluene-d8 (S)	99 %		80-120		50		03/07/13 15:28	2037-26-5	
4-Bromofluorobenzene (S)	115 %		80-120		50		03/07/13 15:28	460-00-4	
1,2-Dichloroethane-d4 (S)	104 %		76-132		50		03/07/13 15:28	17060-07-0	
Percent Moisture									
Analytical Method: ASTM D2974									
Percent Moisture	4.1 %		0.50	0.50	1		03/06/13 00:00		

ANALYTICAL RESULTS

Project: Big MO Soil Sampling

Pace Project No.: 60139568

Sample: **BM-022513-SB39-12-12.2** Lab ID: **60139568015** Collected: 02/25/13 15:25 Received: 03/01/13 03:10 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA		Analytical Method: EPA 8260							
Acetone	ND	ug/kg	693	347	50		03/07/13 15:44	67-64-1	
Benzene	91600	ug/kg	3470	1730	1000		03/07/13 20:06	71-43-2	
Bromobenzene	ND	ug/kg	173	86.7	50		03/07/13 15:44	108-86-1	
Bromochloromethane	ND	ug/kg	173	86.7	50		03/07/13 15:44	74-97-5	
Bromodichloromethane	ND	ug/kg	173	86.7	50		03/07/13 15:44	75-27-4	
Bromoform	ND	ug/kg	173	86.7	50		03/07/13 15:44	75-25-2	
Bromomethane	ND	ug/kg	173	86.7	50		03/07/13 15:44	74-83-9	
2-Butanone (MEK)	ND	ug/kg	347	173	50		03/07/13 15:44	78-93-3	
n-Butylbenzene	ND	ug/kg	173	86.7	50		03/07/13 15:44	104-51-8	
sec-Butylbenzene	1050	ug/kg	173	86.7	50		03/07/13 15:44	135-98-8	
tert-Butylbenzene	494	ug/kg	173	86.7	50		03/07/13 15:44	98-06-6	
Carbon disulfide	ND	ug/kg	173	86.7	50		03/07/13 15:44	75-15-0	
Carbon tetrachloride	ND	ug/kg	173	86.7	50		03/07/13 15:44	56-23-5	
Chlorobenzene	112J	ug/kg	173	86.7	50		03/07/13 15:44	108-90-7	
Chloroethane	ND	ug/kg	173	86.7	50		03/07/13 15:44	75-00-3	
Chloroform	ND	ug/kg	173	86.7	50		03/07/13 15:44	67-66-3	
Chloromethane	ND	ug/kg	173	86.7	50		03/07/13 15:44	74-87-3	
2-Chlorotoluene	ND	ug/kg	173	86.7	50		03/07/13 15:44	95-49-8	
4-Chlorotoluene	ND	ug/kg	173	86.7	50		03/07/13 15:44	106-43-4	
1,2-Dibromo-3-chloropropane	ND	ug/kg	347	173	50		03/07/13 15:44	96-12-8	
Dibromochloromethane	ND	ug/kg	173	86.7	50		03/07/13 15:44	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/kg	173	86.7	50		03/07/13 15:44	106-93-4	
Dibromomethane	ND	ug/kg	173	86.7	50		03/07/13 15:44	74-95-3	
1,2-Dichlorobenzene	289	ug/kg	173	86.7	50		03/07/13 15:44	95-50-1	
1,3-Dichlorobenzene	ND	ug/kg	173	86.7	50		03/07/13 15:44	541-73-1	
1,4-Dichlorobenzene	581	ug/kg	173	86.7	50		03/07/13 15:44	106-46-7	
Dichlorodifluoromethane	ND	ug/kg	173	86.7	50		03/07/13 15:44	75-71-8	
1,1-Dichloroethane	ND	ug/kg	173	86.7	50		03/07/13 15:44	75-34-3	
1,2-Dichloroethane	ND	ug/kg	173	86.7	50		03/07/13 15:44	107-06-2	
1,2-Dichloroethene (Total)	ND	ug/kg	173	86.7	50		03/07/13 15:44	540-59-0	
1,1-Dichloroethene	ND	ug/kg	173	86.7	50		03/07/13 15:44	75-35-4	
cis-1,2-Dichloroethene	ND	ug/kg	173	86.7	50		03/07/13 15:44	156-59-2	
trans-1,2-Dichloroethene	ND	ug/kg	173	86.7	50		03/07/13 15:44	156-60-5	
1,2-Dichloropropane	ND	ug/kg	173	86.7	50		03/07/13 15:44	78-87-5	
1,3-Dichloropropane	ND	ug/kg	173	86.7	50		03/07/13 15:44	142-28-9	
2,2-Dichloropropane	ND	ug/kg	173	86.7	50		03/07/13 15:44	594-20-7	
1,1-Dichloropropene	ND	ug/kg	173	86.7	50		03/07/13 15:44	563-58-6	
cis-1,3-Dichloropropene	ND	ug/kg	173	86.7	50		03/07/13 15:44	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/kg	173	86.7	50		03/07/13 15:44	10061-02-6	
Ethylbenzene	ND	ug/kg	173	86.7	50		03/07/13 15:44	100-41-4	
Hexachloro-1,3-butadiene	ND	ug/kg	173	86.7	50		03/07/13 15:44	87-68-3	
2-Hexanone	ND	ug/kg	693	347	50		03/07/13 15:44	591-78-6	
Isopropylbenzene (Cumene)	484	ug/kg	173	86.7	50		03/07/13 15:44	98-82-8	
p-Isopropyltoluene	405	ug/kg	173	86.7	50		03/07/13 15:44	99-87-6	
Methylene chloride	ND	ug/kg	173	86.7	50		03/07/13 15:44	75-09-2	

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ANALYTICAL RESULTS

Project: Big MO Soil Sampling

Pace Project No.: 60139568

Sample: BM-022513-SB39-12-12.2 **Lab ID:** 60139568015 **Collected:** 02/25/13 15:25 **Received:** 03/01/13 03:10 **Matrix:** Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA									
Analytical Method: EPA 8260									
4-Methyl-2-pentanone (MIBK)	ND	ug/kg	347	173	50		03/07/13 15:44	108-10-1	
Methyl-tert-butyl ether	ND	ug/kg	173	86.7	50		03/07/13 15:44	1634-04-4	
Naphthalene	ND	ug/kg	347	173	50		03/07/13 15:44	91-20-3	
n-Propylbenzene	464	ug/kg	173	86.7	50		03/07/13 15:44	103-65-1	
Styrene	ND	ug/kg	173	86.7	50		03/07/13 15:44	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/kg	173	86.7	50		03/07/13 15:44	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/kg	173	86.7	50		03/07/13 15:44	79-34-5	
Tetrachloroethene	ND	ug/kg	173	86.7	50		03/07/13 15:44	127-18-4	
Toluene	ND	ug/kg	173	86.7	50		03/07/13 15:44	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/kg	173	86.7	50		03/07/13 15:44	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/kg	173	86.7	50		03/07/13 15:44	120-82-1	
1,1,1-Trichloroethane	ND	ug/kg	173	86.7	50		03/07/13 15:44	71-55-6	
1,1,2-Trichloroethane	ND	ug/kg	173	86.7	50		03/07/13 15:44	79-00-5	
Trichloroethene	ND	ug/kg	173	86.7	50		03/07/13 15:44	79-01-6	
Trichlorofluoromethane	ND	ug/kg	173	86.7	50		03/07/13 15:44	75-69-4	
1,2,3-Trichloropropane	ND	ug/kg	173	86.7	50		03/07/13 15:44	96-18-4	
1,2,4-Trimethylbenzene	1990	ug/kg	173	86.7	50		03/07/13 15:44	95-63-6	
1,3,5-Trimethylbenzene	139J	ug/kg	173	86.7	50		03/07/13 15:44	108-67-8	
Vinyl chloride	ND	ug/kg	173	86.7	50		03/07/13 15:44	75-01-4	
Xylene (Total)	ND	ug/kg	173	86.7	50		03/07/13 15:44	1330-20-7	
Surrogates									
Dibromofluoromethane (S)	109	%	76-125		50		03/07/13 15:44	1868-53-7	
Toluene-d8 (S)	102	%	80-120		50		03/07/13 15:44	2037-26-5	
4-Bromofluorobenzene (S)	111	%	80-120		50		03/07/13 15:44	460-00-4	
1,2-Dichloroethane-d4 (S)	117	%	76-132		50		03/07/13 15:44	17060-07-0	
Percent Moisture									
Analytical Method: ASTM D2974									
Percent Moisture	8.7	%	0.50	0.50	1		03/06/13 00:00		

ANALYTICAL RESULTS

Project: Big MO Soil Sampling

Pace Project No.: 60139568

Sample: BM-022513-SB39-13.5-13.7 **Lab ID:** 60139568016 **Collected:** 02/25/13 15:30 **Received:** 03/01/13 03:10 **Matrix:** Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA		Analytical Method: EPA 8260							
Acetone	ND	ug/kg	592000	296000	50000		03/07/13 17:16	67-64-1	
Benzene	3520000	ug/kg	148000	74000	50000		03/07/13 17:16	71-43-2	
Bromobenzene	ND	ug/kg	148000	74000	50000		03/07/13 17:16	108-86-1	
Bromochloromethane	ND	ug/kg	148000	74000	50000		03/07/13 17:16	74-97-5	
Bromodichloromethane	ND	ug/kg	148000	74000	50000		03/07/13 17:16	75-27-4	
Bromoform	ND	ug/kg	148000	74000	50000		03/07/13 17:16	75-25-2	
Bromomethane	ND	ug/kg	148000	74000	50000		03/07/13 17:16	74-83-9	
2-Butanone (MEK)	ND	ug/kg	296000	148000	50000		03/07/13 17:16	78-93-3	
n-Butylbenzene	ND	ug/kg	148000	74000	50000		03/07/13 17:16	104-51-8	
sec-Butylbenzene	ND	ug/kg	148000	74000	50000		03/07/13 17:16	135-98-8	
tert-Butylbenzene	ND	ug/kg	148000	74000	50000		03/07/13 17:16	98-06-6	
Carbon disulfide	ND	ug/kg	148000	74000	50000		03/07/13 17:16	75-15-0	
Carbon tetrachloride	ND	ug/kg	148000	74000	50000		03/07/13 17:16	56-23-5	
Chlorobenzene	ND	ug/kg	148000	74000	50000		03/07/13 17:16	108-90-7	
Chloroethane	ND	ug/kg	148000	74000	50000		03/07/13 17:16	75-00-3	
Chloroform	ND	ug/kg	148000	74000	50000		03/07/13 17:16	67-66-3	
Chloromethane	ND	ug/kg	148000	74000	50000		03/07/13 17:16	74-87-3	
2-Chlorotoluene	ND	ug/kg	148000	74000	50000		03/07/13 17:16	95-49-8	
4-Chlorotoluene	ND	ug/kg	148000	74000	50000		03/07/13 17:16	106-43-4	
1,2-Dibromo-3-chloropropane	ND	ug/kg	296000	148000	50000		03/07/13 17:16	96-12-8	
Dibromochloromethane	ND	ug/kg	148000	74000	50000		03/07/13 17:16	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/kg	148000	74000	50000		03/07/13 17:16	106-93-4	
Dibromomethane	ND	ug/kg	148000	74000	50000		03/07/13 17:16	74-95-3	
1,2-Dichlorobenzene	ND	ug/kg	148000	74000	50000		03/07/13 17:16	95-50-1	
1,3-Dichlorobenzene	ND	ug/kg	148000	74000	50000		03/07/13 17:16	541-73-1	
1,4-Dichlorobenzene	ND	ug/kg	148000	74000	50000		03/07/13 17:16	106-46-7	
Dichlorodifluoromethane	ND	ug/kg	148000	74000	50000		03/07/13 17:16	75-71-8	
1,1-Dichloroethane	ND	ug/kg	148000	74000	50000		03/07/13 17:16	75-34-3	
1,2-Dichloroethane	ND	ug/kg	148000	74000	50000		03/07/13 17:16	107-06-2	
1,2-Dichloroethene (Total)	ND	ug/kg	148000	74000	50000		03/07/13 17:16	540-59-0	
1,1-Dichloroethene	ND	ug/kg	148000	74000	50000		03/07/13 17:16	75-35-4	
cis-1,2-Dichloroethene	ND	ug/kg	148000	74000	50000		03/07/13 17:16	156-59-2	
trans-1,2-Dichloroethene	ND	ug/kg	148000	74000	50000		03/07/13 17:16	156-60-5	
1,2-Dichloropropane	ND	ug/kg	148000	74000	50000		03/07/13 17:16	78-87-5	
1,3-Dichloropropane	ND	ug/kg	148000	74000	50000		03/07/13 17:16	142-28-9	
2,2-Dichloropropane	ND	ug/kg	148000	74000	50000		03/07/13 17:16	594-20-7	
1,1-Dichloropropene	ND	ug/kg	148000	74000	50000		03/07/13 17:16	563-58-6	
cis-1,3-Dichloropropene	ND	ug/kg	148000	74000	50000		03/07/13 17:16	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/kg	148000	74000	50000		03/07/13 17:16	10061-02-6	
Ethylbenzene	ND	ug/kg	148000	74000	50000		03/07/13 17:16	100-41-4	
Hexachloro-1,3-butadiene	ND	ug/kg	148000	74000	50000		03/07/13 17:16	87-68-3	
2-Hexanone	ND	ug/kg	592000	296000	50000		03/07/13 17:16	591-78-6	
Isopropylbenzene (Cumene)	ND	ug/kg	148000	74000	50000		03/07/13 17:16	98-82-8	
p-Isopropyltoluene	ND	ug/kg	148000	74000	50000		03/07/13 17:16	99-87-6	
Methylene chloride	ND	ug/kg	148000	74000	50000		03/07/13 17:16	75-09-2	

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ANALYTICAL RESULTS

Project: Big MO Soil Sampling

Pace Project No.: 60139568

Sample: BM-022513-SB39-13.5-13.7 **Lab ID:** 60139568016 **Collected:** 02/25/13 15:30 **Received:** 03/01/13 03:10 **Matrix:** Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA									
Analytical Method: EPA 8260									
4-Methyl-2-pentanone (MIBK)	ND	ug/kg	296000	148000	50000		03/07/13 17:16	108-10-1	
Methyl-tert-butyl ether	ND	ug/kg	148000	74000	50000		03/07/13 17:16	1634-04-4	
Naphthalene	ND	ug/kg	296000	148000	50000		03/07/13 17:16	91-20-3	
n-Propylbenzene	ND	ug/kg	148000	74000	50000		03/07/13 17:16	103-65-1	
Styrene	ND	ug/kg	148000	74000	50000		03/07/13 17:16	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/kg	148000	74000	50000		03/07/13 17:16	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/kg	148000	74000	50000		03/07/13 17:16	79-34-5	
Tetrachloroethene	ND	ug/kg	148000	74000	50000		03/07/13 17:16	127-18-4	
Toluene	ND	ug/kg	148000	74000	50000		03/07/13 17:16	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/kg	148000	74000	50000		03/07/13 17:16	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/kg	148000	74000	50000		03/07/13 17:16	120-82-1	
1,1,1-Trichloroethane	ND	ug/kg	148000	74000	50000		03/07/13 17:16	71-55-6	
1,1,2-Trichloroethane	ND	ug/kg	148000	74000	50000		03/07/13 17:16	79-00-5	
Trichloroethene	ND	ug/kg	148000	74000	50000		03/07/13 17:16	79-01-6	
Trichlorofluoromethane	ND	ug/kg	148000	74000	50000		03/07/13 17:16	75-69-4	
1,2,3-Trichloropropane	ND	ug/kg	148000	74000	50000		03/07/13 17:16	96-18-4	
1,2,4-Trimethylbenzene	ND	ug/kg	148000	74000	50000		03/07/13 17:16	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/kg	148000	74000	50000		03/07/13 17:16	108-67-8	
Vinyl chloride	ND	ug/kg	148000	74000	50000		03/07/13 17:16	75-01-4	
Xylene (Total)	ND	ug/kg	148000	74000	50000		03/07/13 17:16	1330-20-7	
Surrogates									
Dibromofluoromethane (S)	116	%	76-125		50000		03/07/13 17:16	1868-53-7	
Toluene-d8 (S)	102	%	80-120		50000		03/07/13 17:16	2037-26-5	
4-Bromofluorobenzene (S)	99	%	80-120		50000		03/07/13 17:16	460-00-4	
1,2-Dichloroethane-d4 (S)	101	%	76-132		50000		03/07/13 17:16	17060-07-0	
Percent Moisture									
Analytical Method: ASTM D2974									
Percent Moisture	17.1	%	0.50	0.50	1		03/06/13 00:00		

ANALYTICAL RESULTS

Project: Big MO Soil Sampling

Pace Project No.: 60139568

Sample: BM-022513-SB39-13-13.5 **Lab ID: 60139568017** Collected: 02/25/13 15:55 Received: 03/01/13 03:10 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA		Analytical Method: EPA 8260							
Acetone	ND	ug/kg	257000	129000	20000		03/07/13 20:22	67-64-1	
Benzene	1580000	ug/kg	64300	32100	20000		03/07/13 20:22	71-43-2	
Bromobenzene	ND	ug/kg	64300	32100	20000		03/07/13 20:22	108-86-1	
Bromochloromethane	ND	ug/kg	64300	32100	20000		03/07/13 20:22	74-97-5	
Bromodichloromethane	ND	ug/kg	64300	32100	20000		03/07/13 20:22	75-27-4	
Bromoform	ND	ug/kg	64300	32100	20000		03/07/13 20:22	75-25-2	
Bromomethane	ND	ug/kg	64300	32100	20000		03/07/13 20:22	74-83-9	
2-Butanone (MEK)	ND	ug/kg	129000	64300	20000		03/07/13 20:22	78-93-3	
n-Butylbenzene	ND	ug/kg	64300	32100	20000		03/07/13 20:22	104-51-8	
sec-Butylbenzene	ND	ug/kg	64300	32100	20000		03/07/13 20:22	135-98-8	
tert-Butylbenzene	ND	ug/kg	64300	32100	20000		03/07/13 20:22	98-06-6	
Carbon disulfide	ND	ug/kg	64300	32100	20000		03/07/13 20:22	75-15-0	
Carbon tetrachloride	ND	ug/kg	64300	32100	20000		03/07/13 20:22	56-23-5	
Chlorobenzene	ND	ug/kg	64300	32100	20000		03/07/13 20:22	108-90-7	
Chloroethane	ND	ug/kg	64300	32100	20000		03/07/13 20:22	75-00-3	
Chloroform	ND	ug/kg	64300	32100	20000		03/07/13 20:22	67-66-3	
Chloromethane	ND	ug/kg	64300	32100	20000		03/07/13 20:22	74-87-3	
2-Chlorotoluene	ND	ug/kg	64300	32100	20000		03/07/13 20:22	95-49-8	
4-Chlorotoluene	ND	ug/kg	64300	32100	20000		03/07/13 20:22	106-43-4	
1,2-Dibromo-3-chloropropane	ND	ug/kg	129000	64300	20000		03/07/13 20:22	96-12-8	
Dibromochloromethane	ND	ug/kg	64300	32100	20000		03/07/13 20:22	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/kg	64300	32100	20000		03/07/13 20:22	106-93-4	
Dibromomethane	ND	ug/kg	64300	32100	20000		03/07/13 20:22	74-95-3	
1,2-Dichlorobenzene	ND	ug/kg	64300	32100	20000		03/07/13 20:22	95-50-1	
1,3-Dichlorobenzene	ND	ug/kg	64300	32100	20000		03/07/13 20:22	541-73-1	
1,4-Dichlorobenzene	ND	ug/kg	64300	32100	20000		03/07/13 20:22	106-46-7	
Dichlorodifluoromethane	ND	ug/kg	64300	32100	20000		03/07/13 20:22	75-71-8	
1,1-Dichloroethane	ND	ug/kg	64300	32100	20000		03/07/13 20:22	75-34-3	
1,2-Dichloroethane	ND	ug/kg	64300	32100	20000		03/07/13 20:22	107-06-2	
1,2-Dichloroethene (Total)	ND	ug/kg	64300	32100	20000		03/07/13 20:22	540-59-0	
1,1-Dichloroethene	ND	ug/kg	64300	32100	20000		03/07/13 20:22	75-35-4	
cis-1,2-Dichloroethene	ND	ug/kg	64300	32100	20000		03/07/13 20:22	156-59-2	
trans-1,2-Dichloroethene	ND	ug/kg	64300	32100	20000		03/07/13 20:22	156-60-5	
1,2-Dichloropropane	ND	ug/kg	64300	32100	20000		03/07/13 20:22	78-87-5	
1,3-Dichloropropane	ND	ug/kg	64300	32100	20000		03/07/13 20:22	142-28-9	
2,2-Dichloropropane	ND	ug/kg	64300	32100	20000		03/07/13 20:22	594-20-7	
1,1-Dichloropropene	ND	ug/kg	64300	32100	20000		03/07/13 20:22	563-58-6	
cis-1,3-Dichloropropene	ND	ug/kg	64300	32100	20000		03/07/13 20:22	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/kg	64300	32100	20000		03/07/13 20:22	10061-02-6	
Ethylbenzene	ND	ug/kg	64300	32100	20000		03/07/13 20:22	100-41-4	
Hexachloro-1,3-butadiene	ND	ug/kg	64300	32100	20000		03/07/13 20:22	87-68-3	
2-Hexanone	ND	ug/kg	257000	129000	20000		03/07/13 20:22	591-78-6	
Isopropylbenzene (Cumene)	ND	ug/kg	64300	32100	20000		03/07/13 20:22	98-82-8	
p-Isopropyltoluene	ND	ug/kg	64300	32100	20000		03/07/13 20:22	99-87-6	
Methylene chloride	ND	ug/kg	64300	32100	20000		03/07/13 20:22	75-09-2	

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ANALYTICAL RESULTS

Project: Big MO Soil Sampling

Pace Project No.: 60139568

Sample: BM-022513-SB39-13-13.5 **Lab ID: 60139568017** Collected: 02/25/13 15:55 Received: 03/01/13 03:10 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA									
Analytical Method: EPA 8260									
4-Methyl-2-pentanone (MIBK)	ND	ug/kg	129000	64300	20000		03/07/13 20:22	108-10-1	
Methyl-tert-butyl ether	ND	ug/kg	64300	32100	20000		03/07/13 20:22	1634-04-4	
Naphthalene	ND	ug/kg	129000	64300	20000		03/07/13 20:22	91-20-3	
n-Propylbenzene	ND	ug/kg	64300	32100	20000		03/07/13 20:22	103-65-1	
Styrene	ND	ug/kg	64300	32100	20000		03/07/13 20:22	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/kg	64300	32100	20000		03/07/13 20:22	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/kg	64300	32100	20000		03/07/13 20:22	79-34-5	
Tetrachloroethene	ND	ug/kg	64300	32100	20000		03/07/13 20:22	127-18-4	
Toluene	ND	ug/kg	64300	32100	20000		03/07/13 20:22	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/kg	64300	32100	20000		03/07/13 20:22	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/kg	64300	32100	20000		03/07/13 20:22	120-82-1	
1,1,1-Trichloroethane	ND	ug/kg	64300	32100	20000		03/07/13 20:22	71-55-6	
1,1,2-Trichloroethane	ND	ug/kg	64300	32100	20000		03/07/13 20:22	79-00-5	
Trichloroethene	ND	ug/kg	64300	32100	20000		03/07/13 20:22	79-01-6	
Trichlorofluoromethane	ND	ug/kg	64300	32100	20000		03/07/13 20:22	75-69-4	
1,2,3-Trichloropropane	ND	ug/kg	64300	32100	20000		03/07/13 20:22	96-18-4	
1,2,4-Trimethylbenzene	ND	ug/kg	64300	32100	20000		03/07/13 20:22	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/kg	64300	32100	20000		03/07/13 20:22	108-67-8	
Vinyl chloride	ND	ug/kg	64300	32100	20000		03/07/13 20:22	75-01-4	
Xylene (Total)	ND	ug/kg	64300	32100	20000		03/07/13 20:22	1330-20-7	
Surrogates									
Dibromofluoromethane (S)	99 %		76-125		20000		03/07/13 20:22	1868-53-7	
Toluene-d8 (S)	102 %		80-120		20000		03/07/13 20:22	2037-26-5	
4-Bromofluorobenzene (S)	99 %		80-120		20000		03/07/13 20:22	460-00-4	
1,2-Dichloroethane-d4 (S)	101 %		76-132		20000		03/07/13 20:22	17060-07-0	
Percent Moisture									
Analytical Method: ASTM D2974									
Percent Moisture	15.7 %		0.50	0.50	1		03/06/13 00:00		

ANALYTICAL RESULTS

Project: Big MO Soil Sampling

Pace Project No.: 60139568

Sample: **BM-022513-SB64-10.3-10.5** Lab ID: **60139568018** Collected: 02/25/13 14:30 Received: 03/01/13 03:10 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA		Analytical Method: EPA 8260							
Acetone	ND	ug/kg	7160	3580	500		03/07/13 16:30	67-64-1	
Benzene	94800	ug/kg	1790	895	500		03/07/13 16:30	71-43-2	
Bromobenzene	ND	ug/kg	1790	895	500		03/07/13 16:30	108-86-1	
Bromochloromethane	ND	ug/kg	1790	895	500		03/07/13 16:30	74-97-5	
Bromodichloromethane	ND	ug/kg	1790	895	500		03/07/13 16:30	75-27-4	
Bromoform	ND	ug/kg	1790	895	500		03/07/13 16:30	75-25-2	
Bromomethane	ND	ug/kg	1790	895	500		03/07/13 16:30	74-83-9	
2-Butanone (MEK)	ND	ug/kg	3580	1790	500		03/07/13 16:30	78-93-3	
n-Butylbenzene	ND	ug/kg	1790	895	500		03/07/13 16:30	104-51-8	
sec-Butylbenzene	1220J	ug/kg	1790	895	500		03/07/13 16:30	135-98-8	
tert-Butylbenzene	ND	ug/kg	1790	895	500		03/07/13 16:30	98-06-6	
Carbon disulfide	ND	ug/kg	1790	895	500		03/07/13 16:30	75-15-0	
Carbon tetrachloride	ND	ug/kg	1790	895	500		03/07/13 16:30	56-23-5	
Chlorobenzene	ND	ug/kg	1790	895	500		03/07/13 16:30	108-90-7	
Chloroethane	ND	ug/kg	1790	895	500		03/07/13 16:30	75-00-3	
Chloroform	ND	ug/kg	1790	895	500		03/07/13 16:30	67-66-3	
Chloromethane	ND	ug/kg	1790	895	500		03/07/13 16:30	74-87-3	
2-Chlorotoluene	ND	ug/kg	1790	895	500		03/07/13 16:30	95-49-8	
4-Chlorotoluene	ND	ug/kg	1790	895	500		03/07/13 16:30	106-43-4	
1,2-Dibromo-3-chloropropane	ND	ug/kg	3580	1790	500		03/07/13 16:30	96-12-8	
Dibromochloromethane	ND	ug/kg	1790	895	500		03/07/13 16:30	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/kg	1790	895	500		03/07/13 16:30	106-93-4	
Dibromomethane	ND	ug/kg	1790	895	500		03/07/13 16:30	74-95-3	
1,2-Dichlorobenzene	ND	ug/kg	1790	895	500		03/07/13 16:30	95-50-1	
1,3-Dichlorobenzene	ND	ug/kg	1790	895	500		03/07/13 16:30	541-73-1	
1,4-Dichlorobenzene	ND	ug/kg	1790	895	500		03/07/13 16:30	106-46-7	
Dichlorodifluoromethane	ND	ug/kg	1790	895	500		03/07/13 16:30	75-71-8	
1,1-Dichloroethane	ND	ug/kg	1790	895	500		03/07/13 16:30	75-34-3	
1,2-Dichloroethane	ND	ug/kg	1790	895	500		03/07/13 16:30	107-06-2	
1,2-Dichloroethene (Total)	ND	ug/kg	1790	895	500		03/07/13 16:30	540-59-0	
1,1-Dichloroethene	ND	ug/kg	1790	895	500		03/07/13 16:30	75-35-4	
cis-1,2-Dichloroethene	ND	ug/kg	1790	895	500		03/07/13 16:30	156-59-2	
trans-1,2-Dichloroethene	ND	ug/kg	1790	895	500		03/07/13 16:30	156-60-5	
1,2-Dichloropropane	ND	ug/kg	1790	895	500		03/07/13 16:30	78-87-5	
1,3-Dichloropropane	ND	ug/kg	1790	895	500		03/07/13 16:30	142-28-9	
2,2-Dichloropropane	ND	ug/kg	1790	895	500		03/07/13 16:30	594-20-7	
1,1-Dichloropropene	ND	ug/kg	1790	895	500		03/07/13 16:30	563-58-6	
cis-1,3-Dichloropropene	ND	ug/kg	1790	895	500		03/07/13 16:30	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/kg	1790	895	500		03/07/13 16:30	10061-02-6	
Ethylbenzene	ND	ug/kg	1790	895	500		03/07/13 16:30	100-41-4	
Hexachloro-1,3-butadiene	ND	ug/kg	1790	895	500		03/07/13 16:30	87-68-3	
2-Hexanone	ND	ug/kg	7160	3580	500		03/07/13 16:30	591-78-6	
Isopropylbenzene (Cumene)	947J	ug/kg	1790	895	500		03/07/13 16:30	98-82-8	
p-Isopropyltoluene	ND	ug/kg	1790	895	500		03/07/13 16:30	99-87-6	
Methylene chloride	ND	ug/kg	1790	895	500		03/07/13 16:30	75-09-2	

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REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Big MO Soil Sampling

Pace Project No.: 60139568

Sample: BM-022513-SB64-10.3-10.5 **Lab ID: 60139568018** Collected: 02/25/13 14:30 Received: 03/01/13 03:10 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA									
Analytical Method: EPA 8260									
4-Methyl-2-pentanone (MIBK)	ND	ug/kg	3580	1790	500		03/07/13 16:30	108-10-1	
Methyl-tert-butyl ether	ND	ug/kg	1790	895	500		03/07/13 16:30	1634-04-4	
Naphthalene	ND	ug/kg	3580	1790	500		03/07/13 16:30	91-20-3	
n-Propylbenzene	1550J	ug/kg	1790	895	500		03/07/13 16:30	103-65-1	
Styrene	ND	ug/kg	1790	895	500		03/07/13 16:30	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/kg	1790	895	500		03/07/13 16:30	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/kg	1790	895	500		03/07/13 16:30	79-34-5	
Tetrachloroethene	ND	ug/kg	1790	895	500		03/07/13 16:30	127-18-4	
Toluene	ND	ug/kg	1790	895	500		03/07/13 16:30	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/kg	1790	895	500		03/07/13 16:30	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/kg	1790	895	500		03/07/13 16:30	120-82-1	
1,1,1-Trichloroethane	ND	ug/kg	1790	895	500		03/07/13 16:30	71-55-6	
1,1,2-Trichloroethane	ND	ug/kg	1790	895	500		03/07/13 16:30	79-00-5	
Trichloroethene	ND	ug/kg	1790	895	500		03/07/13 16:30	79-01-6	
Trichlorofluoromethane	ND	ug/kg	1790	895	500		03/07/13 16:30	75-69-4	
1,2,3-Trichloropropane	ND	ug/kg	1790	895	500		03/07/13 16:30	96-18-4	
1,2,4-Trimethylbenzene	ND	ug/kg	1790	895	500		03/07/13 16:30	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/kg	1790	895	500		03/07/13 16:30	108-67-8	
Vinyl chloride	ND	ug/kg	1790	895	500		03/07/13 16:30	75-01-4	
Xylene (Total)	ND	ug/kg	1790	895	500		03/07/13 16:30	1330-20-7	
Surrogates									
Dibromofluoromethane (S)	114	%	76-125		500		03/07/13 16:30	1868-53-7	
Toluene-d8 (S)	101	%	80-120		500		03/07/13 16:30	2037-26-5	
4-Bromofluorobenzene (S)	103	%	80-120		500		03/07/13 16:30	460-00-4	
1,2-Dichloroethane-d4 (S)	100	%	76-132		500		03/07/13 16:30	17060-07-0	
Percent Moisture									
Analytical Method: ASTM D2974									
Percent Moisture	7.3	%	0.50	0.50	1		03/06/13 00:00		

ANALYTICAL RESULTS

Project: Big MO Soil Sampling

Pace Project No.: 60139568

Sample: **BM-022513-SB64-12.3-12.5** Lab ID: **60139568019** Collected: 02/25/13 14:40 Received: 03/01/13 03:10 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA		Analytical Method: EPA 8260							
Acetone	ND	ug/kg	7570	3780	500		03/07/13 16:46	67-64-1	
Benzene	102000	ug/kg	1890	946	500		03/07/13 16:46	71-43-2	
Bromobenzene	ND	ug/kg	1890	946	500		03/07/13 16:46	108-86-1	
Bromochloromethane	ND	ug/kg	1890	946	500		03/07/13 16:46	74-97-5	
Bromodichloromethane	ND	ug/kg	1890	946	500		03/07/13 16:46	75-27-4	
Bromoform	ND	ug/kg	1890	946	500		03/07/13 16:46	75-25-2	
Bromomethane	ND	ug/kg	1890	946	500		03/07/13 16:46	74-83-9	
2-Butanone (MEK)	ND	ug/kg	3780	1890	500		03/07/13 16:46	78-93-3	
n-Butylbenzene	ND	ug/kg	1890	946	500		03/07/13 16:46	104-51-8	
sec-Butylbenzene	1700J	ug/kg	1890	946	500		03/07/13 16:46	135-98-8	
tert-Butylbenzene	ND	ug/kg	1890	946	500		03/07/13 16:46	98-06-6	
Carbon disulfide	ND	ug/kg	1890	946	500		03/07/13 16:46	75-15-0	
Carbon tetrachloride	ND	ug/kg	1890	946	500		03/07/13 16:46	56-23-5	
Chlorobenzene	ND	ug/kg	1890	946	500		03/07/13 16:46	108-90-7	
Chloroethane	ND	ug/kg	1890	946	500		03/07/13 16:46	75-00-3	
Chloroform	ND	ug/kg	1890	946	500		03/07/13 16:46	67-66-3	
Chloromethane	ND	ug/kg	1890	946	500		03/07/13 16:46	74-87-3	
2-Chlorotoluene	ND	ug/kg	1890	946	500		03/07/13 16:46	95-49-8	
4-Chlorotoluene	ND	ug/kg	1890	946	500		03/07/13 16:46	106-43-4	
1,2-Dibromo-3-chloropropane	ND	ug/kg	3780	1890	500		03/07/13 16:46	96-12-8	
Dibromochloromethane	ND	ug/kg	1890	946	500		03/07/13 16:46	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/kg	1890	946	500		03/07/13 16:46	106-93-4	
Dibromomethane	ND	ug/kg	1890	946	500		03/07/13 16:46	74-95-3	
1,2-Dichlorobenzene	ND	ug/kg	1890	946	500		03/07/13 16:46	95-50-1	
1,3-Dichlorobenzene	ND	ug/kg	1890	946	500		03/07/13 16:46	541-73-1	
1,4-Dichlorobenzene	ND	ug/kg	1890	946	500		03/07/13 16:46	106-46-7	
Dichlorodifluoromethane	ND	ug/kg	1890	946	500		03/07/13 16:46	75-71-8	
1,1-Dichloroethane	ND	ug/kg	1890	946	500		03/07/13 16:46	75-34-3	
1,2-Dichloroethane	ND	ug/kg	1890	946	500		03/07/13 16:46	107-06-2	
1,2-Dichloroethene (Total)	ND	ug/kg	1890	946	500		03/07/13 16:46	540-59-0	
1,1-Dichloroethene	ND	ug/kg	1890	946	500		03/07/13 16:46	75-35-4	
cis-1,2-Dichloroethene	ND	ug/kg	1890	946	500		03/07/13 16:46	156-59-2	
trans-1,2-Dichloroethene	ND	ug/kg	1890	946	500		03/07/13 16:46	156-60-5	
1,2-Dichloropropane	ND	ug/kg	1890	946	500		03/07/13 16:46	78-87-5	
1,3-Dichloropropane	ND	ug/kg	1890	946	500		03/07/13 16:46	142-28-9	
2,2-Dichloropropane	ND	ug/kg	1890	946	500		03/07/13 16:46	594-20-7	
1,1-Dichloropropene	ND	ug/kg	1890	946	500		03/07/13 16:46	563-58-6	
cis-1,3-Dichloropropene	ND	ug/kg	1890	946	500		03/07/13 16:46	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/kg	1890	946	500		03/07/13 16:46	10061-02-6	
Ethylbenzene	ND	ug/kg	1890	946	500		03/07/13 16:46	100-41-4	
Hexachloro-1,3-butadiene	ND	ug/kg	1890	946	500		03/07/13 16:46	87-68-3	
2-Hexanone	ND	ug/kg	7570	3780	500		03/07/13 16:46	591-78-6	
Isopropylbenzene (Cumene)	1560J	ug/kg	1890	946	500		03/07/13 16:46	98-82-8	
p-Isopropyltoluene	ND	ug/kg	1890	946	500		03/07/13 16:46	99-87-6	
Methylene chloride	ND	ug/kg	1890	946	500		03/07/13 16:46	75-09-2	

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REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Big MO Soil Sampling

Pace Project No.: 60139568

Sample: BM-022513-SB64-12.3-12.5 **Lab ID: 60139568019** Collected: 02/25/13 14:40 Received: 03/01/13 03:10 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA									
Analytical Method: EPA 8260									
4-Methyl-2-pentanone (MIBK)	ND	ug/kg	3780	1890	500		03/07/13 16:46	108-10-1	
Methyl-tert-butyl ether	ND	ug/kg	1890	946	500		03/07/13 16:46	1634-04-4	
Naphthalene	ND	ug/kg	3780	1890	500		03/07/13 16:46	91-20-3	
n-Propylbenzene	2070	ug/kg	1890	946	500		03/07/13 16:46	103-65-1	
Styrene	ND	ug/kg	1890	946	500		03/07/13 16:46	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/kg	1890	946	500		03/07/13 16:46	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/kg	1890	946	500		03/07/13 16:46	79-34-5	
Tetrachloroethene	ND	ug/kg	1890	946	500		03/07/13 16:46	127-18-4	
Toluene	ND	ug/kg	1890	946	500		03/07/13 16:46	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/kg	1890	946	500		03/07/13 16:46	87-61-6	
1,2,4-Trichlorobenzene	1430J	ug/kg	1890	946	500		03/07/13 16:46	120-82-1	
1,1,1-Trichloroethane	ND	ug/kg	1890	946	500		03/07/13 16:46	71-55-6	
1,1,2-Trichloroethane	ND	ug/kg	1890	946	500		03/07/13 16:46	79-00-5	
Trichloroethene	ND	ug/kg	1890	946	500		03/07/13 16:46	79-01-6	
Trichlorofluoromethane	ND	ug/kg	1890	946	500		03/07/13 16:46	75-69-4	
1,2,3-Trichloropropane	ND	ug/kg	1890	946	500		03/07/13 16:46	96-18-4	
1,2,4-Trimethylbenzene	ND	ug/kg	1890	946	500		03/07/13 16:46	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/kg	1890	946	500		03/07/13 16:46	108-67-8	
Vinyl chloride	ND	ug/kg	1890	946	500		03/07/13 16:46	75-01-4	
Xylene (Total)	ND	ug/kg	1890	946	500		03/07/13 16:46	1330-20-7	
Surrogates									
Dibromofluoromethane (S)	117	%	76-125		500		03/07/13 16:46	1868-53-7	
Toluene-d8 (S)	104	%	80-120		500		03/07/13 16:46	2037-26-5	
4-Bromofluorobenzene (S)	108	%	80-120		500		03/07/13 16:46	460-00-4	
1,2-Dichloroethane-d4 (S)	105	%	76-132		500		03/07/13 16:46	17060-07-0	
Percent Moisture									
Analytical Method: ASTM D2974									
Percent Moisture	5.3	%	0.50	0.50	1		03/06/13 00:00		

ANALYTICAL RESULTS

Project: Big MO Soil Sampling

Pace Project No.: 60139568

Sample: **BM-022513-SB64-11.5-12** Lab ID: **60139568020** Collected: 02/25/13 14:50 Received: 03/01/13 03:10 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA		Analytical Method: EPA 8260							
Acetone	ND	ug/kg	8370	4180	500		03/09/13 10:17	67-64-1	
Benzene	74700	ug/kg	2090	1050	500		03/09/13 10:17	71-43-2	
Bromobenzene	ND	ug/kg	2090	1050	500		03/09/13 10:17	108-86-1	
Bromochloromethane	ND	ug/kg	2090	1050	500		03/09/13 10:17	74-97-5	
Bromodichloromethane	ND	ug/kg	2090	1050	500		03/09/13 10:17	75-27-4	
Bromoform	ND	ug/kg	2090	1050	500		03/09/13 10:17	75-25-2	
Bromomethane	ND	ug/kg	2090	1050	500		03/09/13 10:17	74-83-9	
2-Butanone (MEK)	ND	ug/kg	4180	2090	500		03/09/13 10:17	78-93-3	
n-Butylbenzene	ND	ug/kg	2090	1050	500		03/09/13 10:17	104-51-8	
sec-Butylbenzene	1530J	ug/kg	2090	1050	500		03/09/13 10:17	135-98-8	
tert-Butylbenzene	ND	ug/kg	2090	1050	500		03/09/13 10:17	98-06-6	
Carbon disulfide	ND	ug/kg	2090	1050	500		03/09/13 10:17	75-15-0	
Carbon tetrachloride	ND	ug/kg	2090	1050	500		03/09/13 10:17	56-23-5	
Chlorobenzene	ND	ug/kg	2090	1050	500		03/09/13 10:17	108-90-7	
Chloroethane	ND	ug/kg	2090	1050	500		03/09/13 10:17	75-00-3	
Chloroform	ND	ug/kg	2090	1050	500		03/09/13 10:17	67-66-3	
Chloromethane	ND	ug/kg	2090	1050	500		03/09/13 10:17	74-87-3	
2-Chlorotoluene	ND	ug/kg	2090	1050	500		03/09/13 10:17	95-49-8	
4-Chlorotoluene	ND	ug/kg	2090	1050	500		03/09/13 10:17	106-43-4	
1,2-Dibromo-3-chloropropane	ND	ug/kg	4180	2090	500		03/09/13 10:17	96-12-8	
Dibromochloromethane	ND	ug/kg	2090	1050	500		03/09/13 10:17	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/kg	2090	1050	500		03/09/13 10:17	106-93-4	
Dibromomethane	ND	ug/kg	2090	1050	500		03/09/13 10:17	74-95-3	
1,2-Dichlorobenzene	ND	ug/kg	2090	1050	500		03/09/13 10:17	95-50-1	
1,3-Dichlorobenzene	ND	ug/kg	2090	1050	500		03/09/13 10:17	541-73-1	
1,4-Dichlorobenzene	ND	ug/kg	2090	1050	500		03/09/13 10:17	106-46-7	
Dichlorodifluoromethane	ND	ug/kg	2090	1050	500		03/09/13 10:17	75-71-8	
1,1-Dichloroethane	ND	ug/kg	2090	1050	500		03/09/13 10:17	75-34-3	
1,2-Dichloroethane	ND	ug/kg	2090	1050	500		03/09/13 10:17	107-06-2	
1,2-Dichloroethene (Total)	ND	ug/kg	2090	1050	500		03/09/13 10:17	540-59-0	
1,1-Dichloroethene	ND	ug/kg	2090	1050	500		03/09/13 10:17	75-35-4	
cis-1,2-Dichloroethene	ND	ug/kg	2090	1050	500		03/09/13 10:17	156-59-2	
trans-1,2-Dichloroethene	ND	ug/kg	2090	1050	500		03/09/13 10:17	156-60-5	
1,2-Dichloropropane	ND	ug/kg	2090	1050	500		03/09/13 10:17	78-87-5	
1,3-Dichloropropane	ND	ug/kg	2090	1050	500		03/09/13 10:17	142-28-9	
2,2-Dichloropropane	ND	ug/kg	2090	1050	500		03/09/13 10:17	594-20-7	
1,1-Dichloropropene	ND	ug/kg	2090	1050	500		03/09/13 10:17	563-58-6	
cis-1,3-Dichloropropene	ND	ug/kg	2090	1050	500		03/09/13 10:17	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/kg	2090	1050	500		03/09/13 10:17	10061-02-6	
Ethylbenzene	ND	ug/kg	2090	1050	500		03/09/13 10:17	100-41-4	
Hexachloro-1,3-butadiene	ND	ug/kg	2090	1050	500		03/09/13 10:17	87-68-3	
2-Hexanone	ND	ug/kg	8370	4180	500		03/09/13 10:17	591-78-6	
Isopropylbenzene (Cumene)	ND	ug/kg	2090	1050	500		03/09/13 10:17	98-82-8	
p-Isopropyltoluene	ND	ug/kg	2090	1050	500		03/09/13 10:17	99-87-6	
Methylene chloride	ND	ug/kg	2090	1050	500		03/09/13 10:17	75-09-2	

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ANALYTICAL RESULTS

Project: Big MO Soil Sampling

Pace Project No.: 60139568

Sample: BM-022513-SB64-11.5-12 **Lab ID: 60139568020** Collected: 02/25/13 14:50 Received: 03/01/13 03:10 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA									
Analytical Method: EPA 8260									
4-Methyl-2-pentanone (MIBK)	ND	ug/kg	4180	2090	500		03/09/13 10:17	108-10-1	
Methyl-tert-butyl ether	ND	ug/kg	2090	1050	500		03/09/13 10:17	1634-04-4	
Naphthalene	ND	ug/kg	4180	2090	500		03/09/13 10:17	91-20-3	
n-Propylbenzene	1770J	ug/kg	2090	1050	500		03/09/13 10:17	103-65-1	
Styrene	ND	ug/kg	2090	1050	500		03/09/13 10:17	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/kg	2090	1050	500		03/09/13 10:17	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/kg	2090	1050	500		03/09/13 10:17	79-34-5	
Tetrachloroethene	ND	ug/kg	2090	1050	500		03/09/13 10:17	127-18-4	
Toluene	ND	ug/kg	2090	1050	500		03/09/13 10:17	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/kg	2090	1050	500		03/09/13 10:17	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/kg	2090	1050	500		03/09/13 10:17	120-82-1	
1,1,1-Trichloroethane	ND	ug/kg	2090	1050	500		03/09/13 10:17	71-55-6	
1,1,2-Trichloroethane	ND	ug/kg	2090	1050	500		03/09/13 10:17	79-00-5	
Trichloroethene	ND	ug/kg	2090	1050	500		03/09/13 10:17	79-01-6	
Trichlorofluoromethane	ND	ug/kg	2090	1050	500		03/09/13 10:17	75-69-4	
1,2,3-Trichloropropane	ND	ug/kg	2090	1050	500		03/09/13 10:17	96-18-4	
1,2,4-Trimethylbenzene	ND	ug/kg	2090	1050	500		03/09/13 10:17	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/kg	2090	1050	500		03/09/13 10:17	108-67-8	
Vinyl chloride	ND	ug/kg	2090	1050	500		03/09/13 10:17	75-01-4	
Xylene (Total)	ND	ug/kg	2090	1050	500		03/09/13 10:17	1330-20-7	
Surrogates									
Dibromofluoromethane (S)	97 %		76-125		500		03/09/13 10:17	1868-53-7	
Toluene-d8 (S)	101 %		80-120		500		03/09/13 10:17	2037-26-5	
4-Bromofluorobenzene (S)	100 %		80-120		500		03/09/13 10:17	460-00-4	
1,2-Dichloroethane-d4 (S)	99 %		76-132		500		03/09/13 10:17	17060-07-0	
Percent Moisture									
Analytical Method: ASTM D2974									
Percent Moisture	4.4 %		0.50	0.50	1		03/06/13 00:00		

ANALYTICAL RESULTS

Project: Big MO Soil Sampling

Pace Project No.: 60139568

Sample: **BM-022513-SB36-10-10.2** Lab ID: **60139568021** Collected: 02/25/13 13:30 Received: 03/01/13 03:10 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA Analytical Method: EPA 8260									
Acetone	ND	ug/kg	607	303	50		03/09/13 10:33	67-64-1	
Benzene	1280000	ug/kg	30300	15200	10000		03/11/13 16:57	71-43-2	
Bromobenzene	ND	ug/kg	152	75.8	50		03/09/13 10:33	108-86-1	
Bromochloromethane	ND	ug/kg	152	75.8	50		03/09/13 10:33	74-97-5	
Bromodichloromethane	ND	ug/kg	152	75.8	50		03/09/13 10:33	75-27-4	
Bromoform	ND	ug/kg	152	75.8	50		03/09/13 10:33	75-25-2	
Bromomethane	96.6J	ug/kg	152	75.8	50		03/09/13 10:33	74-83-9	M1
2-Butanone (MEK)	381	ug/kg	303	152	50		03/09/13 10:33	78-93-3	
n-Butylbenzene	254	ug/kg	152	75.8	50		03/09/13 10:33	104-51-8	
sec-Butylbenzene	889	ug/kg	152	75.8	50		03/09/13 10:33	135-98-8	
tert-Butylbenzene	165	ug/kg	152	75.8	50		03/09/13 10:33	98-06-6	
Carbon disulfide	ND	ug/kg	152	75.8	50		03/09/13 10:33	75-15-0	
Carbon tetrachloride	ND	ug/kg	152	75.8	50		03/09/13 10:33	56-23-5	
Chlorobenzene	1610	ug/kg	152	75.8	50		03/09/13 10:33	108-90-7	
Chloroethane	ND	ug/kg	152	75.8	50		03/09/13 10:33	75-00-3	
Chloroform	ND	ug/kg	152	75.8	50		03/09/13 10:33	67-66-3	
Chloromethane	126J	ug/kg	152	75.8	50		03/09/13 10:33	74-87-3	
2-Chlorotoluene	ND	ug/kg	152	75.8	50		03/09/13 10:33	95-49-8	
4-Chlorotoluene	ND	ug/kg	152	75.8	50		03/09/13 10:33	106-43-4	
1,2-Dibromo-3-chloropropane	ND	ug/kg	303	152	50		03/09/13 10:33	96-12-8	
Dibromochloromethane	ND	ug/kg	152	75.8	50		03/09/13 10:33	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/kg	152	75.8	50		03/09/13 10:33	106-93-4	
Dibromomethane	ND	ug/kg	152	75.8	50		03/09/13 10:33	74-95-3	
1,2-Dichlorobenzene	1790	ug/kg	152	75.8	50		03/09/13 10:33	95-50-1	
1,3-Dichlorobenzene	244	ug/kg	152	75.8	50		03/09/13 10:33	541-73-1	
1,4-Dichlorobenzene	3450	ug/kg	152	75.8	50		03/09/13 10:33	106-46-7	
Dichlorodifluoromethane	ND	ug/kg	152	75.8	50		03/09/13 10:33	75-71-8	
1,1-Dichloroethane	ND	ug/kg	152	75.8	50		03/09/13 10:33	75-34-3	
1,2-Dichloroethane	ND	ug/kg	152	75.8	50		03/09/13 10:33	107-06-2	M1
1,2-Dichloroethene (Total)	ND	ug/kg	152	75.8	50		03/09/13 10:33	540-59-0	
1,1-Dichloroethene	ND	ug/kg	152	75.8	50		03/09/13 10:33	75-35-4	
cis-1,2-Dichloroethene	ND	ug/kg	152	75.8	50		03/09/13 10:33	156-59-2	
trans-1,2-Dichloroethene	ND	ug/kg	152	75.8	50		03/09/13 10:33	156-60-5	
1,2-Dichloropropane	ND	ug/kg	152	75.8	50		03/09/13 10:33	78-87-5	
1,3-Dichloropropane	ND	ug/kg	152	75.8	50		03/09/13 10:33	142-28-9	
2,2-Dichloropropane	ND	ug/kg	152	75.8	50		03/09/13 10:33	594-20-7	
1,1-Dichloropropene	ND	ug/kg	152	75.8	50		03/09/13 10:33	563-58-6	
cis-1,3-Dichloropropene	ND	ug/kg	152	75.8	50		03/09/13 10:33	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/kg	152	75.8	50		03/09/13 10:33	10061-02-6	
Ethylbenzene	ND	ug/kg	152	75.8	50		03/09/13 10:33	100-41-4	
Hexachloro-1,3-butadiene	ND	ug/kg	152	75.8	50		03/09/13 10:33	87-68-3	
2-Hexanone	ND	ug/kg	607	303	50		03/09/13 10:33	591-78-6	
Isopropylbenzene (Cumene)	947	ug/kg	152	75.8	50		03/09/13 10:33	98-82-8	
p-Isopropyltoluene	111J	ug/kg	152	75.8	50		03/09/13 10:33	99-87-6	
Methylene chloride	ND	ug/kg	152	75.8	50		03/09/13 10:33	75-09-2	

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ANALYTICAL RESULTS

Project: Big MO Soil Sampling

Pace Project No.: 60139568

Sample: BM-022513-SB36-10-10.2 **Lab ID:** 60139568021 **Collected:** 02/25/13 13:30 **Received:** 03/01/13 03:10 **Matrix:** Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA									
Analytical Method: EPA 8260									
4-Methyl-2-pentanone (MIBK)	ND	ug/kg	303	152	50		03/09/13 10:33	108-10-1	
Methyl-tert-butyl ether	ND	ug/kg	152	75.8	50		03/09/13 10:33	1634-04-4	
Naphthalene	608	ug/kg	303	152	50		03/09/13 10:33	91-20-3	
n-Propylbenzene	1100	ug/kg	152	75.8	50		03/09/13 10:33	103-65-1	
Styrene	ND	ug/kg	152	75.8	50		03/09/13 10:33	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/kg	152	75.8	50		03/09/13 10:33	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/kg	152	75.8	50		03/09/13 10:33	79-34-5	
Tetrachloroethene	ND	ug/kg	152	75.8	50		03/09/13 10:33	127-18-4	
Toluene	90.3J	ug/kg	152	75.8	50		03/09/13 10:33	108-88-3	
1,2,3-Trichlorobenzene	306	ug/kg	152	75.8	50		03/09/13 10:33	87-61-6	
1,2,4-Trichlorobenzene	1630	ug/kg	152	75.8	50		03/09/13 10:33	120-82-1	
1,1,1-Trichloroethane	ND	ug/kg	152	75.8	50		03/09/13 10:33	71-55-6	
1,1,2-Trichloroethane	ND	ug/kg	152	75.8	50		03/09/13 10:33	79-00-5	M1
Trichloroethene	ND	ug/kg	152	75.8	50		03/09/13 10:33	79-01-6	
Trichlorofluoromethane	ND	ug/kg	152	75.8	50		03/09/13 10:33	75-69-4	
1,2,3-Trichloropropane	ND	ug/kg	152	75.8	50		03/09/13 10:33	96-18-4	
1,2,4-Trimethylbenzene	134J	ug/kg	152	75.8	50		03/09/13 10:33	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/kg	152	75.8	50		03/09/13 10:33	108-67-8	
Vinyl chloride	ND	ug/kg	152	75.8	50		03/09/13 10:33	75-01-4	
Xylene (Total)	ND	ug/kg	152	75.8	50		03/09/13 10:33	1330-20-7	
Surrogates									
Dibromofluoromethane (S)	80	%	76-125		50		03/09/13 10:33	1868-53-7	
Toluene-d8 (S)	96	%	80-120		50		03/09/13 10:33	2037-26-5	
4-Bromofluorobenzene (S)	114	%	80-120		50		03/09/13 10:33	460-00-4	
1,2-Dichloroethane-d4 (S)	89	%	76-132		50		03/09/13 10:33	17060-07-0	
Percent Moisture									
Analytical Method: ASTM D2974									
Percent Moisture	11.7	%	0.50	0.50	1		03/06/13 00:00		

ANALYTICAL RESULTS

Project: Big MO Soil Sampling

Pace Project No.: 60139568

Sample: BM-022513-SB36-11.9-12.1 Lab ID: 60139568022 Collected: 02/25/13 13:45 Received: 03/01/13 03:10 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA		Analytical Method: EPA 8260							
Acetone	ND	ug/kg	46000	23000	2000		03/10/13 11:20	67-64-1	
Benzene	3020000	ug/kg	77400	38700	20000		03/11/13 17:13	71-43-2	
Bromobenzene	ND	ug/kg	11500	5740	2000		03/10/13 11:20	108-86-1	
Bromochloromethane	ND	ug/kg	11500	5740	2000		03/10/13 11:20	74-97-5	
Bromodichloromethane	ND	ug/kg	11500	5740	2000		03/10/13 11:20	75-27-4	
Bromoform	ND	ug/kg	11500	5740	2000		03/10/13 11:20	75-25-2	
Bromomethane	ND	ug/kg	11500	5740	2000		03/10/13 11:20	74-83-9	
2-Butanone (MEK)	ND	ug/kg	23000	11500	2000		03/10/13 11:20	78-93-3	
n-Butylbenzene	ND	ug/kg	11500	5740	2000		03/10/13 11:20	104-51-8	
sec-Butylbenzene	ND	ug/kg	11500	5740	2000		03/10/13 11:20	135-98-8	
tert-Butylbenzene	ND	ug/kg	11500	5740	2000		03/10/13 11:20	98-06-6	
Carbon disulfide	ND	ug/kg	11500	5740	2000		03/10/13 11:20	75-15-0	
Carbon tetrachloride	ND	ug/kg	11500	5740	2000		03/10/13 11:20	56-23-5	
Chlorobenzene	ND	ug/kg	11500	5740	2000		03/10/13 11:20	108-90-7	
Chloroethane	ND	ug/kg	11500	5740	2000		03/10/13 11:20	75-00-3	
Chloroform	ND	ug/kg	11500	5740	2000		03/10/13 11:20	67-66-3	
Chloromethane	ND	ug/kg	11500	5740	2000		03/10/13 11:20	74-87-3	
2-Chlorotoluene	ND	ug/kg	11500	5740	2000		03/10/13 11:20	95-49-8	
4-Chlorotoluene	ND	ug/kg	11500	5740	2000		03/10/13 11:20	106-43-4	
1,2-Dibromo-3-chloropropane	ND	ug/kg	23000	11500	2000		03/10/13 11:20	96-12-8	
Dibromochloromethane	ND	ug/kg	11500	5740	2000		03/10/13 11:20	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/kg	11500	5740	2000		03/10/13 11:20	106-93-4	
Dibromomethane	ND	ug/kg	11500	5740	2000		03/10/13 11:20	74-95-3	
1,2-Dichlorobenzene	ND	ug/kg	11500	5740	2000		03/10/13 11:20	95-50-1	
1,3-Dichlorobenzene	ND	ug/kg	11500	5740	2000		03/10/13 11:20	541-73-1	
1,4-Dichlorobenzene	ND	ug/kg	11500	5740	2000		03/10/13 11:20	106-46-7	
Dichlorodifluoromethane	ND	ug/kg	11500	5740	2000		03/10/13 11:20	75-71-8	
1,1-Dichloroethane	ND	ug/kg	11500	5740	2000		03/10/13 11:20	75-34-3	
1,2-Dichloroethane	ND	ug/kg	11500	5740	2000		03/10/13 11:20	107-06-2	
1,2-Dichloroethene (Total)	ND	ug/kg	11500	5740	2000		03/10/13 11:20	540-59-0	
1,1-Dichloroethene	ND	ug/kg	11500	5740	2000		03/10/13 11:20	75-35-4	
cis-1,2-Dichloroethene	ND	ug/kg	11500	5740	2000		03/10/13 11:20	156-59-2	
trans-1,2-Dichloroethene	ND	ug/kg	11500	5740	2000		03/10/13 11:20	156-60-5	
1,2-Dichloropropane	ND	ug/kg	11500	5740	2000		03/10/13 11:20	78-87-5	
1,3-Dichloropropane	ND	ug/kg	11500	5740	2000		03/10/13 11:20	142-28-9	
2,2-Dichloropropane	ND	ug/kg	11500	5740	2000		03/10/13 11:20	594-20-7	
1,1-Dichloropropene	ND	ug/kg	11500	5740	2000		03/10/13 11:20	563-58-6	
cis-1,3-Dichloropropene	ND	ug/kg	11500	5740	2000		03/10/13 11:20	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/kg	11500	5740	2000		03/10/13 11:20	10061-02-6	
Ethylbenzene	ND	ug/kg	11500	5740	2000		03/10/13 11:20	100-41-4	
Hexachloro-1,3-butadiene	ND	ug/kg	11500	5740	2000		03/10/13 11:20	87-68-3	
2-Hexanone	ND	ug/kg	46000	23000	2000		03/10/13 11:20	591-78-6	
Isopropylbenzene (Cumene)	ND	ug/kg	11500	5740	2000		03/10/13 11:20	98-82-8	
p-Isopropyltoluene	ND	ug/kg	11500	5740	2000		03/10/13 11:20	99-87-6	
Methylene chloride	ND	ug/kg	11500	5740	2000		03/10/13 11:20	75-09-2	

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ANALYTICAL RESULTS

Project: Big MO Soil Sampling

Pace Project No.: 60139568

Sample: BM-022513-SB36-11.9-12.1 **Lab ID:** 60139568022 **Collected:** 02/25/13 13:45 **Received:** 03/01/13 03:10 **Matrix:** Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA									
Analytical Method: EPA 8260									
4-Methyl-2-pentanone (MIBK)	ND	ug/kg	23000	11500	2000		03/10/13 11:20	108-10-1	
Methyl-tert-butyl ether	ND	ug/kg	11500	5740	2000		03/10/13 11:20	1634-04-4	
Naphthalene	ND	ug/kg	23000	11500	2000		03/10/13 11:20	91-20-3	
n-Propylbenzene	ND	ug/kg	11500	5740	2000		03/10/13 11:20	103-65-1	
Styrene	ND	ug/kg	11500	5740	2000		03/10/13 11:20	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/kg	11500	5740	2000		03/10/13 11:20	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/kg	11500	5740	2000		03/10/13 11:20	79-34-5	
Tetrachloroethene	ND	ug/kg	11500	5740	2000		03/10/13 11:20	127-18-4	
Toluene	ND	ug/kg	11500	5740	2000		03/10/13 11:20	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/kg	11500	5740	2000		03/10/13 11:20	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/kg	11500	5740	2000		03/10/13 11:20	120-82-1	
1,1,1-Trichloroethane	ND	ug/kg	11500	5740	2000		03/10/13 11:20	71-55-6	
1,1,2-Trichloroethane	ND	ug/kg	11500	5740	2000		03/10/13 11:20	79-00-5	
Trichloroethene	ND	ug/kg	11500	5740	2000		03/10/13 11:20	79-01-6	
Trichlorofluoromethane	ND	ug/kg	11500	5740	2000		03/10/13 11:20	75-69-4	
1,2,3-Trichloropropane	ND	ug/kg	11500	5740	2000		03/10/13 11:20	96-18-4	
1,2,4-Trimethylbenzene	ND	ug/kg	11500	5740	2000		03/10/13 11:20	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/kg	11500	5740	2000		03/10/13 11:20	108-67-8	
Vinyl chloride	ND	ug/kg	11500	5740	2000		03/10/13 11:20	75-01-4	
Xylene (Total)	ND	ug/kg	11500	5740	2000		03/10/13 11:20	1330-20-7	
Surrogates									
Dibromofluoromethane (S)	98 %		76-125		2000		03/10/13 11:20	1868-53-7	
Toluene-d8 (S)	98 %		80-120		2000		03/10/13 11:20	2037-26-5	
4-Bromofluorobenzene (S)	98 %		80-120		2000		03/10/13 11:20	460-00-4	
1,2-Dichloroethane-d4 (S)	100 %		76-132		2000		03/10/13 11:20	17060-07-0	
Percent Moisture									
Analytical Method: ASTM D2974									
Percent Moisture	13.0 %		0.50	0.50	1		03/06/13 00:00		

ANALYTICAL RESULTS

Project: Big MO Soil Sampling

Pace Project No.: 60139568

Sample: **BM-022513-SB36-13-13.5** Lab ID: **60139568023** Collected: 02/25/13 14:00 Received: 03/01/13 03:10 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA		Analytical Method: EPA 8260							
Acetone	ND	ug/kg	688	344	50		03/09/13 11:34	67-64-1	
Benzene	2170000	ug/kg	68800	34400	20000		03/11/13 17:28	71-43-2	
Bromobenzene	ND	ug/kg	172	86.0	50		03/09/13 11:34	108-86-1	
Bromochloromethane	ND	ug/kg	172	86.0	50		03/09/13 11:34	74-97-5	
Bromodichloromethane	ND	ug/kg	172	86.0	50		03/09/13 11:34	75-27-4	
Bromoform	ND	ug/kg	172	86.0	50		03/09/13 11:34	75-25-2	
Bromomethane	ND	ug/kg	172	86.0	50		03/09/13 11:34	74-83-9	
2-Butanone (MEK)	442	ug/kg	344	172	50		03/09/13 11:34	78-93-3	
n-Butylbenzene	236	ug/kg	172	86.0	50		03/09/13 11:34	104-51-8	
sec-Butylbenzene	928	ug/kg	172	86.0	50		03/09/13 11:34	135-98-8	
tert-Butylbenzene	180	ug/kg	172	86.0	50		03/09/13 11:34	98-06-6	
Carbon disulfide	ND	ug/kg	172	86.0	50		03/09/13 11:34	75-15-0	
Carbon tetrachloride	ND	ug/kg	172	86.0	50		03/09/13 11:34	56-23-5	
Chlorobenzene	332	ug/kg	172	86.0	50		03/09/13 11:34	108-90-7	
Chloroethane	ND	ug/kg	172	86.0	50		03/09/13 11:34	75-00-3	
Chloroform	ND	ug/kg	172	86.0	50		03/09/13 11:34	67-66-3	
Chloromethane	193	ug/kg	172	86.0	50		03/09/13 11:34	74-87-3	
2-Chlorotoluene	ND	ug/kg	172	86.0	50		03/09/13 11:34	95-49-8	
4-Chlorotoluene	ND	ug/kg	172	86.0	50		03/09/13 11:34	106-43-4	
1,2-Dibromo-3-chloropropane	ND	ug/kg	344	172	50		03/09/13 11:34	96-12-8	
Dibromochloromethane	ND	ug/kg	172	86.0	50		03/09/13 11:34	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/kg	172	86.0	50		03/09/13 11:34	106-93-4	
Dibromomethane	ND	ug/kg	172	86.0	50		03/09/13 11:34	74-95-3	
1,2-Dichlorobenzene	ND	ug/kg	172	86.0	50		03/09/13 11:34	95-50-1	
1,3-Dichlorobenzene	ND	ug/kg	172	86.0	50		03/09/13 11:34	541-73-1	
1,4-Dichlorobenzene	146J	ug/kg	172	86.0	50		03/09/13 11:34	106-46-7	
Dichlorodifluoromethane	ND	ug/kg	172	86.0	50		03/09/13 11:34	75-71-8	
1,1-Dichloroethane	ND	ug/kg	172	86.0	50		03/09/13 11:34	75-34-3	
1,2-Dichloroethane	ND	ug/kg	172	86.0	50		03/09/13 11:34	107-06-2	
1,2-Dichloroethene (Total)	ND	ug/kg	172	86.0	50		03/09/13 11:34	540-59-0	
1,1-Dichloroethene	ND	ug/kg	172	86.0	50		03/09/13 11:34	75-35-4	
cis-1,2-Dichloroethene	ND	ug/kg	172	86.0	50		03/09/13 11:34	156-59-2	
trans-1,2-Dichloroethene	ND	ug/kg	172	86.0	50		03/09/13 11:34	156-60-5	
1,2-Dichloropropane	ND	ug/kg	172	86.0	50		03/09/13 11:34	78-87-5	
1,3-Dichloropropane	ND	ug/kg	172	86.0	50		03/09/13 11:34	142-28-9	
2,2-Dichloropropane	ND	ug/kg	172	86.0	50		03/09/13 11:34	594-20-7	
1,1-Dichloropropene	ND	ug/kg	172	86.0	50		03/09/13 11:34	563-58-6	
cis-1,3-Dichloropropene	ND	ug/kg	172	86.0	50		03/09/13 11:34	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/kg	172	86.0	50		03/09/13 11:34	10061-02-6	
Ethylbenzene	ND	ug/kg	172	86.0	50		03/09/13 11:34	100-41-4	
Hexachloro-1,3-butadiene	ND	ug/kg	172	86.0	50		03/09/13 11:34	87-68-3	
2-Hexanone	12200	ug/kg	688	344	50		03/09/13 11:34	591-78-6	
Isopropylbenzene (Cumene)	780	ug/kg	172	86.0	50		03/09/13 11:34	98-82-8	
p-Isopropyltoluene	ND	ug/kg	172	86.0	50		03/09/13 11:34	99-87-6	
Methylene chloride	ND	ug/kg	172	86.0	50		03/09/13 11:34	75-09-2	

Date: 03/15/2013 10:48 AM

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Big MO Soil Sampling

Pace Project No.: 60139568

Sample: BM-022513-SB36-13-13.5 **Lab ID: 60139568023** Collected: 02/25/13 14:00 Received: 03/01/13 03:10 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA Analytical Method: EPA 8260									
4-Methyl-2-pentanone (MIBK)	ND	ug/kg	344	172	50		03/09/13 11:34	108-10-1	
Methyl-tert-butyl ether	ND	ug/kg	172	86.0	50		03/09/13 11:34	1634-04-4	
Naphthalene	491	ug/kg	344	172	50		03/09/13 11:34	91-20-3	
n-Propylbenzene	901	ug/kg	172	86.0	50		03/09/13 11:34	103-65-1	
Styrene	ND	ug/kg	172	86.0	50		03/09/13 11:34	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/kg	172	86.0	50		03/09/13 11:34	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/kg	172	86.0	50		03/09/13 11:34	79-34-5	
Tetrachloroethene	ND	ug/kg	172	86.0	50		03/09/13 11:34	127-18-4	
Toluene	ND	ug/kg	172	86.0	50		03/09/13 11:34	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/kg	172	86.0	50		03/09/13 11:34	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/kg	172	86.0	50		03/09/13 11:34	120-82-1	
1,1,1-Trichloroethane	ND	ug/kg	172	86.0	50		03/09/13 11:34	71-55-6	
1,1,2-Trichloroethane	ND	ug/kg	172	86.0	50		03/09/13 11:34	79-00-5	
Trichloroethene	ND	ug/kg	172	86.0	50		03/09/13 11:34	79-01-6	
Trichlorofluoromethane	ND	ug/kg	172	86.0	50		03/09/13 11:34	75-69-4	
1,2,3-Trichloropropane	ND	ug/kg	172	86.0	50		03/09/13 11:34	96-18-4	
1,2,4-Trimethylbenzene	107J	ug/kg	172	86.0	50		03/09/13 11:34	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/kg	172	86.0	50		03/09/13 11:34	108-67-8	
Vinyl chloride	ND	ug/kg	172	86.0	50		03/09/13 11:34	75-01-4	
Xylene (Total)	ND	ug/kg	172	86.0	50		03/09/13 11:34	1330-20-7	
Surrogates									
Dibromofluoromethane (S)	82	%	76-125		50		03/09/13 11:34	1868-53-7	
Toluene-d8 (S)	94	%	80-120		50		03/09/13 11:34	2037-26-5	
4-Bromofluorobenzene (S)	118	%	80-120		50		03/09/13 11:34	460-00-4	
1,2-Dichloroethane-d4 (S)	86	%	76-132		50		03/09/13 11:34	17060-07-0	
Percent Moisture Analytical Method: ASTM D2974									
Percent Moisture	5.8	%	0.50	0.50	1		03/06/13 00:00		

ANALYTICAL RESULTS

Project: Big MO Soil Sampling

Pace Project No.: 60139568

Sample: TB-05 Lab ID: 60139568024 Collected: 02/27/13 08:00 Received: 03/01/13 03:10 Matrix: Solid

Results reported on a "wet-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA		Analytical Method: EPA 8260							
Acetone	ND	ug/kg	20.0	10.0	1		03/09/13 15:04	67-64-1	
Benzene	ND	ug/kg	5.0	2.5	1		03/09/13 15:04	71-43-2	
Bromobenzene	ND	ug/kg	5.0	2.5	1		03/09/13 15:04	108-86-1	
Bromochloromethane	ND	ug/kg	5.0	2.5	1		03/09/13 15:04	74-97-5	
Bromodichloromethane	ND	ug/kg	5.0	2.5	1		03/09/13 15:04	75-27-4	
Bromoform	ND	ug/kg	5.0	2.5	1		03/09/13 15:04	75-25-2	
Bromomethane	ND	ug/kg	5.0	2.5	1		03/09/13 15:04	74-83-9	
2-Butanone (MEK)	ND	ug/kg	10.0	5.0	1		03/09/13 15:04	78-93-3	
n-Butylbenzene	ND	ug/kg	5.0	2.5	1		03/09/13 15:04	104-51-8	
sec-Butylbenzene	ND	ug/kg	5.0	2.5	1		03/09/13 15:04	135-98-8	
tert-Butylbenzene	ND	ug/kg	5.0	2.5	1		03/09/13 15:04	98-06-6	
Carbon disulfide	ND	ug/kg	5.0	2.5	1		03/09/13 15:04	75-15-0	
Carbon tetrachloride	ND	ug/kg	5.0	2.5	1		03/09/13 15:04	56-23-5	
Chlorobenzene	ND	ug/kg	5.0	2.5	1		03/09/13 15:04	108-90-7	
Chloroethane	ND	ug/kg	5.0	2.5	1		03/09/13 15:04	75-00-3	
Chloroform	ND	ug/kg	5.0	2.5	1		03/09/13 15:04	67-66-3	
Chloromethane	ND	ug/kg	5.0	2.5	1		03/09/13 15:04	74-87-3	
2-Chlorotoluene	ND	ug/kg	5.0	2.5	1		03/09/13 15:04	95-49-8	
4-Chlorotoluene	ND	ug/kg	5.0	2.5	1		03/09/13 15:04	106-43-4	
1,2-Dibromo-3-chloropropane	ND	ug/kg	10.0	5.0	1		03/09/13 15:04	96-12-8	
Dibromochloromethane	ND	ug/kg	5.0	2.5	1		03/09/13 15:04	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/kg	5.0	2.5	1		03/09/13 15:04	106-93-4	
Dibromomethane	ND	ug/kg	5.0	2.5	1		03/09/13 15:04	74-95-3	
1,2-Dichlorobenzene	ND	ug/kg	5.0	2.5	1		03/09/13 15:04	95-50-1	
1,3-Dichlorobenzene	ND	ug/kg	5.0	2.5	1		03/09/13 15:04	541-73-1	
1,4-Dichlorobenzene	ND	ug/kg	5.0	2.5	1		03/09/13 15:04	106-46-7	
Dichlorodifluoromethane	ND	ug/kg	5.0	2.5	1		03/09/13 15:04	75-71-8	
1,1-Dichloroethane	ND	ug/kg	5.0	2.5	1		03/09/13 15:04	75-34-3	
1,2-Dichloroethane	ND	ug/kg	5.0	2.5	1		03/09/13 15:04	107-06-2	
1,2-Dichloroethene (Total)	ND	ug/kg	5.0	2.5	1		03/09/13 15:04	540-59-0	
1,1-Dichloroethene	ND	ug/kg	5.0	2.5	1		03/09/13 15:04	75-35-4	
cis-1,2-Dichloroethene	ND	ug/kg	5.0	2.5	1		03/09/13 15:04	156-59-2	
trans-1,2-Dichloroethene	ND	ug/kg	5.0	2.5	1		03/09/13 15:04	156-60-5	
1,2-Dichloropropane	ND	ug/kg	5.0	2.5	1		03/09/13 15:04	78-87-5	
1,3-Dichloropropane	ND	ug/kg	5.0	2.5	1		03/09/13 15:04	142-28-9	
2,2-Dichloropropane	ND	ug/kg	5.0	2.5	1		03/09/13 15:04	594-20-7	
1,1-Dichloropropene	ND	ug/kg	5.0	2.5	1		03/09/13 15:04	563-58-6	
cis-1,3-Dichloropropene	ND	ug/kg	5.0	2.5	1		03/09/13 15:04	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/kg	5.0	2.5	1		03/09/13 15:04	10061-02-6	
Ethylbenzene	ND	ug/kg	5.0	2.5	1		03/09/13 15:04	100-41-4	
Hexachloro-1,3-butadiene	ND	ug/kg	5.0	2.5	1		03/09/13 15:04	87-68-3	
2-Hexanone	ND	ug/kg	20.0	10.0	1		03/09/13 15:04	591-78-6	
Isopropylbenzene (Cumene)	ND	ug/kg	5.0	2.5	1		03/09/13 15:04	98-82-8	
p-Isopropyltoluene	ND	ug/kg	5.0	2.5	1		03/09/13 15:04	99-87-6	
Methylene chloride	ND	ug/kg	5.0	2.5	1		03/09/13 15:04	75-09-2	

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REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Big MO Soil Sampling

Pace Project No.: 60139568

Sample: TB-05 **Lab ID: 60139568024** Collected: 02/27/13 08:00 Received: 03/01/13 03:10 Matrix: Solid

Results reported on a "wet-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA Analytical Method: EPA 8260									
4-Methyl-2-pentanone (MIBK)	ND	ug/kg	10.0	5.0	1		03/09/13 15:04	108-10-1	
Methyl-tert-butyl ether	ND	ug/kg	5.0	2.5	1		03/09/13 15:04	1634-04-4	
Naphthalene	ND	ug/kg	10.0	5.0	1		03/09/13 15:04	91-20-3	
n-Propylbenzene	ND	ug/kg	5.0	2.5	1		03/09/13 15:04	103-65-1	
Styrene	ND	ug/kg	5.0	2.5	1		03/09/13 15:04	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/kg	5.0	2.5	1		03/09/13 15:04	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/kg	5.0	2.5	1		03/09/13 15:04	79-34-5	
Tetrachloroethene	ND	ug/kg	5.0	2.5	1		03/09/13 15:04	127-18-4	
Toluene	ND	ug/kg	5.0	2.5	1		03/09/13 15:04	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/kg	5.0	2.5	1		03/09/13 15:04	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/kg	5.0	2.5	1		03/09/13 15:04	120-82-1	
1,1,1-Trichloroethane	ND	ug/kg	5.0	2.5	1		03/09/13 15:04	71-55-6	
1,1,2-Trichloroethane	ND	ug/kg	5.0	2.5	1		03/09/13 15:04	79-00-5	
Trichloroethene	ND	ug/kg	5.0	2.5	1		03/09/13 15:04	79-01-6	
Trichlorofluoromethane	ND	ug/kg	5.0	2.5	1		03/09/13 15:04	75-69-4	
1,2,3-Trichloropropane	ND	ug/kg	5.0	2.5	1		03/09/13 15:04	96-18-4	
1,2,4-Trimethylbenzene	ND	ug/kg	5.0	2.5	1		03/09/13 15:04	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/kg	5.0	2.5	1		03/09/13 15:04	108-67-8	
Vinyl chloride	ND	ug/kg	5.0	2.5	1		03/09/13 15:04	75-01-4	
Xylene (Total)	ND	ug/kg	5.0	2.5	1		03/09/13 15:04	1330-20-7	
Surrogates									
Dibromofluoromethane (S)	98 %		76-125		1		03/09/13 15:04	1868-53-7	
Toluene-d8 (S)	99 %		80-120		1		03/09/13 15:04	2037-26-5	
4-Bromofluorobenzene (S)	99 %		80-120		1		03/09/13 15:04	460-00-4	
1,2-Dichloroethane-d4 (S)	97 %		76-132		1		03/09/13 15:04	17060-07-0	

ANALYTICAL RESULTS

Project: Big MO Soil Sampling

Pace Project No.: 60139568

Sample: TB-06 **Lab ID: 60139568025** Collected: 02/27/13 08:00 Received: 03/01/13 03:10 Matrix: Solid

Results reported on a "wet-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA		Analytical Method: EPA 8260							
Acetone	ND	ug/kg	20.0	10.0	1		03/09/13 15:19	67-64-1	
Benzene	ND	ug/kg	5.0	2.5	1		03/09/13 15:19	71-43-2	
Bromobenzene	ND	ug/kg	5.0	2.5	1		03/09/13 15:19	108-86-1	
Bromochloromethane	ND	ug/kg	5.0	2.5	1		03/09/13 15:19	74-97-5	
Bromodichloromethane	ND	ug/kg	5.0	2.5	1		03/09/13 15:19	75-27-4	
Bromoform	ND	ug/kg	5.0	2.5	1		03/09/13 15:19	75-25-2	
Bromomethane	ND	ug/kg	5.0	2.5	1		03/09/13 15:19	74-83-9	
2-Butanone (MEK)	ND	ug/kg	10.0	5.0	1		03/09/13 15:19	78-93-3	
n-Butylbenzene	ND	ug/kg	5.0	2.5	1		03/09/13 15:19	104-51-8	
sec-Butylbenzene	ND	ug/kg	5.0	2.5	1		03/09/13 15:19	135-98-8	
tert-Butylbenzene	ND	ug/kg	5.0	2.5	1		03/09/13 15:19	98-06-6	
Carbon disulfide	ND	ug/kg	5.0	2.5	1		03/09/13 15:19	75-15-0	
Carbon tetrachloride	ND	ug/kg	5.0	2.5	1		03/09/13 15:19	56-23-5	
Chlorobenzene	ND	ug/kg	5.0	2.5	1		03/09/13 15:19	108-90-7	
Chloroethane	ND	ug/kg	5.0	2.5	1		03/09/13 15:19	75-00-3	
Chloroform	ND	ug/kg	5.0	2.5	1		03/09/13 15:19	67-66-3	
Chloromethane	ND	ug/kg	5.0	2.5	1		03/09/13 15:19	74-87-3	
2-Chlorotoluene	ND	ug/kg	5.0	2.5	1		03/09/13 15:19	95-49-8	
4-Chlorotoluene	ND	ug/kg	5.0	2.5	1		03/09/13 15:19	106-43-4	
1,2-Dibromo-3-chloropropane	ND	ug/kg	10.0	5.0	1		03/09/13 15:19	96-12-8	
Dibromochloromethane	ND	ug/kg	5.0	2.5	1		03/09/13 15:19	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/kg	5.0	2.5	1		03/09/13 15:19	106-93-4	
Dibromomethane	ND	ug/kg	5.0	2.5	1		03/09/13 15:19	74-95-3	
1,2-Dichlorobenzene	ND	ug/kg	5.0	2.5	1		03/09/13 15:19	95-50-1	
1,3-Dichlorobenzene	ND	ug/kg	5.0	2.5	1		03/09/13 15:19	541-73-1	
1,4-Dichlorobenzene	ND	ug/kg	5.0	2.5	1		03/09/13 15:19	106-46-7	
Dichlorodifluoromethane	ND	ug/kg	5.0	2.5	1		03/09/13 15:19	75-71-8	
1,1-Dichloroethane	ND	ug/kg	5.0	2.5	1		03/09/13 15:19	75-34-3	
1,2-Dichloroethane	ND	ug/kg	5.0	2.5	1		03/09/13 15:19	107-06-2	
1,2-Dichloroethene (Total)	ND	ug/kg	5.0	2.5	1		03/09/13 15:19	540-59-0	
1,1-Dichloroethene	ND	ug/kg	5.0	2.5	1		03/09/13 15:19	75-35-4	
cis-1,2-Dichloroethene	ND	ug/kg	5.0	2.5	1		03/09/13 15:19	156-59-2	
trans-1,2-Dichloroethene	ND	ug/kg	5.0	2.5	1		03/09/13 15:19	156-60-5	
1,2-Dichloropropane	ND	ug/kg	5.0	2.5	1		03/09/13 15:19	78-87-5	
1,3-Dichloropropane	ND	ug/kg	5.0	2.5	1		03/09/13 15:19	142-28-9	
2,2-Dichloropropane	ND	ug/kg	5.0	2.5	1		03/09/13 15:19	594-20-7	
1,1-Dichloropropene	ND	ug/kg	5.0	2.5	1		03/09/13 15:19	563-58-6	
cis-1,3-Dichloropropene	ND	ug/kg	5.0	2.5	1		03/09/13 15:19	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/kg	5.0	2.5	1		03/09/13 15:19	10061-02-6	
Ethylbenzene	ND	ug/kg	5.0	2.5	1		03/09/13 15:19	100-41-4	
Hexachloro-1,3-butadiene	ND	ug/kg	5.0	2.5	1		03/09/13 15:19	87-68-3	
2-Hexanone	ND	ug/kg	20.0	10.0	1		03/09/13 15:19	591-78-6	
Isopropylbenzene (Cumene)	ND	ug/kg	5.0	2.5	1		03/09/13 15:19	98-82-8	
p-Isopropyltoluene	ND	ug/kg	5.0	2.5	1		03/09/13 15:19	99-87-6	
Methylene chloride	ND	ug/kg	5.0	2.5	1		03/09/13 15:19	75-09-2	

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ANALYTICAL RESULTS

Project: Big MO Soil Sampling

Pace Project No.: 60139568

Sample: TB-06 **Lab ID: 60139568025** Collected: 02/27/13 08:00 Received: 03/01/13 03:10 Matrix: Solid

Results reported on a "wet-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA Analytical Method: EPA 8260									
4-Methyl-2-pentanone (MIBK)	ND	ug/kg	10.0	5.0	1		03/09/13 15:19	108-10-1	
Methyl-tert-butyl ether	ND	ug/kg	5.0	2.5	1		03/09/13 15:19	1634-04-4	
Naphthalene	ND	ug/kg	10.0	5.0	1		03/09/13 15:19	91-20-3	
n-Propylbenzene	ND	ug/kg	5.0	2.5	1		03/09/13 15:19	103-65-1	
Styrene	ND	ug/kg	5.0	2.5	1		03/09/13 15:19	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/kg	5.0	2.5	1		03/09/13 15:19	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/kg	5.0	2.5	1		03/09/13 15:19	79-34-5	
Tetrachloroethene	ND	ug/kg	5.0	2.5	1		03/09/13 15:19	127-18-4	
Toluene	ND	ug/kg	5.0	2.5	1		03/09/13 15:19	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/kg	5.0	2.5	1		03/09/13 15:19	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/kg	5.0	2.5	1		03/09/13 15:19	120-82-1	
1,1,1-Trichloroethane	ND	ug/kg	5.0	2.5	1		03/09/13 15:19	71-55-6	
1,1,2-Trichloroethane	ND	ug/kg	5.0	2.5	1		03/09/13 15:19	79-00-5	
Trichloroethene	ND	ug/kg	5.0	2.5	1		03/09/13 15:19	79-01-6	
Trichlorofluoromethane	ND	ug/kg	5.0	2.5	1		03/09/13 15:19	75-69-4	
1,2,3-Trichloropropane	ND	ug/kg	5.0	2.5	1		03/09/13 15:19	96-18-4	
1,2,4-Trimethylbenzene	ND	ug/kg	5.0	2.5	1		03/09/13 15:19	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/kg	5.0	2.5	1		03/09/13 15:19	108-67-8	
Vinyl chloride	ND	ug/kg	5.0	2.5	1		03/09/13 15:19	75-01-4	
Xylene (Total)	ND	ug/kg	5.0	2.5	1		03/09/13 15:19	1330-20-7	
Surrogates									
Dibromofluoromethane (S)	99 %		76-125		1		03/09/13 15:19	1868-53-7	
Toluene-d8 (S)	101 %		80-120		1		03/09/13 15:19	2037-26-5	
4-Bromofluorobenzene (S)	96 %		80-120		1		03/09/13 15:19	460-00-4	
1,2-Dichloroethane-d4 (S)	97 %		76-132		1		03/09/13 15:19	17060-07-0	

ANALYTICAL RESULTS

Project: Big MO Soil Sampling

Pace Project No.: 60139568

Sample: **BM-022613-SB69-10.7-10.9** Lab ID: **60139568026** Collected: 02/26/13 09:00 Received: 03/01/13 03:10 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA		Analytical Method: EPA 8260							
Acetone	ND	ug/kg	3950	1980	250		03/09/13 23:00	67-64-1	
Benzene	18300	ug/kg	988	494	250		03/09/13 23:00	71-43-2	
Bromobenzene	ND	ug/kg	988	494	250		03/09/13 23:00	108-86-1	
Bromochloromethane	ND	ug/kg	988	494	250		03/09/13 23:00	74-97-5	
Bromodichloromethane	ND	ug/kg	988	494	250		03/09/13 23:00	75-27-4	
Bromoform	ND	ug/kg	988	494	250		03/09/13 23:00	75-25-2	
Bromomethane	ND	ug/kg	988	494	250		03/09/13 23:00	74-83-9	
2-Butanone (MEK)	ND	ug/kg	1980	988	250		03/09/13 23:00	78-93-3	
n-Butylbenzene	ND	ug/kg	988	494	250		03/09/13 23:00	104-51-8	
sec-Butylbenzene	ND	ug/kg	988	494	250		03/09/13 23:00	135-98-8	
tert-Butylbenzene	ND	ug/kg	988	494	250		03/09/13 23:00	98-06-6	
Carbon disulfide	ND	ug/kg	988	494	250		03/09/13 23:00	75-15-0	
Carbon tetrachloride	ND	ug/kg	988	494	250		03/09/13 23:00	56-23-5	
Chlorobenzene	ND	ug/kg	988	494	250		03/09/13 23:00	108-90-7	
Chloroethane	ND	ug/kg	988	494	250		03/09/13 23:00	75-00-3	
Chloroform	ND	ug/kg	988	494	250		03/09/13 23:00	67-66-3	
Chloromethane	ND	ug/kg	988	494	250		03/09/13 23:00	74-87-3	
2-Chlorotoluene	ND	ug/kg	988	494	250		03/09/13 23:00	95-49-8	
4-Chlorotoluene	ND	ug/kg	988	494	250		03/09/13 23:00	106-43-4	
1,2-Dibromo-3-chloropropane	ND	ug/kg	1980	988	250		03/09/13 23:00	96-12-8	
Dibromochloromethane	ND	ug/kg	988	494	250		03/09/13 23:00	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/kg	988	494	250		03/09/13 23:00	106-93-4	
Dibromomethane	ND	ug/kg	988	494	250		03/09/13 23:00	74-95-3	
1,2-Dichlorobenzene	ND	ug/kg	988	494	250		03/09/13 23:00	95-50-1	
1,3-Dichlorobenzene	ND	ug/kg	988	494	250		03/09/13 23:00	541-73-1	
1,4-Dichlorobenzene	2410	ug/kg	988	494	250		03/09/13 23:00	106-46-7	
Dichlorodifluoromethane	ND	ug/kg	988	494	250		03/09/13 23:00	75-71-8	
1,1-Dichloroethane	ND	ug/kg	988	494	250		03/09/13 23:00	75-34-3	
1,2-Dichloroethane	ND	ug/kg	988	494	250		03/09/13 23:00	107-06-2	
1,2-Dichloroethene (Total)	ND	ug/kg	988	494	250		03/09/13 23:00	540-59-0	
1,1-Dichloroethene	ND	ug/kg	988	494	250		03/09/13 23:00	75-35-4	
cis-1,2-Dichloroethene	ND	ug/kg	988	494	250		03/09/13 23:00	156-59-2	
trans-1,2-Dichloroethene	ND	ug/kg	988	494	250		03/09/13 23:00	156-60-5	
1,2-Dichloropropane	ND	ug/kg	988	494	250		03/09/13 23:00	78-87-5	
1,3-Dichloropropane	ND	ug/kg	988	494	250		03/09/13 23:00	142-28-9	
2,2-Dichloropropane	ND	ug/kg	988	494	250		03/09/13 23:00	594-20-7	
1,1-Dichloropropene	ND	ug/kg	988	494	250		03/09/13 23:00	563-58-6	
cis-1,3-Dichloropropene	ND	ug/kg	988	494	250		03/09/13 23:00	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/kg	988	494	250		03/09/13 23:00	10061-02-6	
Ethylbenzene	702J	ug/kg	988	494	250		03/09/13 23:00	100-41-4	
Hexachloro-1,3-butadiene	ND	ug/kg	988	494	250		03/09/13 23:00	87-68-3	
2-Hexanone	ND	ug/kg	3950	1980	250		03/09/13 23:00	591-78-6	
Isopropylbenzene (Cumene)	ND	ug/kg	988	494	250		03/09/13 23:00	98-82-8	
p-Isopropyltoluene	ND	ug/kg	988	494	250		03/09/13 23:00	99-87-6	
Methylene chloride	ND	ug/kg	988	494	250		03/09/13 23:00	75-09-2	

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ANALYTICAL RESULTS

Project: Big MO Soil Sampling

Pace Project No.: 60139568

Sample: BM-022613-SB69-10.7-10.9 **Lab ID:** 60139568026 Collected: 02/26/13 09:00 Received: 03/01/13 03:10 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA									
Analytical Method: EPA 8260									
4-Methyl-2-pentanone (MIBK)	ND	ug/kg	1980	988	250		03/09/13 23:00	108-10-1	
Methyl-tert-butyl ether	ND	ug/kg	988	494	250		03/09/13 23:00	1634-04-4	
Naphthalene	ND	ug/kg	1980	988	250		03/09/13 23:00	91-20-3	
n-Propylbenzene	ND	ug/kg	988	494	250		03/09/13 23:00	103-65-1	
Styrene	ND	ug/kg	988	494	250		03/09/13 23:00	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/kg	988	494	250		03/09/13 23:00	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/kg	988	494	250		03/09/13 23:00	79-34-5	
Tetrachloroethene	ND	ug/kg	988	494	250		03/09/13 23:00	127-18-4	
Toluene	ND	ug/kg	988	494	250		03/09/13 23:00	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/kg	988	494	250		03/09/13 23:00	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/kg	988	494	250		03/09/13 23:00	120-82-1	
1,1,1-Trichloroethane	ND	ug/kg	988	494	250		03/09/13 23:00	71-55-6	
1,1,2-Trichloroethane	ND	ug/kg	988	494	250		03/09/13 23:00	79-00-5	
Trichloroethene	ND	ug/kg	988	494	250		03/09/13 23:00	79-01-6	
Trichlorofluoromethane	ND	ug/kg	988	494	250		03/09/13 23:00	75-69-4	
1,2,3-Trichloropropane	ND	ug/kg	988	494	250		03/09/13 23:00	96-18-4	
1,2,4-Trimethylbenzene	1420	ug/kg	988	494	250		03/09/13 23:00	95-63-6	
1,3,5-Trimethylbenzene	524J	ug/kg	988	494	250		03/09/13 23:00	108-67-8	
Vinyl chloride	ND	ug/kg	988	494	250		03/09/13 23:00	75-01-4	
Xylene (Total)	2520	ug/kg	988	494	250		03/09/13 23:00	1330-20-7	
Surrogates									
Dibromofluoromethane (S)	101	%	76-125		250		03/09/13 23:00	1868-53-7	
Toluene-d8 (S)	101	%	80-120		250		03/09/13 23:00	2037-26-5	
4-Bromofluorobenzene (S)	101	%	80-120		250		03/09/13 23:00	460-00-4	
1,2-Dichloroethane-d4 (S)	106	%	76-132		250		03/09/13 23:00	17060-07-0	
Percent Moisture									
Analytical Method: ASTM D2974									
Percent Moisture	13.4	%	0.50	0.50	1		03/06/13 00:00		

ANALYTICAL RESULTS

Project: Big MO Soil Sampling

Pace Project No.: 60139568

Sample: **BM-022613-SB69-13.2-13.4** Lab ID: **60139568027** Collected: 02/26/13 09:10 Received: 03/01/13 03:10 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA		Analytical Method: EPA 8260							
Acetone	ND	ug/kg	24300	12100	2000		03/10/13 11:51	67-64-1	
Benzene	534000	ug/kg	15200	7580	5000		03/11/13 18:13	71-43-2	
Bromobenzene	ND	ug/kg	6070	3030	2000		03/10/13 11:51	108-86-1	
Bromochloromethane	ND	ug/kg	6070	3030	2000		03/10/13 11:51	74-97-5	
Bromodichloromethane	ND	ug/kg	6070	3030	2000		03/10/13 11:51	75-27-4	
Bromoform	ND	ug/kg	6070	3030	2000		03/10/13 11:51	75-25-2	
Bromomethane	ND	ug/kg	6070	3030	2000		03/10/13 11:51	74-83-9	
2-Butanone (MEK)	ND	ug/kg	12100	6070	2000		03/10/13 11:51	78-93-3	
n-Butylbenzene	ND	ug/kg	6070	3030	2000		03/10/13 11:51	104-51-8	
sec-Butylbenzene	ND	ug/kg	6070	3030	2000		03/10/13 11:51	135-98-8	
tert-Butylbenzene	ND	ug/kg	6070	3030	2000		03/10/13 11:51	98-06-6	
Carbon disulfide	ND	ug/kg	6070	3030	2000		03/10/13 11:51	75-15-0	
Carbon tetrachloride	ND	ug/kg	6070	3030	2000		03/10/13 11:51	56-23-5	
Chlorobenzene	40900	ug/kg	6070	3030	2000		03/10/13 11:51	108-90-7	
Chloroethane	ND	ug/kg	6070	3030	2000		03/10/13 11:51	75-00-3	
Chloroform	ND	ug/kg	6070	3030	2000		03/10/13 11:51	67-66-3	
Chloromethane	ND	ug/kg	6070	3030	2000		03/10/13 11:51	74-87-3	
2-Chlorotoluene	ND	ug/kg	6070	3030	2000		03/10/13 11:51	95-49-8	
4-Chlorotoluene	ND	ug/kg	6070	3030	2000		03/10/13 11:51	106-43-4	
1,2-Dibromo-3-chloropropane	ND	ug/kg	12100	6070	2000		03/10/13 11:51	96-12-8	
Dibromochloromethane	ND	ug/kg	6070	3030	2000		03/10/13 11:51	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/kg	6070	3030	2000		03/10/13 11:51	106-93-4	
Dibromomethane	ND	ug/kg	6070	3030	2000		03/10/13 11:51	74-95-3	
1,2-Dichlorobenzene	ND	ug/kg	6070	3030	2000		03/10/13 11:51	95-50-1	
1,3-Dichlorobenzene	ND	ug/kg	6070	3030	2000		03/10/13 11:51	541-73-1	
1,4-Dichlorobenzene	ND	ug/kg	6070	3030	2000		03/10/13 11:51	106-46-7	
Dichlorodifluoromethane	ND	ug/kg	6070	3030	2000		03/10/13 11:51	75-71-8	
1,1-Dichloroethane	ND	ug/kg	6070	3030	2000		03/10/13 11:51	75-34-3	
1,2-Dichloroethane	ND	ug/kg	6070	3030	2000		03/10/13 11:51	107-06-2	
1,2-Dichloroethene (Total)	ND	ug/kg	6070	3030	2000		03/10/13 11:51	540-59-0	
1,1-Dichloroethene	ND	ug/kg	6070	3030	2000		03/10/13 11:51	75-35-4	
cis-1,2-Dichloroethene	ND	ug/kg	6070	3030	2000		03/10/13 11:51	156-59-2	
trans-1,2-Dichloroethene	ND	ug/kg	6070	3030	2000		03/10/13 11:51	156-60-5	
1,2-Dichloropropane	ND	ug/kg	6070	3030	2000		03/10/13 11:51	78-87-5	
1,3-Dichloropropane	ND	ug/kg	6070	3030	2000		03/10/13 11:51	142-28-9	
2,2-Dichloropropane	ND	ug/kg	6070	3030	2000		03/10/13 11:51	594-20-7	
1,1-Dichloropropene	ND	ug/kg	6070	3030	2000		03/10/13 11:51	563-58-6	
cis-1,3-Dichloropropene	ND	ug/kg	6070	3030	2000		03/10/13 11:51	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/kg	6070	3030	2000		03/10/13 11:51	10061-02-6	
Ethylbenzene	ND	ug/kg	6070	3030	2000		03/10/13 11:51	100-41-4	
Hexachloro-1,3-butadiene	ND	ug/kg	6070	3030	2000		03/10/13 11:51	87-68-3	
2-Hexanone	ND	ug/kg	24300	12100	2000		03/10/13 11:51	591-78-6	
Isopropylbenzene (Cumene)	ND	ug/kg	6070	3030	2000		03/10/13 11:51	98-82-8	
p-Isopropyltoluene	ND	ug/kg	6070	3030	2000		03/10/13 11:51	99-87-6	
Methylene chloride	ND	ug/kg	6070	3030	2000		03/10/13 11:51	75-09-2	

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ANALYTICAL RESULTS

Project: Big MO Soil Sampling

Pace Project No.: 60139568

Sample: BM-022613-SB69-13.2-13.4 **Lab ID:** 60139568027 **Collected:** 02/26/13 09:10 **Received:** 03/01/13 03:10 **Matrix:** Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA									
Analytical Method: EPA 8260									
4-Methyl-2-pentanone (MIBK)	ND	ug/kg	12100	6070	2000		03/10/13 11:51	108-10-1	
Methyl-tert-butyl ether	ND	ug/kg	6070	3030	2000		03/10/13 11:51	1634-04-4	
Naphthalene	ND	ug/kg	12100	6070	2000		03/10/13 11:51	91-20-3	
n-Propylbenzene	ND	ug/kg	6070	3030	2000		03/10/13 11:51	103-65-1	
Styrene	ND	ug/kg	6070	3030	2000		03/10/13 11:51	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/kg	6070	3030	2000		03/10/13 11:51	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/kg	6070	3030	2000		03/10/13 11:51	79-34-5	
Tetrachloroethene	ND	ug/kg	6070	3030	2000		03/10/13 11:51	127-18-4	
Toluene	ND	ug/kg	6070	3030	2000		03/10/13 11:51	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/kg	6070	3030	2000		03/10/13 11:51	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/kg	6070	3030	2000		03/10/13 11:51	120-82-1	
1,1,1-Trichloroethane	ND	ug/kg	6070	3030	2000		03/10/13 11:51	71-55-6	
1,1,2-Trichloroethane	ND	ug/kg	6070	3030	2000		03/10/13 11:51	79-00-5	
Trichloroethene	ND	ug/kg	6070	3030	2000		03/10/13 11:51	79-01-6	
Trichlorofluoromethane	ND	ug/kg	6070	3030	2000		03/10/13 11:51	75-69-4	
1,2,3-Trichloropropane	ND	ug/kg	6070	3030	2000		03/10/13 11:51	96-18-4	
1,2,4-Trimethylbenzene	ND	ug/kg	6070	3030	2000		03/10/13 11:51	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/kg	6070	3030	2000		03/10/13 11:51	108-67-8	
Vinyl chloride	ND	ug/kg	6070	3030	2000		03/10/13 11:51	75-01-4	
Xylene (Total)	ND	ug/kg	6070	3030	2000		03/10/13 11:51	1330-20-7	
Surrogates									
Dibromofluoromethane (S)	98 %		76-125		2000		03/10/13 11:51	1868-53-7	
Toluene-d8 (S)	100 %		80-120		2000		03/10/13 11:51	2037-26-5	
4-Bromofluorobenzene (S)	102 %		80-120		2000		03/10/13 11:51	460-00-4	
1,2-Dichloroethane-d4 (S)	102 %		76-132		2000		03/10/13 11:51	17060-07-0	
Percent Moisture									
Analytical Method: ASTM D2974									
Percent Moisture	7.8 %		0.50	0.50	1		03/06/13 00:00		

ANALYTICAL RESULTS

Project: Big MO Soil Sampling

Pace Project No.: 60139568

Sample: BM-022613-SB69-12-12.4 **Lab ID:** 60139568028 **Collected:** 02/26/13 09:30 **Received:** 03/01/13 03:10 **Matrix:** Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA									
Analytical Method: EPA 8260									
Acetone	ND	ug/kg	759	379	50		03/09/13 12:04	67-64-1	
Benzene	1140000	ug/kg	19000	9490	5000		03/11/13 18:28	71-43-2	
Bromobenzene	ND	ug/kg	190	94.9	50		03/09/13 12:04	108-86-1	
Bromochloromethane	ND	ug/kg	190	94.9	50		03/09/13 12:04	74-97-5	
Bromodichloromethane	150J	ug/kg	190	94.9	50		03/09/13 12:04	75-27-4	
Bromoform	ND	ug/kg	190	94.9	50		03/09/13 12:04	75-25-2	
Bromomethane	ND	ug/kg	190	94.9	50		03/09/13 12:04	74-83-9	
2-Butanone (MEK)	525	ug/kg	379	190	50		03/09/13 12:04	78-93-3	
n-Butylbenzene	227	ug/kg	190	94.9	50		03/09/13 12:04	104-51-8	
sec-Butylbenzene	1490	ug/kg	190	94.9	50		03/09/13 12:04	135-98-8	
tert-Butylbenzene	151J	ug/kg	190	94.9	50		03/09/13 12:04	98-06-6	
Carbon disulfide	ND	ug/kg	190	94.9	50		03/09/13 12:04	75-15-0	
Carbon tetrachloride	ND	ug/kg	190	94.9	50		03/09/13 12:04	56-23-5	
Chlorobenzene	6870	ug/kg	190	94.9	50		03/09/13 12:04	108-90-7	
Chloroethane	ND	ug/kg	190	94.9	50		03/09/13 12:04	75-00-3	
Chloroform	ND	ug/kg	190	94.9	50		03/09/13 12:04	67-66-3	
Chloromethane	207	ug/kg	190	94.9	50		03/09/13 12:04	74-87-3	
2-Chlorotoluene	ND	ug/kg	190	94.9	50		03/09/13 12:04	95-49-8	
4-Chlorotoluene	ND	ug/kg	190	94.9	50		03/09/13 12:04	106-43-4	
1,2-Dibromo-3-chloropropane	ND	ug/kg	379	190	50		03/09/13 12:04	96-12-8	
Dibromochloromethane	ND	ug/kg	190	94.9	50		03/09/13 12:04	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/kg	190	94.9	50		03/09/13 12:04	106-93-4	
Dibromomethane	ND	ug/kg	190	94.9	50		03/09/13 12:04	74-95-3	
1,2-Dichlorobenzene	1660	ug/kg	190	94.9	50		03/09/13 12:04	95-50-1	
1,3-Dichlorobenzene	612	ug/kg	190	94.9	50		03/09/13 12:04	541-73-1	
1,4-Dichlorobenzene	16600J	ug/kg	19000	9490	5000		03/11/13 18:28	106-46-7	
Dichlorodifluoromethane	ND	ug/kg	190	94.9	50		03/09/13 12:04	75-71-8	
1,1-Dichloroethane	ND	ug/kg	190	94.9	50		03/09/13 12:04	75-34-3	
1,2-Dichloroethane	ND	ug/kg	190	94.9	50		03/09/13 12:04	107-06-2	
1,2-Dichloroethene (Total)	ND	ug/kg	190	94.9	50		03/09/13 12:04	540-59-0	
1,1-Dichloroethene	ND	ug/kg	190	94.9	50		03/09/13 12:04	75-35-4	
cis-1,2-Dichloroethene	ND	ug/kg	190	94.9	50		03/09/13 12:04	156-59-2	
trans-1,2-Dichloroethene	ND	ug/kg	190	94.9	50		03/09/13 12:04	156-60-5	
1,2-Dichloropropane	ND	ug/kg	190	94.9	50		03/09/13 12:04	78-87-5	
1,3-Dichloropropane	ND	ug/kg	190	94.9	50		03/09/13 12:04	142-28-9	
2,2-Dichloropropane	ND	ug/kg	190	94.9	50		03/09/13 12:04	594-20-7	
1,1-Dichloropropene	ND	ug/kg	190	94.9	50		03/09/13 12:04	563-58-6	
cis-1,3-Dichloropropene	ND	ug/kg	190	94.9	50		03/09/13 12:04	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/kg	190	94.9	50		03/09/13 12:04	10061-02-6	
Ethylbenzene	ND	ug/kg	190	94.9	50		03/09/13 12:04	100-41-4	
Hexachloro-1,3-butadiene	ND	ug/kg	190	94.9	50		03/09/13 12:04	87-68-3	
2-Hexanone	ND	ug/kg	759	379	50		03/09/13 12:04	591-78-6	
Isopropylbenzene (Cumene)	ND	ug/kg	190	94.9	50		03/09/13 12:04	98-82-8	
p-Isopropyltoluene	ND	ug/kg	190	94.9	50		03/09/13 12:04	99-87-6	
Methylene chloride	ND	ug/kg	190	94.9	50		03/09/13 12:04	75-09-2	

Date: 03/15/2013 10:48 AM

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Big MO Soil Sampling

Pace Project No.: 60139568

Sample: BM-022613-SB69-12-12.4 **Lab ID: 60139568028** Collected: 02/26/13 09:30 Received: 03/01/13 03:10 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA									
Analytical Method: EPA 8260									
4-Methyl-2-pentanone (MIBK)	ND	ug/kg	379	190	50		03/09/13 12:04	108-10-1	
Methyl-tert-butyl ether	ND	ug/kg	190	94.9	50		03/09/13 12:04	1634-04-4	
Naphthalene	302J	ug/kg	379	190	50		03/09/13 12:04	91-20-3	
n-Propylbenzene	288	ug/kg	190	94.9	50		03/09/13 12:04	103-65-1	
Styrene	ND	ug/kg	190	94.9	50		03/09/13 12:04	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/kg	190	94.9	50		03/09/13 12:04	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/kg	190	94.9	50		03/09/13 12:04	79-34-5	
Tetrachloroethene	ND	ug/kg	190	94.9	50		03/09/13 12:04	127-18-4	
Toluene	ND	ug/kg	190	94.9	50		03/09/13 12:04	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/kg	190	94.9	50		03/09/13 12:04	87-61-6	
1,2,4-Trichlorobenzene	125J	ug/kg	190	94.9	50		03/09/13 12:04	120-82-1	
1,1,1-Trichloroethane	ND	ug/kg	190	94.9	50		03/09/13 12:04	71-55-6	
1,1,2-Trichloroethane	ND	ug/kg	190	94.9	50		03/09/13 12:04	79-00-5	
Trichloroethene	ND	ug/kg	190	94.9	50		03/09/13 12:04	79-01-6	
Trichlorofluoromethane	ND	ug/kg	190	94.9	50		03/09/13 12:04	75-69-4	
1,2,3-Trichloropropane	ND	ug/kg	190	94.9	50		03/09/13 12:04	96-18-4	
1,2,4-Trimethylbenzene	ND	ug/kg	190	94.9	50		03/09/13 12:04	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/kg	190	94.9	50		03/09/13 12:04	108-67-8	
Vinyl chloride	ND	ug/kg	190	94.9	50		03/09/13 12:04	75-01-4	
Xylene (Total)	ND	ug/kg	190	94.9	50		03/09/13 12:04	1330-20-7	
Surrogates									
Dibromofluoromethane (S)	89 %		76-125		50		03/09/13 12:04	1868-53-7	
Toluene-d8 (S)	95 %		80-120		50		03/09/13 12:04	2037-26-5	
4-Bromofluorobenzene (S)	118 %		80-120		50		03/09/13 12:04	460-00-4	
1,2-Dichloroethane-d4 (S)	99 %		76-132		50		03/09/13 12:04	17060-07-0	
Percent Moisture									
Analytical Method: ASTM D2974									
Percent Moisture	12.5 %		0.50	0.50	1		03/06/13 00:00		

ANALYTICAL RESULTS

Project: Big MO Soil Sampling

Pace Project No.: 60139568

Sample: BM-022613-SB69-16-16.4 Lab ID: 60139568029 Collected: 02/26/13 09:35 Received: 03/01/13 03:10 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA		Analytical Method: EPA 8260							
Acetone	ND	ug/kg	13500	6730	1000		03/10/13 12:21	67-64-1	
Benzene	1160000	ug/kg	33700	16800	10000		03/11/13 18:44	71-43-2	
Bromobenzene	ND	ug/kg	3370	1680	1000		03/10/13 12:21	108-86-1	
Bromochloromethane	ND	ug/kg	3370	1680	1000		03/10/13 12:21	74-97-5	
Bromodichloromethane	ND	ug/kg	3370	1680	1000		03/10/13 12:21	75-27-4	
Bromoform	ND	ug/kg	3370	1680	1000		03/10/13 12:21	75-25-2	
Bromomethane	ND	ug/kg	3370	1680	1000		03/10/13 12:21	74-83-9	
2-Butanone (MEK)	ND	ug/kg	6730	3370	1000		03/10/13 12:21	78-93-3	
n-Butylbenzene	ND	ug/kg	3370	1680	1000		03/10/13 12:21	104-51-8	
sec-Butylbenzene	ND	ug/kg	3370	1680	1000		03/10/13 12:21	135-98-8	
tert-Butylbenzene	ND	ug/kg	3370	1680	1000		03/10/13 12:21	98-06-6	
Carbon disulfide	ND	ug/kg	3370	1680	1000		03/10/13 12:21	75-15-0	
Carbon tetrachloride	ND	ug/kg	3370	1680	1000		03/10/13 12:21	56-23-5	
Chlorobenzene	7630	ug/kg	3370	1680	1000		03/10/13 12:21	108-90-7	
Chloroethane	ND	ug/kg	3370	1680	1000		03/10/13 12:21	75-00-3	
Chloroform	ND	ug/kg	3370	1680	1000		03/10/13 12:21	67-66-3	
Chloromethane	ND	ug/kg	3370	1680	1000		03/10/13 12:21	74-87-3	
2-Chlorotoluene	ND	ug/kg	3370	1680	1000		03/10/13 12:21	95-49-8	
4-Chlorotoluene	ND	ug/kg	3370	1680	1000		03/10/13 12:21	106-43-4	
1,2-Dibromo-3-chloropropane	ND	ug/kg	6730	3370	1000		03/10/13 12:21	96-12-8	
Dibromochloromethane	ND	ug/kg	3370	1680	1000		03/10/13 12:21	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/kg	3370	1680	1000		03/10/13 12:21	106-93-4	
Dibromomethane	ND	ug/kg	3370	1680	1000		03/10/13 12:21	74-95-3	
1,2-Dichlorobenzene	1880J	ug/kg	3370	1680	1000		03/10/13 12:21	95-50-1	
1,3-Dichlorobenzene	ND	ug/kg	3370	1680	1000		03/10/13 12:21	541-73-1	
1,4-Dichlorobenzene	10700	ug/kg	3370	1680	1000		03/10/13 12:21	106-46-7	
Dichlorodifluoromethane	ND	ug/kg	3370	1680	1000		03/10/13 12:21	75-71-8	
1,1-Dichloroethane	ND	ug/kg	3370	1680	1000		03/10/13 12:21	75-34-3	
1,2-Dichloroethane	ND	ug/kg	3370	1680	1000		03/10/13 12:21	107-06-2	
1,2-Dichloroethene (Total)	ND	ug/kg	3370	1680	1000		03/10/13 12:21	540-59-0	
1,1-Dichloroethene	ND	ug/kg	3370	1680	1000		03/10/13 12:21	75-35-4	
cis-1,2-Dichloroethene	ND	ug/kg	3370	1680	1000		03/10/13 12:21	156-59-2	
trans-1,2-Dichloroethene	ND	ug/kg	3370	1680	1000		03/10/13 12:21	156-60-5	
1,2-Dichloropropane	ND	ug/kg	3370	1680	1000		03/10/13 12:21	78-87-5	
1,3-Dichloropropane	ND	ug/kg	3370	1680	1000		03/10/13 12:21	142-28-9	
2,2-Dichloropropane	ND	ug/kg	3370	1680	1000		03/10/13 12:21	594-20-7	
1,1-Dichloropropene	ND	ug/kg	3370	1680	1000		03/10/13 12:21	563-58-6	
cis-1,3-Dichloropropene	ND	ug/kg	3370	1680	1000		03/10/13 12:21	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/kg	3370	1680	1000		03/10/13 12:21	10061-02-6	
Ethylbenzene	ND	ug/kg	3370	1680	1000		03/10/13 12:21	100-41-4	
Hexachloro-1,3-butadiene	ND	ug/kg	3370	1680	1000		03/10/13 12:21	87-68-3	
2-Hexanone	ND	ug/kg	13500	6730	1000		03/10/13 12:21	591-78-6	
Isopropylbenzene (Cumene)	ND	ug/kg	3370	1680	1000		03/10/13 12:21	98-82-8	
p-Isopropyltoluene	ND	ug/kg	3370	1680	1000		03/10/13 12:21	99-87-6	
Methylene chloride	ND	ug/kg	3370	1680	1000		03/10/13 12:21	75-09-2	

Date: 03/15/2013 10:48 AM

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Big MO Soil Sampling

Pace Project No.: 60139568

Sample: BM-022613-SB69-16-16.4 **Lab ID: 60139568029** Collected: 02/26/13 09:35 Received: 03/01/13 03:10 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA									
Analytical Method: EPA 8260									
4-Methyl-2-pentanone (MIBK)	ND	ug/kg	6730	3370	1000		03/10/13 12:21	108-10-1	
Methyl-tert-butyl ether	ND	ug/kg	3370	1680	1000		03/10/13 12:21	1634-04-4	
Naphthalene	ND	ug/kg	6730	3370	1000		03/10/13 12:21	91-20-3	
n-Propylbenzene	ND	ug/kg	3370	1680	1000		03/10/13 12:21	103-65-1	
Styrene	ND	ug/kg	3370	1680	1000		03/10/13 12:21	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/kg	3370	1680	1000		03/10/13 12:21	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/kg	3370	1680	1000		03/10/13 12:21	79-34-5	
Tetrachloroethene	ND	ug/kg	3370	1680	1000		03/10/13 12:21	127-18-4	
Toluene	ND	ug/kg	3370	1680	1000		03/10/13 12:21	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/kg	3370	1680	1000		03/10/13 12:21	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/kg	3370	1680	1000		03/10/13 12:21	120-82-1	
1,1,1-Trichloroethane	ND	ug/kg	3370	1680	1000		03/10/13 12:21	71-55-6	
1,1,2-Trichloroethane	ND	ug/kg	3370	1680	1000		03/10/13 12:21	79-00-5	
Trichloroethene	ND	ug/kg	3370	1680	1000		03/10/13 12:21	79-01-6	
Trichlorofluoromethane	ND	ug/kg	3370	1680	1000		03/10/13 12:21	75-69-4	
1,2,3-Trichloropropane	ND	ug/kg	3370	1680	1000		03/10/13 12:21	96-18-4	
1,2,4-Trimethylbenzene	ND	ug/kg	3370	1680	1000		03/10/13 12:21	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/kg	3370	1680	1000		03/10/13 12:21	108-67-8	
Vinyl chloride	ND	ug/kg	3370	1680	1000		03/10/13 12:21	75-01-4	
Xylene (Total)	ND	ug/kg	3370	1680	1000		03/10/13 12:21	1330-20-7	
Surrogates									
Dibromofluoromethane (S)	97 %		76-125		1000		03/10/13 12:21	1868-53-7	
Toluene-d8 (S)	101 %		80-120		1000		03/10/13 12:21	2037-26-5	
4-Bromofluorobenzene (S)	102 %		80-120		1000		03/10/13 12:21	460-00-4	
1,2-Dichloroethane-d4 (S)	98 %		76-132		1000		03/10/13 12:21	17060-07-0	
Percent Moisture									
Analytical Method: ASTM D2974									
Percent Moisture	8.9 %		0.50	0.50	1		03/06/13 00:00		

ANALYTICAL RESULTS

Project: Big MO Soil Sampling

Pace Project No.: 60139568

Sample: BM-022613-SB66-8.5-8.7 Lab ID: 60139568030 Collected: 02/26/13 10:45 Received: 03/01/13 03:10 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA		Analytical Method: EPA 8260							
Acetone	ND	ug/kg	653	326	50		03/09/13 12:35	67-64-1	
Benzene	2460	ug/kg	163	81.6	50		03/09/13 12:35	71-43-2	
Bromobenzene	ND	ug/kg	163	81.6	50		03/09/13 12:35	108-86-1	
Bromochloromethane	ND	ug/kg	163	81.6	50		03/09/13 12:35	74-97-5	
Bromodichloromethane	ND	ug/kg	163	81.6	50		03/09/13 12:35	75-27-4	
Bromoform	ND	ug/kg	163	81.6	50		03/09/13 12:35	75-25-2	
Bromomethane	ND	ug/kg	163	81.6	50		03/09/13 12:35	74-83-9	
2-Butanone (MEK)	196J	ug/kg	326	163	50		03/09/13 12:35	78-93-3	
n-Butylbenzene	ND	ug/kg	163	81.6	50		03/09/13 12:35	104-51-8	
sec-Butylbenzene	ND	ug/kg	163	81.6	50		03/09/13 12:35	135-98-8	
tert-Butylbenzene	ND	ug/kg	163	81.6	50		03/09/13 12:35	98-06-6	
Carbon disulfide	ND	ug/kg	163	81.6	50		03/09/13 12:35	75-15-0	
Carbon tetrachloride	ND	ug/kg	163	81.6	50		03/09/13 12:35	56-23-5	
Chlorobenzene	ND	ug/kg	163	81.6	50		03/09/13 12:35	108-90-7	
Chloroethane	ND	ug/kg	163	81.6	50		03/09/13 12:35	75-00-3	
Chloroform	ND	ug/kg	163	81.6	50		03/09/13 12:35	67-66-3	
Chloromethane	167	ug/kg	163	81.6	50		03/09/13 12:35	74-87-3	
2-Chlorotoluene	ND	ug/kg	163	81.6	50		03/09/13 12:35	95-49-8	
4-Chlorotoluene	ND	ug/kg	163	81.6	50		03/09/13 12:35	106-43-4	
1,2-Dibromo-3-chloropropane	ND	ug/kg	326	163	50		03/09/13 12:35	96-12-8	
Dibromochloromethane	ND	ug/kg	163	81.6	50		03/09/13 12:35	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/kg	163	81.6	50		03/09/13 12:35	106-93-4	
Dibromomethane	ND	ug/kg	163	81.6	50		03/09/13 12:35	74-95-3	
1,2-Dichlorobenzene	ND	ug/kg	163	81.6	50		03/09/13 12:35	95-50-1	
1,3-Dichlorobenzene	ND	ug/kg	163	81.6	50		03/09/13 12:35	541-73-1	
1,4-Dichlorobenzene	103J	ug/kg	163	81.6	50		03/09/13 12:35	106-46-7	
Dichlorodifluoromethane	ND	ug/kg	163	81.6	50		03/09/13 12:35	75-71-8	
1,1-Dichloroethane	ND	ug/kg	163	81.6	50		03/09/13 12:35	75-34-3	
1,2-Dichloroethane	ND	ug/kg	163	81.6	50		03/09/13 12:35	107-06-2	
1,2-Dichloroethene (Total)	ND	ug/kg	163	81.6	50		03/09/13 12:35	540-59-0	
1,1-Dichloroethene	ND	ug/kg	163	81.6	50		03/09/13 12:35	75-35-4	
cis-1,2-Dichloroethene	ND	ug/kg	163	81.6	50		03/09/13 12:35	156-59-2	
trans-1,2-Dichloroethene	ND	ug/kg	163	81.6	50		03/09/13 12:35	156-60-5	
1,2-Dichloropropane	ND	ug/kg	163	81.6	50		03/09/13 12:35	78-87-5	
1,3-Dichloropropane	ND	ug/kg	163	81.6	50		03/09/13 12:35	142-28-9	
2,2-Dichloropropane	ND	ug/kg	163	81.6	50		03/09/13 12:35	594-20-7	
1,1-Dichloropropene	ND	ug/kg	163	81.6	50		03/09/13 12:35	563-58-6	
cis-1,3-Dichloropropene	ND	ug/kg	163	81.6	50		03/09/13 12:35	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/kg	163	81.6	50		03/09/13 12:35	10061-02-6	
Ethylbenzene	ND	ug/kg	163	81.6	50		03/09/13 12:35	100-41-4	
Hexachloro-1,3-butadiene	ND	ug/kg	163	81.6	50		03/09/13 12:35	87-68-3	
2-Hexanone	ND	ug/kg	653	326	50		03/09/13 12:35	591-78-6	
Isopropylbenzene (Cumene)	ND	ug/kg	163	81.6	50		03/09/13 12:35	98-82-8	
p-Isopropyltoluene	ND	ug/kg	163	81.6	50		03/09/13 12:35	99-87-6	
Methylene chloride	ND	ug/kg	163	81.6	50		03/09/13 12:35	75-09-2	

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ANALYTICAL RESULTS

Project: Big MO Soil Sampling

Pace Project No.: 60139568

Sample: BM-022613-SB66-8.5-8.7 **Lab ID:** 60139568030 **Collected:** 02/26/13 10:45 **Received:** 03/01/13 03:10 **Matrix:** Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA									
Analytical Method: EPA 8260									
4-Methyl-2-pentanone (MIBK)	ND	ug/kg	326	163	50		03/09/13 12:35	108-10-1	
Methyl-tert-butyl ether	ND	ug/kg	163	81.6	50		03/09/13 12:35	1634-04-4	
Naphthalene	ND	ug/kg	326	163	50		03/09/13 12:35	91-20-3	
n-Propylbenzene	ND	ug/kg	163	81.6	50		03/09/13 12:35	103-65-1	
Styrene	ND	ug/kg	163	81.6	50		03/09/13 12:35	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/kg	163	81.6	50		03/09/13 12:35	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/kg	163	81.6	50		03/09/13 12:35	79-34-5	
Tetrachloroethene	ND	ug/kg	163	81.6	50		03/09/13 12:35	127-18-4	
Toluene	ND	ug/kg	163	81.6	50		03/09/13 12:35	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/kg	163	81.6	50		03/09/13 12:35	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/kg	163	81.6	50		03/09/13 12:35	120-82-1	
1,1,1-Trichloroethane	ND	ug/kg	163	81.6	50		03/09/13 12:35	71-55-6	
1,1,2-Trichloroethane	ND	ug/kg	163	81.6	50		03/09/13 12:35	79-00-5	
Trichloroethene	ND	ug/kg	163	81.6	50		03/09/13 12:35	79-01-6	
Trichlorofluoromethane	ND	ug/kg	163	81.6	50		03/09/13 12:35	75-69-4	
1,2,3-Trichloropropane	ND	ug/kg	163	81.6	50		03/09/13 12:35	96-18-4	
1,2,4-Trimethylbenzene	ND	ug/kg	163	81.6	50		03/09/13 12:35	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/kg	163	81.6	50		03/09/13 12:35	108-67-8	
Vinyl chloride	ND	ug/kg	163	81.6	50		03/09/13 12:35	75-01-4	
Xylene (Total)	ND	ug/kg	163	81.6	50		03/09/13 12:35	1330-20-7	
Surrogates									
Dibromofluoromethane (S)	98 %		76-125		50		03/09/13 12:35	1868-53-7	
Toluene-d8 (S)	100 %		80-120		50		03/09/13 12:35	2037-26-5	
4-Bromofluorobenzene (S)	101 %		80-120		50		03/09/13 12:35	460-00-4	
1,2-Dichloroethane-d4 (S)	102 %		76-132		50		03/09/13 12:35	17060-07-0	
Percent Moisture									
Analytical Method: ASTM D2974									
Percent Moisture	17.5 %		0.50	0.50	1		03/06/13 00:00		

ANALYTICAL RESULTS

Project: Big MO Soil Sampling

Pace Project No.: 60139568

Sample: BM-022613-SB66-11-11.2 Lab ID: 60139568031 Collected: 02/26/13 10:50 Received: 03/01/13 03:10 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA		Analytical Method: EPA 8260							
Acetone	ND	ug/kg	691	346	50		03/09/13 12:50	67-64-1	
Benzene	906	ug/kg	173	86.4	50		03/09/13 12:50	71-43-2	
Bromobenzene	ND	ug/kg	173	86.4	50		03/09/13 12:50	108-86-1	
Bromochloromethane	ND	ug/kg	173	86.4	50		03/09/13 12:50	74-97-5	
Bromodichloromethane	ND	ug/kg	173	86.4	50		03/09/13 12:50	75-27-4	
Bromoform	ND	ug/kg	173	86.4	50		03/09/13 12:50	75-25-2	
Bromomethane	ND	ug/kg	173	86.4	50		03/09/13 12:50	74-83-9	
2-Butanone (MEK)	ND	ug/kg	346	173	50		03/09/13 12:50	78-93-3	
n-Butylbenzene	ND	ug/kg	173	86.4	50		03/09/13 12:50	104-51-8	
sec-Butylbenzene	ND	ug/kg	173	86.4	50		03/09/13 12:50	135-98-8	
tert-Butylbenzene	ND	ug/kg	173	86.4	50		03/09/13 12:50	98-06-6	
Carbon disulfide	ND	ug/kg	173	86.4	50		03/09/13 12:50	75-15-0	
Carbon tetrachloride	ND	ug/kg	173	86.4	50		03/09/13 12:50	56-23-5	
Chlorobenzene	ND	ug/kg	173	86.4	50		03/09/13 12:50	108-90-7	
Chloroethane	ND	ug/kg	173	86.4	50		03/09/13 12:50	75-00-3	
Chloroform	ND	ug/kg	173	86.4	50		03/09/13 12:50	67-66-3	
Chloromethane	196	ug/kg	173	86.4	50		03/09/13 12:50	74-87-3	
2-Chlorotoluene	ND	ug/kg	173	86.4	50		03/09/13 12:50	95-49-8	
4-Chlorotoluene	ND	ug/kg	173	86.4	50		03/09/13 12:50	106-43-4	
1,2-Dibromo-3-chloropropane	ND	ug/kg	346	173	50		03/09/13 12:50	96-12-8	
Dibromochloromethane	ND	ug/kg	173	86.4	50		03/09/13 12:50	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/kg	173	86.4	50		03/09/13 12:50	106-93-4	
Dibromomethane	ND	ug/kg	173	86.4	50		03/09/13 12:50	74-95-3	
1,2-Dichlorobenzene	ND	ug/kg	173	86.4	50		03/09/13 12:50	95-50-1	
1,3-Dichlorobenzene	ND	ug/kg	173	86.4	50		03/09/13 12:50	541-73-1	
1,4-Dichlorobenzene	ND	ug/kg	173	86.4	50		03/09/13 12:50	106-46-7	
Dichlorodifluoromethane	ND	ug/kg	173	86.4	50		03/09/13 12:50	75-71-8	
1,1-Dichloroethane	ND	ug/kg	173	86.4	50		03/09/13 12:50	75-34-3	
1,2-Dichloroethane	ND	ug/kg	173	86.4	50		03/09/13 12:50	107-06-2	
1,2-Dichloroethene (Total)	ND	ug/kg	173	86.4	50		03/09/13 12:50	540-59-0	
1,1-Dichloroethene	ND	ug/kg	173	86.4	50		03/09/13 12:50	75-35-4	
cis-1,2-Dichloroethene	ND	ug/kg	173	86.4	50		03/09/13 12:50	156-59-2	
trans-1,2-Dichloroethene	ND	ug/kg	173	86.4	50		03/09/13 12:50	156-60-5	
1,2-Dichloropropane	ND	ug/kg	173	86.4	50		03/09/13 12:50	78-87-5	
1,3-Dichloropropane	ND	ug/kg	173	86.4	50		03/09/13 12:50	142-28-9	
2,2-Dichloropropane	ND	ug/kg	173	86.4	50		03/09/13 12:50	594-20-7	
1,1-Dichloropropene	ND	ug/kg	173	86.4	50		03/09/13 12:50	563-58-6	
cis-1,3-Dichloropropene	ND	ug/kg	173	86.4	50		03/09/13 12:50	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/kg	173	86.4	50		03/09/13 12:50	10061-02-6	
Ethylbenzene	ND	ug/kg	173	86.4	50		03/09/13 12:50	100-41-4	
Hexachloro-1,3-butadiene	ND	ug/kg	173	86.4	50		03/09/13 12:50	87-68-3	
2-Hexanone	ND	ug/kg	691	346	50		03/09/13 12:50	591-78-6	
Isopropylbenzene (Cumene)	ND	ug/kg	173	86.4	50		03/09/13 12:50	98-82-8	
p-Isopropyltoluene	ND	ug/kg	173	86.4	50		03/09/13 12:50	99-87-6	
Methylene chloride	ND	ug/kg	173	86.4	50		03/09/13 12:50	75-09-2	

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ANALYTICAL RESULTS

Project: Big MO Soil Sampling

Pace Project No.: 60139568

Sample: BM-022613-SB66-11-11.2 **Lab ID:** 60139568031 **Collected:** 02/26/13 10:50 **Received:** 03/01/13 03:10 **Matrix:** Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA									
Analytical Method: EPA 8260									
4-Methyl-2-pentanone (MIBK)	ND	ug/kg	346	173	50		03/09/13 12:50	108-10-1	
Methyl-tert-butyl ether	ND	ug/kg	173	86.4	50		03/09/13 12:50	1634-04-4	
Naphthalene	ND	ug/kg	346	173	50		03/09/13 12:50	91-20-3	
n-Propylbenzene	ND	ug/kg	173	86.4	50		03/09/13 12:50	103-65-1	
Styrene	ND	ug/kg	173	86.4	50		03/09/13 12:50	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/kg	173	86.4	50		03/09/13 12:50	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/kg	173	86.4	50		03/09/13 12:50	79-34-5	
Tetrachloroethene	ND	ug/kg	173	86.4	50		03/09/13 12:50	127-18-4	
Toluene	ND	ug/kg	173	86.4	50		03/09/13 12:50	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/kg	173	86.4	50		03/09/13 12:50	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/kg	173	86.4	50		03/09/13 12:50	120-82-1	
1,1,1-Trichloroethane	ND	ug/kg	173	86.4	50		03/09/13 12:50	71-55-6	
1,1,2-Trichloroethane	ND	ug/kg	173	86.4	50		03/09/13 12:50	79-00-5	
Trichloroethene	ND	ug/kg	173	86.4	50		03/09/13 12:50	79-01-6	
Trichlorofluoromethane	ND	ug/kg	173	86.4	50		03/09/13 12:50	75-69-4	
1,2,3-Trichloropropane	ND	ug/kg	173	86.4	50		03/09/13 12:50	96-18-4	
1,2,4-Trimethylbenzene	ND	ug/kg	173	86.4	50		03/09/13 12:50	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/kg	173	86.4	50		03/09/13 12:50	108-67-8	
Vinyl chloride	ND	ug/kg	173	86.4	50		03/09/13 12:50	75-01-4	
Xylene (Total)	ND	ug/kg	173	86.4	50		03/09/13 12:50	1330-20-7	
Surrogates									
Dibromofluoromethane (S)	98 %		76-125		50		03/09/13 12:50	1868-53-7	
Toluene-d8 (S)	98 %		80-120		50		03/09/13 12:50	2037-26-5	
4-Bromofluorobenzene (S)	101 %		80-120		50		03/09/13 12:50	460-00-4	
1,2-Dichloroethane-d4 (S)	102 %		76-132		50		03/09/13 12:50	17060-07-0	
Percent Moisture									
Analytical Method: ASTM D2974									
Percent Moisture	3.4 %		0.50	0.50	1		03/06/13 00:00		

ANALYTICAL RESULTS

Project: Big MO Soil Sampling

Pace Project No.: 60139568

Sample: **BM-022613-SB66-12.9-13.1** Lab ID: **60139568032** Collected: 02/26/13 10:55 Received: 03/01/13 03:10 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA		Analytical Method: EPA 8260							
Acetone	ND	ug/kg	577	288	50		03/09/13 13:05	67-64-1	
Benzene	450	ug/kg	144	72.1	50		03/09/13 13:05	71-43-2	
Bromobenzene	ND	ug/kg	144	72.1	50		03/09/13 13:05	108-86-1	
Bromochloromethane	ND	ug/kg	144	72.1	50		03/09/13 13:05	74-97-5	
Bromodichloromethane	ND	ug/kg	144	72.1	50		03/09/13 13:05	75-27-4	
Bromoform	ND	ug/kg	144	72.1	50		03/09/13 13:05	75-25-2	
Bromomethane	ND	ug/kg	144	72.1	50		03/09/13 13:05	74-83-9	
2-Butanone (MEK)	ND	ug/kg	288	144	50		03/09/13 13:05	78-93-3	
n-Butylbenzene	ND	ug/kg	144	72.1	50		03/09/13 13:05	104-51-8	
sec-Butylbenzene	ND	ug/kg	144	72.1	50		03/09/13 13:05	135-98-8	
tert-Butylbenzene	ND	ug/kg	144	72.1	50		03/09/13 13:05	98-06-6	
Carbon disulfide	ND	ug/kg	144	72.1	50		03/09/13 13:05	75-15-0	
Carbon tetrachloride	ND	ug/kg	144	72.1	50		03/09/13 13:05	56-23-5	
Chlorobenzene	ND	ug/kg	144	72.1	50		03/09/13 13:05	108-90-7	
Chloroethane	ND	ug/kg	144	72.1	50		03/09/13 13:05	75-00-3	
Chloroform	ND	ug/kg	144	72.1	50		03/09/13 13:05	67-66-3	
Chloromethane	137J	ug/kg	144	72.1	50		03/09/13 13:05	74-87-3	
2-Chlorotoluene	ND	ug/kg	144	72.1	50		03/09/13 13:05	95-49-8	
4-Chlorotoluene	ND	ug/kg	144	72.1	50		03/09/13 13:05	106-43-4	
1,2-Dibromo-3-chloropropane	ND	ug/kg	288	144	50		03/09/13 13:05	96-12-8	
Dibromochloromethane	ND	ug/kg	144	72.1	50		03/09/13 13:05	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/kg	144	72.1	50		03/09/13 13:05	106-93-4	
Dibromomethane	ND	ug/kg	144	72.1	50		03/09/13 13:05	74-95-3	
1,2-Dichlorobenzene	ND	ug/kg	144	72.1	50		03/09/13 13:05	95-50-1	
1,3-Dichlorobenzene	ND	ug/kg	144	72.1	50		03/09/13 13:05	541-73-1	
1,4-Dichlorobenzene	140J	ug/kg	144	72.1	50		03/09/13 13:05	106-46-7	
Dichlorodifluoromethane	ND	ug/kg	144	72.1	50		03/09/13 13:05	75-71-8	
1,1-Dichloroethane	ND	ug/kg	144	72.1	50		03/09/13 13:05	75-34-3	
1,2-Dichloroethane	ND	ug/kg	144	72.1	50		03/09/13 13:05	107-06-2	
1,2-Dichloroethene (Total)	ND	ug/kg	144	72.1	50		03/09/13 13:05	540-59-0	
1,1-Dichloroethene	ND	ug/kg	144	72.1	50		03/09/13 13:05	75-35-4	
cis-1,2-Dichloroethene	ND	ug/kg	144	72.1	50		03/09/13 13:05	156-59-2	
trans-1,2-Dichloroethene	ND	ug/kg	144	72.1	50		03/09/13 13:05	156-60-5	
1,2-Dichloropropane	ND	ug/kg	144	72.1	50		03/09/13 13:05	78-87-5	
1,3-Dichloropropane	ND	ug/kg	144	72.1	50		03/09/13 13:05	142-28-9	
2,2-Dichloropropane	ND	ug/kg	144	72.1	50		03/09/13 13:05	594-20-7	
1,1-Dichloropropene	ND	ug/kg	144	72.1	50		03/09/13 13:05	563-58-6	
cis-1,3-Dichloropropene	ND	ug/kg	144	72.1	50		03/09/13 13:05	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/kg	144	72.1	50		03/09/13 13:05	10061-02-6	
Ethylbenzene	ND	ug/kg	144	72.1	50		03/09/13 13:05	100-41-4	
Hexachloro-1,3-butadiene	ND	ug/kg	144	72.1	50		03/09/13 13:05	87-68-3	
2-Hexanone	ND	ug/kg	577	288	50		03/09/13 13:05	591-78-6	
Isopropylbenzene (Cumene)	ND	ug/kg	144	72.1	50		03/09/13 13:05	98-82-8	
p-Isopropyltoluene	ND	ug/kg	144	72.1	50		03/09/13 13:05	99-87-6	
Methylene chloride	ND	ug/kg	144	72.1	50		03/09/13 13:05	75-09-2	

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ANALYTICAL RESULTS

Project: Big MO Soil Sampling

Pace Project No.: 60139568

Sample: BM-022613-SB66-12.9-13.1 **Lab ID:** 60139568032 **Collected:** 02/26/13 10:55 **Received:** 03/01/13 03:10 **Matrix:** Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA									
Analytical Method: EPA 8260									
4-Methyl-2-pentanone (MIBK)	ND	ug/kg	288	144	50		03/09/13 13:05	108-10-1	
Methyl-tert-butyl ether	ND	ug/kg	144	72.1	50		03/09/13 13:05	1634-04-4	
Naphthalene	ND	ug/kg	288	144	50		03/09/13 13:05	91-20-3	
n-Propylbenzene	ND	ug/kg	144	72.1	50		03/09/13 13:05	103-65-1	
Styrene	ND	ug/kg	144	72.1	50		03/09/13 13:05	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/kg	144	72.1	50		03/09/13 13:05	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/kg	144	72.1	50		03/09/13 13:05	79-34-5	
Tetrachloroethene	ND	ug/kg	144	72.1	50		03/09/13 13:05	127-18-4	
Toluene	ND	ug/kg	144	72.1	50		03/09/13 13:05	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/kg	144	72.1	50		03/09/13 13:05	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/kg	144	72.1	50		03/09/13 13:05	120-82-1	
1,1,1-Trichloroethane	ND	ug/kg	144	72.1	50		03/09/13 13:05	71-55-6	
1,1,2-Trichloroethane	ND	ug/kg	144	72.1	50		03/09/13 13:05	79-00-5	
Trichloroethene	ND	ug/kg	144	72.1	50		03/09/13 13:05	79-01-6	
Trichlorofluoromethane	ND	ug/kg	144	72.1	50		03/09/13 13:05	75-69-4	
1,2,3-Trichloropropane	ND	ug/kg	144	72.1	50		03/09/13 13:05	96-18-4	
1,2,4-Trimethylbenzene	ND	ug/kg	144	72.1	50		03/09/13 13:05	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/kg	144	72.1	50		03/09/13 13:05	108-67-8	
Vinyl chloride	ND	ug/kg	144	72.1	50		03/09/13 13:05	75-01-4	
Xylene (Total)	ND	ug/kg	144	72.1	50		03/09/13 13:05	1330-20-7	
Surrogates									
Dibromofluoromethane (S)	97 %		76-125		50		03/09/13 13:05	1868-53-7	
Toluene-d8 (S)	101 %		80-120		50		03/09/13 13:05	2037-26-5	
4-Bromofluorobenzene (S)	100 %		80-120		50		03/09/13 13:05	460-00-4	
1,2-Dichloroethane-d4 (S)	100 %		76-132		50		03/09/13 13:05	17060-07-0	
Percent Moisture									
Analytical Method: ASTM D2974									
Percent Moisture	11.9 %		0.50	0.50	1		03/06/13 00:00		

ANALYTICAL RESULTS

Project: Big MO Soil Sampling

Pace Project No.: 60139568

Sample: BM-022613-SB66-10-10.5 Lab ID: 60139568033 Collected: 02/26/13 11:10 Received: 03/01/13 03:10 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA		Analytical Method: EPA 8260							
Acetone	ND	ug/kg	680	340	50		03/09/13 13:21	67-64-1	
Benzene	1830	ug/kg	170	85.0	50		03/09/13 13:21	71-43-2	
Bromobenzene	ND	ug/kg	170	85.0	50		03/09/13 13:21	108-86-1	
Bromochloromethane	ND	ug/kg	170	85.0	50		03/09/13 13:21	74-97-5	
Bromodichloromethane	ND	ug/kg	170	85.0	50		03/09/13 13:21	75-27-4	
Bromoform	ND	ug/kg	170	85.0	50		03/09/13 13:21	75-25-2	
Bromomethane	ND	ug/kg	170	85.0	50		03/09/13 13:21	74-83-9	
2-Butanone (MEK)	264J	ug/kg	340	170	50		03/09/13 13:21	78-93-3	
n-Butylbenzene	ND	ug/kg	170	85.0	50		03/09/13 13:21	104-51-8	
sec-Butylbenzene	ND	ug/kg	170	85.0	50		03/09/13 13:21	135-98-8	
tert-Butylbenzene	ND	ug/kg	170	85.0	50		03/09/13 13:21	98-06-6	
Carbon disulfide	ND	ug/kg	170	85.0	50		03/09/13 13:21	75-15-0	
Carbon tetrachloride	ND	ug/kg	170	85.0	50		03/09/13 13:21	56-23-5	
Chlorobenzene	ND	ug/kg	170	85.0	50		03/09/13 13:21	108-90-7	
Chloroethane	ND	ug/kg	170	85.0	50		03/09/13 13:21	75-00-3	
Chloroform	ND	ug/kg	170	85.0	50		03/09/13 13:21	67-66-3	
Chloromethane	179	ug/kg	170	85.0	50		03/09/13 13:21	74-87-3	
2-Chlorotoluene	ND	ug/kg	170	85.0	50		03/09/13 13:21	95-49-8	
4-Chlorotoluene	ND	ug/kg	170	85.0	50		03/09/13 13:21	106-43-4	
1,2-Dibromo-3-chloropropane	ND	ug/kg	340	170	50		03/09/13 13:21	96-12-8	
Dibromochloromethane	ND	ug/kg	170	85.0	50		03/09/13 13:21	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/kg	170	85.0	50		03/09/13 13:21	106-93-4	
Dibromomethane	ND	ug/kg	170	85.0	50		03/09/13 13:21	74-95-3	
1,2-Dichlorobenzene	ND	ug/kg	170	85.0	50		03/09/13 13:21	95-50-1	
1,3-Dichlorobenzene	ND	ug/kg	170	85.0	50		03/09/13 13:21	541-73-1	
1,4-Dichlorobenzene	ND	ug/kg	170	85.0	50		03/09/13 13:21	106-46-7	
Dichlorodifluoromethane	ND	ug/kg	170	85.0	50		03/09/13 13:21	75-71-8	
1,1-Dichloroethane	ND	ug/kg	170	85.0	50		03/09/13 13:21	75-34-3	
1,2-Dichloroethane	ND	ug/kg	170	85.0	50		03/09/13 13:21	107-06-2	
1,2-Dichloroethene (Total)	ND	ug/kg	170	85.0	50		03/09/13 13:21	540-59-0	
1,1-Dichloroethene	ND	ug/kg	170	85.0	50		03/09/13 13:21	75-35-4	
cis-1,2-Dichloroethene	ND	ug/kg	170	85.0	50		03/09/13 13:21	156-59-2	
trans-1,2-Dichloroethene	ND	ug/kg	170	85.0	50		03/09/13 13:21	156-60-5	
1,2-Dichloropropane	ND	ug/kg	170	85.0	50		03/09/13 13:21	78-87-5	
1,3-Dichloropropane	ND	ug/kg	170	85.0	50		03/09/13 13:21	142-28-9	
2,2-Dichloropropane	ND	ug/kg	170	85.0	50		03/09/13 13:21	594-20-7	
1,1-Dichloropropene	ND	ug/kg	170	85.0	50		03/09/13 13:21	563-58-6	
cis-1,3-Dichloropropene	ND	ug/kg	170	85.0	50		03/09/13 13:21	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/kg	170	85.0	50		03/09/13 13:21	10061-02-6	
Ethylbenzene	ND	ug/kg	170	85.0	50		03/09/13 13:21	100-41-4	
Hexachloro-1,3-butadiene	ND	ug/kg	170	85.0	50		03/09/13 13:21	87-68-3	
2-Hexanone	ND	ug/kg	680	340	50		03/09/13 13:21	591-78-6	
Isopropylbenzene (Cumene)	ND	ug/kg	170	85.0	50		03/09/13 13:21	98-82-8	
p-Isopropyltoluene	ND	ug/kg	170	85.0	50		03/09/13 13:21	99-87-6	
Methylene chloride	ND	ug/kg	170	85.0	50		03/09/13 13:21	75-09-2	

Date: 03/15/2013 10:48 AM

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ANALYTICAL RESULTS

Project: Big MO Soil Sampling

Pace Project No.: 60139568

Sample: BM-022613-SB66-10-10.5 **Lab ID: 60139568033** Collected: 02/26/13 11:10 Received: 03/01/13 03:10 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA Analytical Method: EPA 8260									
4-Methyl-2-pentanone (MIBK)	ND	ug/kg	340	170	50		03/09/13 13:21	108-10-1	
Methyl-tert-butyl ether	ND	ug/kg	170	85.0	50		03/09/13 13:21	1634-04-4	
Naphthalene	ND	ug/kg	340	170	50		03/09/13 13:21	91-20-3	
n-Propylbenzene	ND	ug/kg	170	85.0	50		03/09/13 13:21	103-65-1	
Styrene	ND	ug/kg	170	85.0	50		03/09/13 13:21	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/kg	170	85.0	50		03/09/13 13:21	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/kg	170	85.0	50		03/09/13 13:21	79-34-5	
Tetrachloroethene	ND	ug/kg	170	85.0	50		03/09/13 13:21	127-18-4	
Toluene	ND	ug/kg	170	85.0	50		03/09/13 13:21	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/kg	170	85.0	50		03/09/13 13:21	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/kg	170	85.0	50		03/09/13 13:21	120-82-1	
1,1,1-Trichloroethane	ND	ug/kg	170	85.0	50		03/09/13 13:21	71-55-6	
1,1,2-Trichloroethane	ND	ug/kg	170	85.0	50		03/09/13 13:21	79-00-5	
Trichloroethene	ND	ug/kg	170	85.0	50		03/09/13 13:21	79-01-6	
Trichlorofluoromethane	ND	ug/kg	170	85.0	50		03/09/13 13:21	75-69-4	
1,2,3-Trichloropropane	ND	ug/kg	170	85.0	50		03/09/13 13:21	96-18-4	
1,2,4-Trimethylbenzene	ND	ug/kg	170	85.0	50		03/09/13 13:21	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/kg	170	85.0	50		03/09/13 13:21	108-67-8	
Vinyl chloride	ND	ug/kg	170	85.0	50		03/09/13 13:21	75-01-4	
Xylene (Total)	ND	ug/kg	170	85.0	50		03/09/13 13:21	1330-20-7	
Surrogates									
Dibromofluoromethane (S)	98 %		76-125		50		03/09/13 13:21	1868-53-7	
Toluene-d8 (S)	100 %		80-120		50		03/09/13 13:21	2037-26-5	
4-Bromofluorobenzene (S)	100 %		80-120		50		03/09/13 13:21	460-00-4	
1,2-Dichloroethane-d4 (S)	100 %		76-132		50		03/09/13 13:21	17060-07-0	
Percent Moisture Analytical Method: ASTM D2974									
Percent Moisture	5.6 %		0.50	0.50	1		03/06/13 00:00		

ANALYTICAL RESULTS

Project: Big MO Soil Sampling

Pace Project No.: 60139568

Sample: BM-022613-SB83-6.8-7 Lab ID: 60139568034 Collected: 02/26/13 16:25 Received: 03/01/13 03:10 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA		Analytical Method: EPA 8260							
Acetone	ND	ug/kg	656	328	50		03/09/13 13:36	67-64-1	
Benzene	470	ug/kg	164	82.0	50		03/09/13 13:36	71-43-2	
Bromobenzene	ND	ug/kg	164	82.0	50		03/09/13 13:36	108-86-1	
Bromochloromethane	ND	ug/kg	164	82.0	50		03/09/13 13:36	74-97-5	
Bromodichloromethane	ND	ug/kg	164	82.0	50		03/09/13 13:36	75-27-4	
Bromoform	ND	ug/kg	164	82.0	50		03/09/13 13:36	75-25-2	
Bromomethane	ND	ug/kg	164	82.0	50		03/09/13 13:36	74-83-9	
2-Butanone (MEK)	178J	ug/kg	328	164	50		03/09/13 13:36	78-93-3	
n-Butylbenzene	ND	ug/kg	164	82.0	50		03/09/13 13:36	104-51-8	
sec-Butylbenzene	ND	ug/kg	164	82.0	50		03/09/13 13:36	135-98-8	
tert-Butylbenzene	ND	ug/kg	164	82.0	50		03/09/13 13:36	98-06-6	
Carbon disulfide	ND	ug/kg	164	82.0	50		03/09/13 13:36	75-15-0	
Carbon tetrachloride	ND	ug/kg	164	82.0	50		03/09/13 13:36	56-23-5	
Chlorobenzene	ND	ug/kg	164	82.0	50		03/09/13 13:36	108-90-7	
Chloroethane	ND	ug/kg	164	82.0	50		03/09/13 13:36	75-00-3	
Chloroform	ND	ug/kg	164	82.0	50		03/09/13 13:36	67-66-3	
Chloromethane	144J	ug/kg	164	82.0	50		03/09/13 13:36	74-87-3	
2-Chlorotoluene	ND	ug/kg	164	82.0	50		03/09/13 13:36	95-49-8	
4-Chlorotoluene	ND	ug/kg	164	82.0	50		03/09/13 13:36	106-43-4	
1,2-Dibromo-3-chloropropane	ND	ug/kg	328	164	50		03/09/13 13:36	96-12-8	
Dibromochloromethane	ND	ug/kg	164	82.0	50		03/09/13 13:36	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/kg	164	82.0	50		03/09/13 13:36	106-93-4	
Dibromomethane	ND	ug/kg	164	82.0	50		03/09/13 13:36	74-95-3	
1,2-Dichlorobenzene	ND	ug/kg	164	82.0	50		03/09/13 13:36	95-50-1	
1,3-Dichlorobenzene	ND	ug/kg	164	82.0	50		03/09/13 13:36	541-73-1	
1,4-Dichlorobenzene	ND	ug/kg	164	82.0	50		03/09/13 13:36	106-46-7	
Dichlorodifluoromethane	ND	ug/kg	164	82.0	50		03/09/13 13:36	75-71-8	
1,1-Dichloroethane	ND	ug/kg	164	82.0	50		03/09/13 13:36	75-34-3	
1,2-Dichloroethane	ND	ug/kg	164	82.0	50		03/09/13 13:36	107-06-2	
1,2-Dichloroethene (Total)	ND	ug/kg	164	82.0	50		03/09/13 13:36	540-59-0	
1,1-Dichloroethene	ND	ug/kg	164	82.0	50		03/09/13 13:36	75-35-4	
cis-1,2-Dichloroethene	ND	ug/kg	164	82.0	50		03/09/13 13:36	156-59-2	
trans-1,2-Dichloroethene	ND	ug/kg	164	82.0	50		03/09/13 13:36	156-60-5	
1,2-Dichloropropane	ND	ug/kg	164	82.0	50		03/09/13 13:36	78-87-5	
1,3-Dichloropropane	ND	ug/kg	164	82.0	50		03/09/13 13:36	142-28-9	
2,2-Dichloropropane	ND	ug/kg	164	82.0	50		03/09/13 13:36	594-20-7	
1,1-Dichloropropene	ND	ug/kg	164	82.0	50		03/09/13 13:36	563-58-6	
cis-1,3-Dichloropropene	ND	ug/kg	164	82.0	50		03/09/13 13:36	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/kg	164	82.0	50		03/09/13 13:36	10061-02-6	
Ethylbenzene	ND	ug/kg	164	82.0	50		03/09/13 13:36	100-41-4	
Hexachloro-1,3-butadiene	ND	ug/kg	164	82.0	50		03/09/13 13:36	87-68-3	
2-Hexanone	ND	ug/kg	656	328	50		03/09/13 13:36	591-78-6	
Isopropylbenzene (Cumene)	ND	ug/kg	164	82.0	50		03/09/13 13:36	98-82-8	
p-Isopropyltoluene	ND	ug/kg	164	82.0	50		03/09/13 13:36	99-87-6	
Methylene chloride	ND	ug/kg	164	82.0	50		03/09/13 13:36	75-09-2	

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REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Big MO Soil Sampling

Pace Project No.: 60139568

Sample: BM-022613-SB83-6.8-7 **Lab ID:** 60139568034 **Collected:** 02/26/13 16:25 **Received:** 03/01/13 03:10 **Matrix:** Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA									
Analytical Method: EPA 8260									
4-Methyl-2-pentanone (MIBK)	ND	ug/kg	328	164	50		03/09/13 13:36	108-10-1	
Methyl-tert-butyl ether	ND	ug/kg	164	82.0	50		03/09/13 13:36	1634-04-4	
Naphthalene	ND	ug/kg	328	164	50		03/09/13 13:36	91-20-3	
n-Propylbenzene	ND	ug/kg	164	82.0	50		03/09/13 13:36	103-65-1	
Styrene	ND	ug/kg	164	82.0	50		03/09/13 13:36	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/kg	164	82.0	50		03/09/13 13:36	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/kg	164	82.0	50		03/09/13 13:36	79-34-5	
Tetrachloroethene	ND	ug/kg	164	82.0	50		03/09/13 13:36	127-18-4	
Toluene	ND	ug/kg	164	82.0	50		03/09/13 13:36	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/kg	164	82.0	50		03/09/13 13:36	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/kg	164	82.0	50		03/09/13 13:36	120-82-1	
1,1,1-Trichloroethane	ND	ug/kg	164	82.0	50		03/09/13 13:36	71-55-6	
1,1,2-Trichloroethane	ND	ug/kg	164	82.0	50		03/09/13 13:36	79-00-5	
Trichloroethene	ND	ug/kg	164	82.0	50		03/09/13 13:36	79-01-6	
Trichlorofluoromethane	ND	ug/kg	164	82.0	50		03/09/13 13:36	75-69-4	
1,2,3-Trichloropropane	ND	ug/kg	164	82.0	50		03/09/13 13:36	96-18-4	
1,2,4-Trimethylbenzene	ND	ug/kg	164	82.0	50		03/09/13 13:36	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/kg	164	82.0	50		03/09/13 13:36	108-67-8	
Vinyl chloride	ND	ug/kg	164	82.0	50		03/09/13 13:36	75-01-4	
Xylene (Total)	ND	ug/kg	164	82.0	50		03/09/13 13:36	1330-20-7	
Surrogates									
Dibromofluoromethane (S)	97 %		76-125		50		03/09/13 13:36	1868-53-7	
Toluene-d8 (S)	100 %		80-120		50		03/09/13 13:36	2037-26-5	
4-Bromofluorobenzene (S)	100 %		80-120		50		03/09/13 13:36	460-00-4	
1,2-Dichloroethane-d4 (S)	102 %		76-132		50		03/09/13 13:36	17060-07-0	
Percent Moisture									
Analytical Method: ASTM D2974									
Percent Moisture	8.5 %		0.50	0.50	1		03/06/13 00:00		

ANALYTICAL RESULTS

Project: Big MO Soil Sampling

Pace Project No.: 60139568

Sample: **BM-022613-SB83-10.9-11.1** Lab ID: **60139568035** Collected: 02/26/13 16:30 Received: 03/01/13 03:10 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA		Analytical Method: EPA 8260							
Acetone	160	ug/kg	13.1	6.5	1		03/12/13 21:08	67-64-1	
Benzene	2.1J	ug/kg	3.3	1.6	1		03/12/13 21:08	71-43-2	
Bromobenzene	ND	ug/kg	3.3	1.6	1		03/12/13 21:08	108-86-1	
Bromochloromethane	ND	ug/kg	3.3	1.6	1		03/12/13 21:08	74-97-5	
Bromodichloromethane	ND	ug/kg	3.3	1.6	1		03/12/13 21:08	75-27-4	
Bromoform	ND	ug/kg	3.3	1.6	1		03/12/13 21:08	75-25-2	
Bromomethane	ND	ug/kg	3.3	1.6	1		03/12/13 21:08	74-83-9	
2-Butanone (MEK)	ND	ug/kg	6.5	3.3	1		03/12/13 21:08	78-93-3	
n-Butylbenzene	ND	ug/kg	3.3	1.6	1		03/12/13 21:08	104-51-8	
sec-Butylbenzene	ND	ug/kg	3.3	1.6	1		03/12/13 21:08	135-98-8	
tert-Butylbenzene	ND	ug/kg	3.3	1.6	1		03/12/13 21:08	98-06-6	
Carbon disulfide	ND	ug/kg	3.3	1.6	1		03/12/13 21:08	75-15-0	
Carbon tetrachloride	ND	ug/kg	3.3	1.6	1		03/12/13 21:08	56-23-5	
Chlorobenzene	ND	ug/kg	3.3	1.6	1		03/12/13 21:08	108-90-7	
Chloroethane	ND	ug/kg	3.3	1.6	1		03/12/13 21:08	75-00-3	
Chloroform	ND	ug/kg	3.3	1.6	1		03/12/13 21:08	67-66-3	
Chloromethane	ND	ug/kg	3.3	1.6	1		03/12/13 21:08	74-87-3	
2-Chlorotoluene	ND	ug/kg	3.3	1.6	1		03/12/13 21:08	95-49-8	
4-Chlorotoluene	ND	ug/kg	3.3	1.6	1		03/12/13 21:08	106-43-4	
1,2-Dibromo-3-chloropropane	ND	ug/kg	6.5	3.3	1		03/12/13 21:08	96-12-8	
Dibromochloromethane	ND	ug/kg	3.3	1.6	1		03/12/13 21:08	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/kg	3.3	1.6	1		03/12/13 21:08	106-93-4	
Dibromomethane	ND	ug/kg	3.3	1.6	1		03/12/13 21:08	74-95-3	
1,2-Dichlorobenzene	ND	ug/kg	3.3	1.6	1		03/12/13 21:08	95-50-1	
1,3-Dichlorobenzene	ND	ug/kg	3.3	1.6	1		03/12/13 21:08	541-73-1	
1,4-Dichlorobenzene	ND	ug/kg	3.3	1.6	1		03/12/13 21:08	106-46-7	
Dichlorodifluoromethane	ND	ug/kg	3.3	1.6	1		03/12/13 21:08	75-71-8	
1,1-Dichloroethane	ND	ug/kg	3.3	1.6	1		03/12/13 21:08	75-34-3	
1,2-Dichloroethane	ND	ug/kg	3.3	1.6	1		03/12/13 21:08	107-06-2	
1,2-Dichloroethene (Total)	ND	ug/kg	3.3	1.6	1		03/12/13 21:08	540-59-0	
1,1-Dichloroethene	ND	ug/kg	3.3	1.6	1		03/12/13 21:08	75-35-4	
cis-1,2-Dichloroethene	ND	ug/kg	3.3	1.6	1		03/12/13 21:08	156-59-2	
trans-1,2-Dichloroethene	ND	ug/kg	3.3	1.6	1		03/12/13 21:08	156-60-5	
1,2-Dichloropropane	ND	ug/kg	3.3	1.6	1		03/12/13 21:08	78-87-5	
1,3-Dichloropropane	ND	ug/kg	3.3	1.6	1		03/12/13 21:08	142-28-9	
2,2-Dichloropropane	ND	ug/kg	3.3	1.6	1		03/12/13 21:08	594-20-7	
1,1-Dichloropropene	ND	ug/kg	3.3	1.6	1		03/12/13 21:08	563-58-6	
cis-1,3-Dichloropropene	ND	ug/kg	3.3	1.6	1		03/12/13 21:08	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/kg	3.3	1.6	1		03/12/13 21:08	10061-02-6	
Ethylbenzene	ND	ug/kg	3.3	1.6	1		03/12/13 21:08	100-41-4	
Hexachloro-1,3-butadiene	ND	ug/kg	3.3	1.6	1		03/12/13 21:08	87-68-3	
2-Hexanone	ND	ug/kg	13.1	6.5	1		03/12/13 21:08	591-78-6	
Isopropylbenzene (Cumene)	ND	ug/kg	3.3	1.6	1		03/12/13 21:08	98-82-8	
p-Isopropyltoluene	ND	ug/kg	3.3	1.6	1		03/12/13 21:08	99-87-6	
Methylene chloride	ND	ug/kg	3.3	1.6	1		03/12/13 21:08	75-09-2	

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ANALYTICAL RESULTS

Project: Big MO Soil Sampling

Pace Project No.: 60139568

Sample: **BM-022613-SB83-10.9-11.1** Lab ID: **60139568035** Collected: 02/26/13 16:30 Received: 03/01/13 03:10 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA									
Analytical Method: EPA 8260									
4-Methyl-2-pentanone (MIBK)	ND	ug/kg	6.5	3.3	1		03/12/13 21:08	108-10-1	
Methyl-tert-butyl ether	ND	ug/kg	3.3	1.6	1		03/12/13 21:08	1634-04-4	
Naphthalene	ND	ug/kg	6.5	3.3	1		03/12/13 21:08	91-20-3	
n-Propylbenzene	ND	ug/kg	3.3	1.6	1		03/12/13 21:08	103-65-1	
Styrene	ND	ug/kg	3.3	1.6	1		03/12/13 21:08	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/kg	3.3	1.6	1		03/12/13 21:08	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/kg	3.3	1.6	1		03/12/13 21:08	79-34-5	
Tetrachloroethene	ND	ug/kg	3.3	1.6	1		03/12/13 21:08	127-18-4	
Toluene	ND	ug/kg	3.3	1.6	1		03/12/13 21:08	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/kg	3.3	1.6	1		03/12/13 21:08	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/kg	3.3	1.6	1		03/12/13 21:08	120-82-1	
1,1,1-Trichloroethane	ND	ug/kg	3.3	1.6	1		03/12/13 21:08	71-55-6	
1,1,2-Trichloroethane	ND	ug/kg	3.3	1.6	1		03/12/13 21:08	79-00-5	
Trichloroethene	ND	ug/kg	3.3	1.6	1		03/12/13 21:08	79-01-6	
Trichlorofluoromethane	ND	ug/kg	3.3	1.6	1		03/12/13 21:08	75-69-4	
1,2,3-Trichloropropane	ND	ug/kg	3.3	1.6	1		03/12/13 21:08	96-18-4	
1,2,4-Trimethylbenzene	ND	ug/kg	3.3	1.6	1		03/12/13 21:08	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/kg	3.3	1.6	1		03/12/13 21:08	108-67-8	
Vinyl chloride	ND	ug/kg	3.3	1.6	1		03/12/13 21:08	75-01-4	
Xylene (Total)	ND	ug/kg	3.3	1.6	1		03/12/13 21:08	1330-20-7	
Surrogates									
Dibromofluoromethane (S)	91 %		76-125		1		03/12/13 21:08	1868-53-7	IO
Toluene-d8 (S)	101 %		80-120		1		03/12/13 21:08	2037-26-5	
4-Bromofluorobenzene (S)	98 %		80-120		1		03/12/13 21:08	460-00-4	
1,2-Dichloroethane-d4 (S)	91 %		76-132		1		03/12/13 21:08	17060-07-0	
Percent Moisture									
Analytical Method: ASTM D2974									
Percent Moisture	5.9 %		0.50	0.50	1		03/06/13 00:00		

ANALYTICAL RESULTS

Project: Big MO Soil Sampling

Pace Project No.: 60139568

Sample: BM-022613-SB83-12.9-13.1 Lab ID: 60139568036 Collected: 02/26/13 16:35 Received: 03/01/13 03:10 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA		Analytical Method: EPA 8260							
Acetone	ND	ug/kg	576	288	50		03/09/13 13:51	67-64-1	
Benzene	265	ug/kg	144	72.0	50		03/09/13 13:51	71-43-2	
Bromobenzene	ND	ug/kg	144	72.0	50		03/09/13 13:51	108-86-1	
Bromochloromethane	ND	ug/kg	144	72.0	50		03/09/13 13:51	74-97-5	
Bromodichloromethane	ND	ug/kg	144	72.0	50		03/09/13 13:51	75-27-4	
Bromoform	ND	ug/kg	144	72.0	50		03/09/13 13:51	75-25-2	
Bromomethane	ND	ug/kg	144	72.0	50		03/09/13 13:51	74-83-9	
2-Butanone (MEK)	197J	ug/kg	288	144	50		03/09/13 13:51	78-93-3	
n-Butylbenzene	ND	ug/kg	144	72.0	50		03/09/13 13:51	104-51-8	
sec-Butylbenzene	ND	ug/kg	144	72.0	50		03/09/13 13:51	135-98-8	
tert-Butylbenzene	ND	ug/kg	144	72.0	50		03/09/13 13:51	98-06-6	
Carbon disulfide	ND	ug/kg	144	72.0	50		03/09/13 13:51	75-15-0	
Carbon tetrachloride	ND	ug/kg	144	72.0	50		03/09/13 13:51	56-23-5	
Chlorobenzene	ND	ug/kg	144	72.0	50		03/09/13 13:51	108-90-7	
Chloroethane	ND	ug/kg	144	72.0	50		03/09/13 13:51	75-00-3	
Chloroform	ND	ug/kg	144	72.0	50		03/09/13 13:51	67-66-3	
Chloromethane	141J	ug/kg	144	72.0	50		03/09/13 13:51	74-87-3	
2-Chlorotoluene	ND	ug/kg	144	72.0	50		03/09/13 13:51	95-49-8	
4-Chlorotoluene	ND	ug/kg	144	72.0	50		03/09/13 13:51	106-43-4	
1,2-Dibromo-3-chloropropane	ND	ug/kg	288	144	50		03/09/13 13:51	96-12-8	
Dibromochloromethane	ND	ug/kg	144	72.0	50		03/09/13 13:51	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/kg	144	72.0	50		03/09/13 13:51	106-93-4	
Dibromomethane	ND	ug/kg	144	72.0	50		03/09/13 13:51	74-95-3	
1,2-Dichlorobenzene	ND	ug/kg	144	72.0	50		03/09/13 13:51	95-50-1	
1,3-Dichlorobenzene	ND	ug/kg	144	72.0	50		03/09/13 13:51	541-73-1	
1,4-Dichlorobenzene	ND	ug/kg	144	72.0	50		03/09/13 13:51	106-46-7	
Dichlorodifluoromethane	ND	ug/kg	144	72.0	50		03/09/13 13:51	75-71-8	
1,1-Dichloroethane	ND	ug/kg	144	72.0	50		03/09/13 13:51	75-34-3	
1,2-Dichloroethane	ND	ug/kg	144	72.0	50		03/09/13 13:51	107-06-2	
1,2-Dichloroethene (Total)	ND	ug/kg	144	72.0	50		03/09/13 13:51	540-59-0	
1,1-Dichloroethene	ND	ug/kg	144	72.0	50		03/09/13 13:51	75-35-4	
cis-1,2-Dichloroethene	ND	ug/kg	144	72.0	50		03/09/13 13:51	156-59-2	
trans-1,2-Dichloroethene	ND	ug/kg	144	72.0	50		03/09/13 13:51	156-60-5	
1,2-Dichloropropane	ND	ug/kg	144	72.0	50		03/09/13 13:51	78-87-5	
1,3-Dichloropropane	ND	ug/kg	144	72.0	50		03/09/13 13:51	142-28-9	
2,2-Dichloropropane	ND	ug/kg	144	72.0	50		03/09/13 13:51	594-20-7	
1,1-Dichloropropene	ND	ug/kg	144	72.0	50		03/09/13 13:51	563-58-6	
cis-1,3-Dichloropropene	ND	ug/kg	144	72.0	50		03/09/13 13:51	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/kg	144	72.0	50		03/09/13 13:51	10061-02-6	
Ethylbenzene	ND	ug/kg	144	72.0	50		03/09/13 13:51	100-41-4	
Hexachloro-1,3-butadiene	ND	ug/kg	144	72.0	50		03/09/13 13:51	87-68-3	
2-Hexanone	ND	ug/kg	576	288	50		03/09/13 13:51	591-78-6	
Isopropylbenzene (Cumene)	ND	ug/kg	144	72.0	50		03/09/13 13:51	98-82-8	
p-Isopropyltoluene	ND	ug/kg	144	72.0	50		03/09/13 13:51	99-87-6	
Methylene chloride	ND	ug/kg	144	72.0	50		03/09/13 13:51	75-09-2	

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ANALYTICAL RESULTS

Project: Big MO Soil Sampling

Pace Project No.: 60139568

Sample: BM-022613-SB83-12.9-13.1 **Lab ID:** 60139568036 **Collected:** 02/26/13 16:35 **Received:** 03/01/13 03:10 **Matrix:** Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA									
Analytical Method: EPA 8260									
4-Methyl-2-pentanone (MIBK)	ND	ug/kg	288	144	50		03/09/13 13:51	108-10-1	
Methyl-tert-butyl ether	ND	ug/kg	144	72.0	50		03/09/13 13:51	1634-04-4	
Naphthalene	ND	ug/kg	288	144	50		03/09/13 13:51	91-20-3	
n-Propylbenzene	ND	ug/kg	144	72.0	50		03/09/13 13:51	103-65-1	
Styrene	ND	ug/kg	144	72.0	50		03/09/13 13:51	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/kg	144	72.0	50		03/09/13 13:51	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/kg	144	72.0	50		03/09/13 13:51	79-34-5	
Tetrachloroethene	ND	ug/kg	144	72.0	50		03/09/13 13:51	127-18-4	
Toluene	ND	ug/kg	144	72.0	50		03/09/13 13:51	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/kg	144	72.0	50		03/09/13 13:51	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/kg	144	72.0	50		03/09/13 13:51	120-82-1	
1,1,1-Trichloroethane	ND	ug/kg	144	72.0	50		03/09/13 13:51	71-55-6	
1,1,2-Trichloroethane	ND	ug/kg	144	72.0	50		03/09/13 13:51	79-00-5	
Trichloroethene	ND	ug/kg	144	72.0	50		03/09/13 13:51	79-01-6	
Trichlorofluoromethane	ND	ug/kg	144	72.0	50		03/09/13 13:51	75-69-4	
1,2,3-Trichloropropane	ND	ug/kg	144	72.0	50		03/09/13 13:51	96-18-4	
1,2,4-Trimethylbenzene	ND	ug/kg	144	72.0	50		03/09/13 13:51	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/kg	144	72.0	50		03/09/13 13:51	108-67-8	
Vinyl chloride	ND	ug/kg	144	72.0	50		03/09/13 13:51	75-01-4	
Xylene (Total)	ND	ug/kg	144	72.0	50		03/09/13 13:51	1330-20-7	
Surrogates									
Dibromofluoromethane (S)	100 %		76-125		50		03/09/13 13:51	1868-53-7	
Toluene-d8 (S)	100 %		80-120		50		03/09/13 13:51	2037-26-5	
4-Bromofluorobenzene (S)	100 %		80-120		50		03/09/13 13:51	460-00-4	
1,2-Dichloroethane-d4 (S)	103 %		76-132		50		03/09/13 13:51	17060-07-0	
Percent Moisture									
Analytical Method: ASTM D2974									
Percent Moisture	4.4 %		0.50	0.50	1		03/06/13 00:00		

ANALYTICAL RESULTS

Project: Big MO Soil Sampling

Pace Project No.: 60139568

Sample: BM-022613-SB83-11-11.5 Lab ID: 60139568037 Collected: 02/26/13 17:00 Received: 03/01/13 03:10 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA		Analytical Method: EPA 8260							
Acetone	ND	ug/kg	788	394	50		03/09/13 14:07	67-64-1	
Benzene	292	ug/kg	197	98.5	50		03/09/13 14:07	71-43-2	
Bromobenzene	ND	ug/kg	197	98.5	50		03/09/13 14:07	108-86-1	
Bromochloromethane	ND	ug/kg	197	98.5	50		03/09/13 14:07	74-97-5	
Bromodichloromethane	ND	ug/kg	197	98.5	50		03/09/13 14:07	75-27-4	
Bromoform	ND	ug/kg	197	98.5	50		03/09/13 14:07	75-25-2	
Bromomethane	ND	ug/kg	197	98.5	50		03/09/13 14:07	74-83-9	
2-Butanone (MEK)	212J	ug/kg	394	197	50		03/09/13 14:07	78-93-3	
n-Butylbenzene	ND	ug/kg	197	98.5	50		03/09/13 14:07	104-51-8	
sec-Butylbenzene	ND	ug/kg	197	98.5	50		03/09/13 14:07	135-98-8	
tert-Butylbenzene	ND	ug/kg	197	98.5	50		03/09/13 14:07	98-06-6	
Carbon disulfide	ND	ug/kg	197	98.5	50		03/09/13 14:07	75-15-0	
Carbon tetrachloride	ND	ug/kg	197	98.5	50		03/09/13 14:07	56-23-5	
Chlorobenzene	ND	ug/kg	197	98.5	50		03/09/13 14:07	108-90-7	
Chloroethane	ND	ug/kg	197	98.5	50		03/09/13 14:07	75-00-3	
Chloroform	ND	ug/kg	197	98.5	50		03/09/13 14:07	67-66-3	
Chloromethane	189J	ug/kg	197	98.5	50		03/09/13 14:07	74-87-3	
2-Chlorotoluene	ND	ug/kg	197	98.5	50		03/09/13 14:07	95-49-8	
4-Chlorotoluene	ND	ug/kg	197	98.5	50		03/09/13 14:07	106-43-4	
1,2-Dibromo-3-chloropropane	ND	ug/kg	394	197	50		03/09/13 14:07	96-12-8	
Dibromochloromethane	ND	ug/kg	197	98.5	50		03/09/13 14:07	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/kg	197	98.5	50		03/09/13 14:07	106-93-4	
Dibromomethane	ND	ug/kg	197	98.5	50		03/09/13 14:07	74-95-3	
1,2-Dichlorobenzene	ND	ug/kg	197	98.5	50		03/09/13 14:07	95-50-1	
1,3-Dichlorobenzene	ND	ug/kg	197	98.5	50		03/09/13 14:07	541-73-1	
1,4-Dichlorobenzene	ND	ug/kg	197	98.5	50		03/09/13 14:07	106-46-7	
Dichlorodifluoromethane	ND	ug/kg	197	98.5	50		03/09/13 14:07	75-71-8	
1,1-Dichloroethane	ND	ug/kg	197	98.5	50		03/09/13 14:07	75-34-3	
1,2-Dichloroethane	ND	ug/kg	197	98.5	50		03/09/13 14:07	107-06-2	
1,2-Dichloroethene (Total)	ND	ug/kg	197	98.5	50		03/09/13 14:07	540-59-0	
1,1-Dichloroethene	ND	ug/kg	197	98.5	50		03/09/13 14:07	75-35-4	
cis-1,2-Dichloroethene	ND	ug/kg	197	98.5	50		03/09/13 14:07	156-59-2	
trans-1,2-Dichloroethene	ND	ug/kg	197	98.5	50		03/09/13 14:07	156-60-5	
1,2-Dichloropropane	ND	ug/kg	197	98.5	50		03/09/13 14:07	78-87-5	
1,3-Dichloropropane	ND	ug/kg	197	98.5	50		03/09/13 14:07	142-28-9	
2,2-Dichloropropane	ND	ug/kg	197	98.5	50		03/09/13 14:07	594-20-7	
1,1-Dichloropropene	ND	ug/kg	197	98.5	50		03/09/13 14:07	563-58-6	
cis-1,3-Dichloropropene	ND	ug/kg	197	98.5	50		03/09/13 14:07	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/kg	197	98.5	50		03/09/13 14:07	10061-02-6	
Ethylbenzene	ND	ug/kg	197	98.5	50		03/09/13 14:07	100-41-4	
Hexachloro-1,3-butadiene	ND	ug/kg	197	98.5	50		03/09/13 14:07	87-68-3	
2-Hexanone	ND	ug/kg	788	394	50		03/09/13 14:07	591-78-6	
Isopropylbenzene (Cumene)	ND	ug/kg	197	98.5	50		03/09/13 14:07	98-82-8	
p-Isopropyltoluene	ND	ug/kg	197	98.5	50		03/09/13 14:07	99-87-6	
Methylene chloride	ND	ug/kg	197	98.5	50		03/09/13 14:07	75-09-2	

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ANALYTICAL RESULTS

Project: Big MO Soil Sampling

Pace Project No.: 60139568

Sample: BM-022613-SB83-11-11.5 **Lab ID:** 60139568037 **Collected:** 02/26/13 17:00 **Received:** 03/01/13 03:10 **Matrix:** Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA									
Analytical Method: EPA 8260									
4-Methyl-2-pentanone (MIBK)	ND	ug/kg	394	197	50		03/09/13 14:07	108-10-1	
Methyl-tert-butyl ether	ND	ug/kg	197	98.5	50		03/09/13 14:07	1634-04-4	
Naphthalene	ND	ug/kg	394	197	50		03/09/13 14:07	91-20-3	
n-Propylbenzene	ND	ug/kg	197	98.5	50		03/09/13 14:07	103-65-1	
Styrene	ND	ug/kg	197	98.5	50		03/09/13 14:07	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/kg	197	98.5	50		03/09/13 14:07	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/kg	197	98.5	50		03/09/13 14:07	79-34-5	
Tetrachloroethene	ND	ug/kg	197	98.5	50		03/09/13 14:07	127-18-4	
Toluene	ND	ug/kg	197	98.5	50		03/09/13 14:07	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/kg	197	98.5	50		03/09/13 14:07	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/kg	197	98.5	50		03/09/13 14:07	120-82-1	
1,1,1-Trichloroethane	ND	ug/kg	197	98.5	50		03/09/13 14:07	71-55-6	
1,1,2-Trichloroethane	ND	ug/kg	197	98.5	50		03/09/13 14:07	79-00-5	
Trichloroethene	ND	ug/kg	197	98.5	50		03/09/13 14:07	79-01-6	
Trichlorofluoromethane	ND	ug/kg	197	98.5	50		03/09/13 14:07	75-69-4	
1,2,3-Trichloropropane	ND	ug/kg	197	98.5	50		03/09/13 14:07	96-18-4	
1,2,4-Trimethylbenzene	ND	ug/kg	197	98.5	50		03/09/13 14:07	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/kg	197	98.5	50		03/09/13 14:07	108-67-8	
Vinyl chloride	ND	ug/kg	197	98.5	50		03/09/13 14:07	75-01-4	
Xylene (Total)	ND	ug/kg	197	98.5	50		03/09/13 14:07	1330-20-7	
Surrogates									
Dibromofluoromethane (S)	98 %		76-125		50		03/09/13 14:07	1868-53-7	
Toluene-d8 (S)	100 %		80-120		50		03/09/13 14:07	2037-26-5	
4-Bromofluorobenzene (S)	98 %		80-120		50		03/09/13 14:07	460-00-4	
1,2-Dichloroethane-d4 (S)	102 %		76-132		50		03/09/13 14:07	17060-07-0	
Percent Moisture									
Analytical Method: ASTM D2974									
Percent Moisture	5.4 %		0.50	0.50	1		03/06/13 00:00		

ANALYTICAL RESULTS

Project: Big MO Soil Sampling

Pace Project No.: 60139568

Sample: BM-022613-SB83-16.8-17 **Lab ID:** 60139568038 **Collected:** 02/26/13 16:45 **Received:** 03/01/13 03:10 **Matrix:** Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA		Analytical Method: EPA 8260							
Acetone	ND	ug/kg	681	340	50		03/09/13 14:22	67-64-1	
Benzene	207	ug/kg	170	85.1	50		03/09/13 14:22	71-43-2	
Bromobenzene	ND	ug/kg	170	85.1	50		03/09/13 14:22	108-86-1	
Bromochloromethane	ND	ug/kg	170	85.1	50		03/09/13 14:22	74-97-5	
Bromodichloromethane	ND	ug/kg	170	85.1	50		03/09/13 14:22	75-27-4	
Bromoform	ND	ug/kg	170	85.1	50		03/09/13 14:22	75-25-2	
Bromomethane	ND	ug/kg	170	85.1	50		03/09/13 14:22	74-83-9	
2-Butanone (MEK)	ND	ug/kg	340	170	50		03/09/13 14:22	78-93-3	
n-Butylbenzene	ND	ug/kg	170	85.1	50		03/09/13 14:22	104-51-8	
sec-Butylbenzene	ND	ug/kg	170	85.1	50		03/09/13 14:22	135-98-8	
tert-Butylbenzene	ND	ug/kg	170	85.1	50		03/09/13 14:22	98-06-6	
Carbon disulfide	ND	ug/kg	170	85.1	50		03/09/13 14:22	75-15-0	
Carbon tetrachloride	ND	ug/kg	170	85.1	50		03/09/13 14:22	56-23-5	
Chlorobenzene	ND	ug/kg	170	85.1	50		03/09/13 14:22	108-90-7	
Chloroethane	ND	ug/kg	170	85.1	50		03/09/13 14:22	75-00-3	
Chloroform	ND	ug/kg	170	85.1	50		03/09/13 14:22	67-66-3	
Chloromethane	140J	ug/kg	170	85.1	50		03/09/13 14:22	74-87-3	
2-Chlorotoluene	ND	ug/kg	170	85.1	50		03/09/13 14:22	95-49-8	
4-Chlorotoluene	ND	ug/kg	170	85.1	50		03/09/13 14:22	106-43-4	
1,2-Dibromo-3-chloropropane	ND	ug/kg	340	170	50		03/09/13 14:22	96-12-8	
Dibromochloromethane	ND	ug/kg	170	85.1	50		03/09/13 14:22	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/kg	170	85.1	50		03/09/13 14:22	106-93-4	
Dibromomethane	ND	ug/kg	170	85.1	50		03/09/13 14:22	74-95-3	
1,2-Dichlorobenzene	ND	ug/kg	170	85.1	50		03/09/13 14:22	95-50-1	
1,3-Dichlorobenzene	ND	ug/kg	170	85.1	50		03/09/13 14:22	541-73-1	
1,4-Dichlorobenzene	ND	ug/kg	170	85.1	50		03/09/13 14:22	106-46-7	
Dichlorodifluoromethane	ND	ug/kg	170	85.1	50		03/09/13 14:22	75-71-8	
1,1-Dichloroethane	ND	ug/kg	170	85.1	50		03/09/13 14:22	75-34-3	
1,2-Dichloroethane	ND	ug/kg	170	85.1	50		03/09/13 14:22	107-06-2	
1,2-Dichloroethene (Total)	ND	ug/kg	170	85.1	50		03/09/13 14:22	540-59-0	
1,1-Dichloroethene	ND	ug/kg	170	85.1	50		03/09/13 14:22	75-35-4	
cis-1,2-Dichloroethene	ND	ug/kg	170	85.1	50		03/09/13 14:22	156-59-2	
trans-1,2-Dichloroethene	ND	ug/kg	170	85.1	50		03/09/13 14:22	156-60-5	
1,2-Dichloropropane	ND	ug/kg	170	85.1	50		03/09/13 14:22	78-87-5	
1,3-Dichloropropane	ND	ug/kg	170	85.1	50		03/09/13 14:22	142-28-9	
2,2-Dichloropropane	ND	ug/kg	170	85.1	50		03/09/13 14:22	594-20-7	
1,1-Dichloropropene	ND	ug/kg	170	85.1	50		03/09/13 14:22	563-58-6	
cis-1,3-Dichloropropene	ND	ug/kg	170	85.1	50		03/09/13 14:22	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/kg	170	85.1	50		03/09/13 14:22	10061-02-6	
Ethylbenzene	ND	ug/kg	170	85.1	50		03/09/13 14:22	100-41-4	
Hexachloro-1,3-butadiene	ND	ug/kg	170	85.1	50		03/09/13 14:22	87-68-3	
2-Hexanone	ND	ug/kg	681	340	50		03/09/13 14:22	591-78-6	
Isopropylbenzene (Cumene)	ND	ug/kg	170	85.1	50		03/09/13 14:22	98-82-8	
p-Isopropyltoluene	ND	ug/kg	170	85.1	50		03/09/13 14:22	99-87-6	
Methylene chloride	ND	ug/kg	170	85.1	50		03/09/13 14:22	75-09-2	

Date: 03/15/2013 10:48 AM

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Big MO Soil Sampling

Pace Project No.: 60139568

Sample: BM-022613-SB83-16.8-17 **Lab ID:** 60139568038 Collected: 02/26/13 16:45 Received: 03/01/13 03:10 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA Analytical Method: EPA 8260									
4-Methyl-2-pentanone (MIBK)	ND	ug/kg	340	170	50		03/09/13 14:22	108-10-1	
Methyl-tert-butyl ether	ND	ug/kg	170	85.1	50		03/09/13 14:22	1634-04-4	
Naphthalene	ND	ug/kg	340	170	50		03/09/13 14:22	91-20-3	
n-Propylbenzene	ND	ug/kg	170	85.1	50		03/09/13 14:22	103-65-1	
Styrene	ND	ug/kg	170	85.1	50		03/09/13 14:22	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/kg	170	85.1	50		03/09/13 14:22	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/kg	170	85.1	50		03/09/13 14:22	79-34-5	
Tetrachloroethene	ND	ug/kg	170	85.1	50		03/09/13 14:22	127-18-4	
Toluene	ND	ug/kg	170	85.1	50		03/09/13 14:22	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/kg	170	85.1	50		03/09/13 14:22	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/kg	170	85.1	50		03/09/13 14:22	120-82-1	
1,1,1-Trichloroethane	ND	ug/kg	170	85.1	50		03/09/13 14:22	71-55-6	
1,1,2-Trichloroethane	ND	ug/kg	170	85.1	50		03/09/13 14:22	79-00-5	
Trichloroethene	ND	ug/kg	170	85.1	50		03/09/13 14:22	79-01-6	
Trichlorofluoromethane	ND	ug/kg	170	85.1	50		03/09/13 14:22	75-69-4	
1,2,3-Trichloropropane	ND	ug/kg	170	85.1	50		03/09/13 14:22	96-18-4	
1,2,4-Trimethylbenzene	ND	ug/kg	170	85.1	50		03/09/13 14:22	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/kg	170	85.1	50		03/09/13 14:22	108-67-8	
Vinyl chloride	ND	ug/kg	170	85.1	50		03/09/13 14:22	75-01-4	
Xylene (Total)	ND	ug/kg	170	85.1	50		03/09/13 14:22	1330-20-7	
Surrogates									
Dibromofluoromethane (S)	99 %		76-125		50		03/09/13 14:22	1868-53-7	
Toluene-d8 (S)	99 %		80-120		50		03/09/13 14:22	2037-26-5	
4-Bromofluorobenzene (S)	99 %		80-120		50		03/09/13 14:22	460-00-4	
1,2-Dichloroethane-d4 (S)	99 %		76-132		50		03/09/13 14:22	17060-07-0	
Percent Moisture Analytical Method: ASTM D2974									
Percent Moisture	13.0 %		0.50	0.50	1		03/06/13 00:00		

ANALYTICAL RESULTS

Project: Big MO Soil Sampling

Pace Project No.: 60139568

Sample: **BM-022613-SB71-8-8.2** Lab ID: **60139568039** Collected: 02/26/13 15:30 Received: 03/01/13 03:10 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA		Analytical Method: EPA 8260							
Acetone	ND	ug/kg	631	316	50		03/09/13 14:37	67-64-1	
Benzene	2090	ug/kg	158	78.9	50		03/09/13 14:37	71-43-2	
Bromobenzene	ND	ug/kg	158	78.9	50		03/09/13 14:37	108-86-1	
Bromochloromethane	ND	ug/kg	158	78.9	50		03/09/13 14:37	74-97-5	
Bromodichloromethane	ND	ug/kg	158	78.9	50		03/09/13 14:37	75-27-4	
Bromoform	ND	ug/kg	158	78.9	50		03/09/13 14:37	75-25-2	
Bromomethane	ND	ug/kg	158	78.9	50		03/09/13 14:37	74-83-9	
2-Butanone (MEK)	177J	ug/kg	316	158	50		03/09/13 14:37	78-93-3	
n-Butylbenzene	ND	ug/kg	158	78.9	50		03/09/13 14:37	104-51-8	
sec-Butylbenzene	ND	ug/kg	158	78.9	50		03/09/13 14:37	135-98-8	
tert-Butylbenzene	ND	ug/kg	158	78.9	50		03/09/13 14:37	98-06-6	
Carbon disulfide	ND	ug/kg	158	78.9	50		03/09/13 14:37	75-15-0	
Carbon tetrachloride	ND	ug/kg	158	78.9	50		03/09/13 14:37	56-23-5	
Chlorobenzene	ND	ug/kg	158	78.9	50		03/09/13 14:37	108-90-7	
Chloroethane	ND	ug/kg	158	78.9	50		03/09/13 14:37	75-00-3	
Chloroform	ND	ug/kg	158	78.9	50		03/09/13 14:37	67-66-3	
Chloromethane	144J	ug/kg	158	78.9	50		03/09/13 14:37	74-87-3	
2-Chlorotoluene	ND	ug/kg	158	78.9	50		03/09/13 14:37	95-49-8	
4-Chlorotoluene	ND	ug/kg	158	78.9	50		03/09/13 14:37	106-43-4	
1,2-Dibromo-3-chloropropane	ND	ug/kg	316	158	50		03/09/13 14:37	96-12-8	
Dibromochloromethane	ND	ug/kg	158	78.9	50		03/09/13 14:37	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/kg	158	78.9	50		03/09/13 14:37	106-93-4	
Dibromomethane	ND	ug/kg	158	78.9	50		03/09/13 14:37	74-95-3	
1,2-Dichlorobenzene	ND	ug/kg	158	78.9	50		03/09/13 14:37	95-50-1	
1,3-Dichlorobenzene	ND	ug/kg	158	78.9	50		03/09/13 14:37	541-73-1	
1,4-Dichlorobenzene	256	ug/kg	158	78.9	50		03/09/13 14:37	106-46-7	
Dichlorodifluoromethane	ND	ug/kg	158	78.9	50		03/09/13 14:37	75-71-8	
1,1-Dichloroethane	ND	ug/kg	158	78.9	50		03/09/13 14:37	75-34-3	
1,2-Dichloroethane	ND	ug/kg	158	78.9	50		03/09/13 14:37	107-06-2	
1,2-Dichloroethene (Total)	ND	ug/kg	158	78.9	50		03/09/13 14:37	540-59-0	
1,1-Dichloroethene	ND	ug/kg	158	78.9	50		03/09/13 14:37	75-35-4	
cis-1,2-Dichloroethene	ND	ug/kg	158	78.9	50		03/09/13 14:37	156-59-2	
trans-1,2-Dichloroethene	ND	ug/kg	158	78.9	50		03/09/13 14:37	156-60-5	
1,2-Dichloropropane	ND	ug/kg	158	78.9	50		03/09/13 14:37	78-87-5	
1,3-Dichloropropane	ND	ug/kg	158	78.9	50		03/09/13 14:37	142-28-9	
2,2-Dichloropropane	ND	ug/kg	158	78.9	50		03/09/13 14:37	594-20-7	
1,1-Dichloropropene	ND	ug/kg	158	78.9	50		03/09/13 14:37	563-58-6	
cis-1,3-Dichloropropene	ND	ug/kg	158	78.9	50		03/09/13 14:37	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/kg	158	78.9	50		03/09/13 14:37	10061-02-6	
Ethylbenzene	ND	ug/kg	158	78.9	50		03/09/13 14:37	100-41-4	
Hexachloro-1,3-butadiene	ND	ug/kg	158	78.9	50		03/09/13 14:37	87-68-3	
2-Hexanone	ND	ug/kg	631	316	50		03/09/13 14:37	591-78-6	
Isopropylbenzene (Cumene)	ND	ug/kg	158	78.9	50		03/09/13 14:37	98-82-8	
p-Isopropyltoluene	ND	ug/kg	158	78.9	50		03/09/13 14:37	99-87-6	
Methylene chloride	ND	ug/kg	158	78.9	50		03/09/13 14:37	75-09-2	

Date: 03/15/2013 10:48 AM

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Big MO Soil Sampling

Pace Project No.: 60139568

Sample: BM-022613-SB71-8-8.2 **Lab ID:** 60139568039 **Collected:** 02/26/13 15:30 **Received:** 03/01/13 03:10 **Matrix:** Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA									
Analytical Method: EPA 8260									
4-Methyl-2-pentanone (MIBK)	ND	ug/kg	316	158	50		03/09/13 14:37	108-10-1	
Methyl-tert-butyl ether	ND	ug/kg	158	78.9	50		03/09/13 14:37	1634-04-4	
Naphthalene	ND	ug/kg	316	158	50		03/09/13 14:37	91-20-3	
n-Propylbenzene	ND	ug/kg	158	78.9	50		03/09/13 14:37	103-65-1	
Styrene	ND	ug/kg	158	78.9	50		03/09/13 14:37	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/kg	158	78.9	50		03/09/13 14:37	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/kg	158	78.9	50		03/09/13 14:37	79-34-5	
Tetrachloroethene	ND	ug/kg	158	78.9	50		03/09/13 14:37	127-18-4	
Toluene	ND	ug/kg	158	78.9	50		03/09/13 14:37	108-88-3	
1,2,3-Trichlorobenzene	122J	ug/kg	158	78.9	50		03/09/13 14:37	87-61-6	
1,2,4-Trichlorobenzene	270	ug/kg	158	78.9	50		03/09/13 14:37	120-82-1	
1,1,1-Trichloroethane	ND	ug/kg	158	78.9	50		03/09/13 14:37	71-55-6	
1,1,2-Trichloroethane	ND	ug/kg	158	78.9	50		03/09/13 14:37	79-00-5	
Trichloroethene	ND	ug/kg	158	78.9	50		03/09/13 14:37	79-01-6	
Trichlorofluoromethane	ND	ug/kg	158	78.9	50		03/09/13 14:37	75-69-4	
1,2,3-Trichloropropane	ND	ug/kg	158	78.9	50		03/09/13 14:37	96-18-4	
1,2,4-Trimethylbenzene	ND	ug/kg	158	78.9	50		03/09/13 14:37	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/kg	158	78.9	50		03/09/13 14:37	108-67-8	
Vinyl chloride	ND	ug/kg	158	78.9	50		03/09/13 14:37	75-01-4	
Xylene (Total)	ND	ug/kg	158	78.9	50		03/09/13 14:37	1330-20-7	
Surrogates									
Dibromofluoromethane (S)	99 %		76-125		50		03/09/13 14:37	1868-53-7	
Toluene-d8 (S)	100 %		80-120		50		03/09/13 14:37	2037-26-5	
4-Bromofluorobenzene (S)	105 %		80-120		50		03/09/13 14:37	460-00-4	
1,2-Dichloroethane-d4 (S)	100 %		76-132		50		03/09/13 14:37	17060-07-0	
Percent Moisture									
Analytical Method: ASTM D2974									
Percent Moisture	5.1 %		0.50	0.50	1		03/06/13 00:00		

ANALYTICAL RESULTS

Project: Big MO Soil Sampling

Pace Project No.: 60139568

Sample: BM-022613-SB71-11.5-11.7 **Lab ID:** 60139568040 **Collected:** 02/26/13 15:35 **Received:** 03/01/13 03:10 **Matrix:** Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA		Analytical Method: EPA 8260							
Acetone	ND	ug/kg	596	298	50		03/09/13 14:52	67-64-1	
Benzene	2010	ug/kg	149	74.5	50		03/09/13 14:52	71-43-2	
Bromobenzene	ND	ug/kg	149	74.5	50		03/09/13 14:52	108-86-1	
Bromochloromethane	ND	ug/kg	149	74.5	50		03/09/13 14:52	74-97-5	
Bromodichloromethane	ND	ug/kg	149	74.5	50		03/09/13 14:52	75-27-4	
Bromoform	ND	ug/kg	149	74.5	50		03/09/13 14:52	75-25-2	
Bromomethane	ND	ug/kg	149	74.5	50		03/09/13 14:52	74-83-9	
2-Butanone (MEK)	222J	ug/kg	298	149	50		03/09/13 14:52	78-93-3	
n-Butylbenzene	ND	ug/kg	149	74.5	50		03/09/13 14:52	104-51-8	
sec-Butylbenzene	ND	ug/kg	149	74.5	50		03/09/13 14:52	135-98-8	
tert-Butylbenzene	ND	ug/kg	149	74.5	50		03/09/13 14:52	98-06-6	
Carbon disulfide	ND	ug/kg	149	74.5	50		03/09/13 14:52	75-15-0	
Carbon tetrachloride	ND	ug/kg	149	74.5	50		03/09/13 14:52	56-23-5	
Chlorobenzene	ND	ug/kg	149	74.5	50		03/09/13 14:52	108-90-7	
Chloroethane	ND	ug/kg	149	74.5	50		03/09/13 14:52	75-00-3	
Chloroform	ND	ug/kg	149	74.5	50		03/09/13 14:52	67-66-3	
Chloromethane	127J	ug/kg	149	74.5	50		03/09/13 14:52	74-87-3	
2-Chlorotoluene	ND	ug/kg	149	74.5	50		03/09/13 14:52	95-49-8	
4-Chlorotoluene	ND	ug/kg	149	74.5	50		03/09/13 14:52	106-43-4	
1,2-Dibromo-3-chloropropane	ND	ug/kg	298	149	50		03/09/13 14:52	96-12-8	
Dibromochloromethane	ND	ug/kg	149	74.5	50		03/09/13 14:52	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/kg	149	74.5	50		03/09/13 14:52	106-93-4	
Dibromomethane	ND	ug/kg	149	74.5	50		03/09/13 14:52	74-95-3	
1,2-Dichlorobenzene	ND	ug/kg	149	74.5	50		03/09/13 14:52	95-50-1	
1,3-Dichlorobenzene	ND	ug/kg	149	74.5	50		03/09/13 14:52	541-73-1	
1,4-Dichlorobenzene	ND	ug/kg	149	74.5	50		03/09/13 14:52	106-46-7	
Dichlorodifluoromethane	ND	ug/kg	149	74.5	50		03/09/13 14:52	75-71-8	
1,1-Dichloroethane	ND	ug/kg	149	74.5	50		03/09/13 14:52	75-34-3	
1,2-Dichloroethane	ND	ug/kg	149	74.5	50		03/09/13 14:52	107-06-2	
1,2-Dichloroethene (Total)	ND	ug/kg	149	74.5	50		03/09/13 14:52	540-59-0	
1,1-Dichloroethene	ND	ug/kg	149	74.5	50		03/09/13 14:52	75-35-4	
cis-1,2-Dichloroethene	ND	ug/kg	149	74.5	50		03/09/13 14:52	156-59-2	
trans-1,2-Dichloroethene	ND	ug/kg	149	74.5	50		03/09/13 14:52	156-60-5	
1,2-Dichloropropane	ND	ug/kg	149	74.5	50		03/09/13 14:52	78-87-5	
1,3-Dichloropropane	ND	ug/kg	149	74.5	50		03/09/13 14:52	142-28-9	
2,2-Dichloropropane	ND	ug/kg	149	74.5	50		03/09/13 14:52	594-20-7	
1,1-Dichloropropene	ND	ug/kg	149	74.5	50		03/09/13 14:52	563-58-6	
cis-1,3-Dichloropropene	ND	ug/kg	149	74.5	50		03/09/13 14:52	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/kg	149	74.5	50		03/09/13 14:52	10061-02-6	
Ethylbenzene	ND	ug/kg	149	74.5	50		03/09/13 14:52	100-41-4	
Hexachloro-1,3-butadiene	ND	ug/kg	149	74.5	50		03/09/13 14:52	87-68-3	
2-Hexanone	ND	ug/kg	596	298	50		03/09/13 14:52	591-78-6	
Isopropylbenzene (Cumene)	ND	ug/kg	149	74.5	50		03/09/13 14:52	98-82-8	
p-Isopropyltoluene	ND	ug/kg	149	74.5	50		03/09/13 14:52	99-87-6	
Methylene chloride	ND	ug/kg	149	74.5	50		03/09/13 14:52	75-09-2	

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ANALYTICAL RESULTS

Project: Big MO Soil Sampling

Pace Project No.: 60139568

Sample: BM-022613-SB71-11.5-11.7 **Lab ID:** 60139568040 **Collected:** 02/26/13 15:35 **Received:** 03/01/13 03:10 **Matrix:** Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA									
Analytical Method: EPA 8260									
4-Methyl-2-pentanone (MIBK)	ND	ug/kg	298	149	50		03/09/13 14:52	108-10-1	
Methyl-tert-butyl ether	ND	ug/kg	149	74.5	50		03/09/13 14:52	1634-04-4	
Naphthalene	ND	ug/kg	298	149	50		03/09/13 14:52	91-20-3	
n-Propylbenzene	ND	ug/kg	149	74.5	50		03/09/13 14:52	103-65-1	
Styrene	ND	ug/kg	149	74.5	50		03/09/13 14:52	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/kg	149	74.5	50		03/09/13 14:52	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/kg	149	74.5	50		03/09/13 14:52	79-34-5	
Tetrachloroethene	ND	ug/kg	149	74.5	50		03/09/13 14:52	127-18-4	
Toluene	ND	ug/kg	149	74.5	50		03/09/13 14:52	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/kg	149	74.5	50		03/09/13 14:52	87-61-6	
1,2,4-Trichlorobenzene	124J	ug/kg	149	74.5	50		03/09/13 14:52	120-82-1	
1,1,1-Trichloroethane	ND	ug/kg	149	74.5	50		03/09/13 14:52	71-55-6	
1,1,2-Trichloroethane	ND	ug/kg	149	74.5	50		03/09/13 14:52	79-00-5	
Trichloroethene	ND	ug/kg	149	74.5	50		03/09/13 14:52	79-01-6	
Trichlorofluoromethane	ND	ug/kg	149	74.5	50		03/09/13 14:52	75-69-4	
1,2,3-Trichloropropane	ND	ug/kg	149	74.5	50		03/09/13 14:52	96-18-4	
1,2,4-Trimethylbenzene	ND	ug/kg	149	74.5	50		03/09/13 14:52	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/kg	149	74.5	50		03/09/13 14:52	108-67-8	
Vinyl chloride	ND	ug/kg	149	74.5	50		03/09/13 14:52	75-01-4	
Xylene (Total)	ND	ug/kg	149	74.5	50		03/09/13 14:52	1330-20-7	
Surrogates									
Dibromofluoromethane (S)	100	%	76-125		50		03/09/13 14:52	1868-53-7	
Toluene-d8 (S)	100	%	80-120		50		03/09/13 14:52	2037-26-5	
4-Bromofluorobenzene (S)	103	%	80-120		50		03/09/13 14:52	460-00-4	
1,2-Dichloroethane-d4 (S)	101	%	76-132		50		03/09/13 14:52	17060-07-0	
Percent Moisture									
Analytical Method: ASTM D2974									
Percent Moisture	4.4	%	0.50	0.50	1		03/06/13 00:00		

ANALYTICAL RESULTS

Project: Big MO Soil Sampling

Pace Project No.: 60139568

Sample: **BM-022613-SB71-13.1-13.3** Lab ID: **60139568041** Collected: 02/26/13 15:40 Received: 03/01/13 03:10 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA		Analytical Method: EPA 8260							
Acetone	ND	ug/kg	623	312	50		03/09/13 15:08	67-64-1	
Benzene	1560	ug/kg	156	77.9	50		03/09/13 15:08	71-43-2	
Bromobenzene	ND	ug/kg	156	77.9	50		03/09/13 15:08	108-86-1	
Bromochloromethane	ND	ug/kg	156	77.9	50		03/09/13 15:08	74-97-5	
Bromodichloromethane	ND	ug/kg	156	77.9	50		03/09/13 15:08	75-27-4	
Bromoform	ND	ug/kg	156	77.9	50		03/09/13 15:08	75-25-2	
Bromomethane	ND	ug/kg	156	77.9	50		03/09/13 15:08	74-83-9	
2-Butanone (MEK)	233J	ug/kg	312	156	50		03/09/13 15:08	78-93-3	
n-Butylbenzene	ND	ug/kg	156	77.9	50		03/09/13 15:08	104-51-8	
sec-Butylbenzene	ND	ug/kg	156	77.9	50		03/09/13 15:08	135-98-8	
tert-Butylbenzene	ND	ug/kg	156	77.9	50		03/09/13 15:08	98-06-6	
Carbon disulfide	ND	ug/kg	156	77.9	50		03/09/13 15:08	75-15-0	
Carbon tetrachloride	ND	ug/kg	156	77.9	50		03/09/13 15:08	56-23-5	
Chlorobenzene	83.6J	ug/kg	156	77.9	50		03/09/13 15:08	108-90-7	
Chloroethane	ND	ug/kg	156	77.9	50		03/09/13 15:08	75-00-3	
Chloroform	ND	ug/kg	156	77.9	50		03/09/13 15:08	67-66-3	
Chloromethane	143J	ug/kg	156	77.9	50		03/09/13 15:08	74-87-3	
2-Chlorotoluene	ND	ug/kg	156	77.9	50		03/09/13 15:08	95-49-8	
4-Chlorotoluene	ND	ug/kg	156	77.9	50		03/09/13 15:08	106-43-4	
1,2-Dibromo-3-chloropropane	ND	ug/kg	312	156	50		03/09/13 15:08	96-12-8	
Dibromochloromethane	ND	ug/kg	156	77.9	50		03/09/13 15:08	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/kg	156	77.9	50		03/09/13 15:08	106-93-4	
Dibromomethane	ND	ug/kg	156	77.9	50		03/09/13 15:08	74-95-3	
1,2-Dichlorobenzene	ND	ug/kg	156	77.9	50		03/09/13 15:08	95-50-1	
1,3-Dichlorobenzene	ND	ug/kg	156	77.9	50		03/09/13 15:08	541-73-1	
1,4-Dichlorobenzene	ND	ug/kg	156	77.9	50		03/09/13 15:08	106-46-7	
Dichlorodifluoromethane	ND	ug/kg	156	77.9	50		03/09/13 15:08	75-71-8	
1,1-Dichloroethane	ND	ug/kg	156	77.9	50		03/09/13 15:08	75-34-3	
1,2-Dichloroethane	ND	ug/kg	156	77.9	50		03/09/13 15:08	107-06-2	
1,2-Dichloroethene (Total)	ND	ug/kg	156	77.9	50		03/09/13 15:08	540-59-0	
1,1-Dichloroethene	ND	ug/kg	156	77.9	50		03/09/13 15:08	75-35-4	
cis-1,2-Dichloroethene	ND	ug/kg	156	77.9	50		03/09/13 15:08	156-59-2	
trans-1,2-Dichloroethene	ND	ug/kg	156	77.9	50		03/09/13 15:08	156-60-5	
1,2-Dichloropropane	ND	ug/kg	156	77.9	50		03/09/13 15:08	78-87-5	
1,3-Dichloropropane	ND	ug/kg	156	77.9	50		03/09/13 15:08	142-28-9	
2,2-Dichloropropane	ND	ug/kg	156	77.9	50		03/09/13 15:08	594-20-7	
1,1-Dichloropropene	ND	ug/kg	156	77.9	50		03/09/13 15:08	563-58-6	
cis-1,3-Dichloropropene	ND	ug/kg	156	77.9	50		03/09/13 15:08	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/kg	156	77.9	50		03/09/13 15:08	10061-02-6	
Ethylbenzene	ND	ug/kg	156	77.9	50		03/09/13 15:08	100-41-4	
Hexachloro-1,3-butadiene	ND	ug/kg	156	77.9	50		03/09/13 15:08	87-68-3	
2-Hexanone	ND	ug/kg	623	312	50		03/09/13 15:08	591-78-6	
Isopropylbenzene (Cumene)	ND	ug/kg	156	77.9	50		03/09/13 15:08	98-82-8	
p-Isopropyltoluene	ND	ug/kg	156	77.9	50		03/09/13 15:08	99-87-6	
Methylene chloride	ND	ug/kg	156	77.9	50		03/09/13 15:08	75-09-2	

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ANALYTICAL RESULTS

Project: Big MO Soil Sampling

Pace Project No.: 60139568

Sample: BM-022613-SB71-13.1-13.3 **Lab ID: 60139568041** Collected: 02/26/13 15:40 Received: 03/01/13 03:10 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA									
Analytical Method: EPA 8260									
4-Methyl-2-pentanone (MIBK)	ND	ug/kg	312	156	50		03/09/13 15:08	108-10-1	
Methyl-tert-butyl ether	ND	ug/kg	156	77.9	50		03/09/13 15:08	1634-04-4	
Naphthalene	ND	ug/kg	312	156	50		03/09/13 15:08	91-20-3	
n-Propylbenzene	ND	ug/kg	156	77.9	50		03/09/13 15:08	103-65-1	
Styrene	ND	ug/kg	156	77.9	50		03/09/13 15:08	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/kg	156	77.9	50		03/09/13 15:08	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/kg	156	77.9	50		03/09/13 15:08	79-34-5	
Tetrachloroethene	ND	ug/kg	156	77.9	50		03/09/13 15:08	127-18-4	
Toluene	ND	ug/kg	156	77.9	50		03/09/13 15:08	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/kg	156	77.9	50		03/09/13 15:08	87-61-6	
1,2,4-Trichlorobenzene	188	ug/kg	156	77.9	50		03/09/13 15:08	120-82-1	
1,1,1-Trichloroethane	ND	ug/kg	156	77.9	50		03/09/13 15:08	71-55-6	
1,1,2-Trichloroethane	ND	ug/kg	156	77.9	50		03/09/13 15:08	79-00-5	
Trichloroethene	ND	ug/kg	156	77.9	50		03/09/13 15:08	79-01-6	
Trichlorofluoromethane	ND	ug/kg	156	77.9	50		03/09/13 15:08	75-69-4	
1,2,3-Trichloropropane	ND	ug/kg	156	77.9	50		03/09/13 15:08	96-18-4	
1,2,4-Trimethylbenzene	ND	ug/kg	156	77.9	50		03/09/13 15:08	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/kg	156	77.9	50		03/09/13 15:08	108-67-8	
Vinyl chloride	ND	ug/kg	156	77.9	50		03/09/13 15:08	75-01-4	
Xylene (Total)	ND	ug/kg	156	77.9	50		03/09/13 15:08	1330-20-7	
Surrogates									
Dibromofluoromethane (S)	98 %		76-125		50		03/09/13 15:08	1868-53-7	
Toluene-d8 (S)	99 %		80-120		50		03/09/13 15:08	2037-26-5	
4-Bromofluorobenzene (S)	100 %		80-120		50		03/09/13 15:08	460-00-4	
1,2-Dichloroethane-d4 (S)	104 %		76-132		50		03/09/13 15:08	17060-07-0	
Percent Moisture									
Analytical Method: ASTM D2974									
Percent Moisture	5.2	%	0.50	0.50	1		03/06/13 00:00		

ANALYTICAL RESULTS

Project: Big MO Soil Sampling

Pace Project No.: 60139568

Sample: **BM-022613-SB71-12-12.5** Lab ID: **60139568042** Collected: 02/26/13 15:05 Received: 03/01/13 03:10 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA		Analytical Method: EPA 8260							
Acetone	ND	ug/kg	681	340	50		03/09/13 15:23	67-64-1	
Benzene	1070	ug/kg	170	85.1	50		03/09/13 15:23	71-43-2	
Bromobenzene	ND	ug/kg	170	85.1	50		03/09/13 15:23	108-86-1	
Bromochloromethane	ND	ug/kg	170	85.1	50		03/09/13 15:23	74-97-5	
Bromodichloromethane	ND	ug/kg	170	85.1	50		03/09/13 15:23	75-27-4	
Bromoform	ND	ug/kg	170	85.1	50		03/09/13 15:23	75-25-2	
Bromomethane	ND	ug/kg	170	85.1	50		03/09/13 15:23	74-83-9	
2-Butanone (MEK)	ND	ug/kg	340	170	50		03/09/13 15:23	78-93-3	
n-Butylbenzene	ND	ug/kg	170	85.1	50		03/09/13 15:23	104-51-8	
sec-Butylbenzene	ND	ug/kg	170	85.1	50		03/09/13 15:23	135-98-8	
tert-Butylbenzene	ND	ug/kg	170	85.1	50		03/09/13 15:23	98-06-6	
Carbon disulfide	ND	ug/kg	170	85.1	50		03/09/13 15:23	75-15-0	
Carbon tetrachloride	ND	ug/kg	170	85.1	50		03/09/13 15:23	56-23-5	
Chlorobenzene	ND	ug/kg	170	85.1	50		03/09/13 15:23	108-90-7	
Chloroethane	ND	ug/kg	170	85.1	50		03/09/13 15:23	75-00-3	
Chloroform	ND	ug/kg	170	85.1	50		03/09/13 15:23	67-66-3	
Chloromethane	132J	ug/kg	170	85.1	50		03/09/13 15:23	74-87-3	
2-Chlorotoluene	ND	ug/kg	170	85.1	50		03/09/13 15:23	95-49-8	
4-Chlorotoluene	ND	ug/kg	170	85.1	50		03/09/13 15:23	106-43-4	
1,2-Dibromo-3-chloropropane	ND	ug/kg	340	170	50		03/09/13 15:23	96-12-8	
Dibromochloromethane	ND	ug/kg	170	85.1	50		03/09/13 15:23	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/kg	170	85.1	50		03/09/13 15:23	106-93-4	
Dibromomethane	ND	ug/kg	170	85.1	50		03/09/13 15:23	74-95-3	
1,2-Dichlorobenzene	ND	ug/kg	170	85.1	50		03/09/13 15:23	95-50-1	
1,3-Dichlorobenzene	ND	ug/kg	170	85.1	50		03/09/13 15:23	541-73-1	
1,4-Dichlorobenzene	ND	ug/kg	170	85.1	50		03/09/13 15:23	106-46-7	
Dichlorodifluoromethane	ND	ug/kg	170	85.1	50		03/09/13 15:23	75-71-8	
1,1-Dichloroethane	ND	ug/kg	170	85.1	50		03/09/13 15:23	75-34-3	
1,2-Dichloroethane	ND	ug/kg	170	85.1	50		03/09/13 15:23	107-06-2	
1,2-Dichloroethene (Total)	ND	ug/kg	170	85.1	50		03/09/13 15:23	540-59-0	
1,1-Dichloroethene	ND	ug/kg	170	85.1	50		03/09/13 15:23	75-35-4	
cis-1,2-Dichloroethene	ND	ug/kg	170	85.1	50		03/09/13 15:23	156-59-2	
trans-1,2-Dichloroethene	ND	ug/kg	170	85.1	50		03/09/13 15:23	156-60-5	
1,2-Dichloropropane	ND	ug/kg	170	85.1	50		03/09/13 15:23	78-87-5	
1,3-Dichloropropane	ND	ug/kg	170	85.1	50		03/09/13 15:23	142-28-9	
2,2-Dichloropropane	ND	ug/kg	170	85.1	50		03/09/13 15:23	594-20-7	
1,1-Dichloropropene	ND	ug/kg	170	85.1	50		03/09/13 15:23	563-58-6	
cis-1,3-Dichloropropene	ND	ug/kg	170	85.1	50		03/09/13 15:23	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/kg	170	85.1	50		03/09/13 15:23	10061-02-6	
Ethylbenzene	ND	ug/kg	170	85.1	50		03/09/13 15:23	100-41-4	
Hexachloro-1,3-butadiene	ND	ug/kg	170	85.1	50		03/09/13 15:23	87-68-3	
2-Hexanone	ND	ug/kg	681	340	50		03/09/13 15:23	591-78-6	
Isopropylbenzene (Cumene)	ND	ug/kg	170	85.1	50		03/09/13 15:23	98-82-8	
p-Isopropyltoluene	ND	ug/kg	170	85.1	50		03/09/13 15:23	99-87-6	
Methylene chloride	ND	ug/kg	170	85.1	50		03/09/13 15:23	75-09-2	

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ANALYTICAL RESULTS

Project: Big MO Soil Sampling

Pace Project No.: 60139568

Sample: BM-022613-SB71-12-12.5 **Lab ID:** 60139568042 **Collected:** 02/26/13 15:05 **Received:** 03/01/13 03:10 **Matrix:** Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA									
Analytical Method: EPA 8260									
4-Methyl-2-pentanone (MIBK)	ND	ug/kg	340	170	50		03/09/13 15:23	108-10-1	
Methyl-tert-butyl ether	ND	ug/kg	170	85.1	50		03/09/13 15:23	1634-04-4	
Naphthalene	ND	ug/kg	340	170	50		03/09/13 15:23	91-20-3	
n-Propylbenzene	ND	ug/kg	170	85.1	50		03/09/13 15:23	103-65-1	
Styrene	ND	ug/kg	170	85.1	50		03/09/13 15:23	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/kg	170	85.1	50		03/09/13 15:23	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/kg	170	85.1	50		03/09/13 15:23	79-34-5	
Tetrachloroethene	ND	ug/kg	170	85.1	50		03/09/13 15:23	127-18-4	
Toluene	ND	ug/kg	170	85.1	50		03/09/13 15:23	108-88-3	
1,2,3-Trichlorobenzene	115J	ug/kg	170	85.1	50		03/09/13 15:23	87-61-6	
1,2,4-Trichlorobenzene	140J	ug/kg	170	85.1	50		03/09/13 15:23	120-82-1	
1,1,1-Trichloroethane	ND	ug/kg	170	85.1	50		03/09/13 15:23	71-55-6	
1,1,2-Trichloroethane	ND	ug/kg	170	85.1	50		03/09/13 15:23	79-00-5	
Trichloroethene	ND	ug/kg	170	85.1	50		03/09/13 15:23	79-01-6	
Trichlorofluoromethane	ND	ug/kg	170	85.1	50		03/09/13 15:23	75-69-4	
1,2,3-Trichloropropane	ND	ug/kg	170	85.1	50		03/09/13 15:23	96-18-4	
1,2,4-Trimethylbenzene	ND	ug/kg	170	85.1	50		03/09/13 15:23	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/kg	170	85.1	50		03/09/13 15:23	108-67-8	
Vinyl chloride	ND	ug/kg	170	85.1	50		03/09/13 15:23	75-01-4	
Xylene (Total)	ND	ug/kg	170	85.1	50		03/09/13 15:23	1330-20-7	
Surrogates									
Dibromofluoromethane (S)	98	%	76-125		50		03/09/13 15:23	1868-53-7	
Toluene-d8 (S)	101	%	80-120		50		03/09/13 15:23	2037-26-5	
4-Bromofluorobenzene (S)	100	%	80-120		50		03/09/13 15:23	460-00-4	
1,2-Dichloroethane-d4 (S)	100	%	76-132		50		03/09/13 15:23	17060-07-0	
Percent Moisture									
Analytical Method: ASTM D2974									
Percent Moisture	3.5	%	0.50	0.50	1		03/06/13 00:00		

ANALYTICAL RESULTS

Project: Big MO Soil Sampling

Pace Project No.: 60139568

Sample: BM-022613-SB33-7.8-8 Lab ID: 60139568043 Collected: 02/26/13 14:35 Received: 03/01/13 03:10 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA		Analytical Method: EPA 8260							
Acetone	126	ug/kg	19.7	9.8	1		03/12/13 21:23	67-64-1	
Benzene	ND	ug/kg	4.9	2.5	1		03/12/13 21:23	71-43-2	
Bromobenzene	ND	ug/kg	4.9	2.5	1		03/12/13 21:23	108-86-1	
Bromochloromethane	ND	ug/kg	4.9	2.5	1		03/12/13 21:23	74-97-5	
Bromodichloromethane	ND	ug/kg	4.9	2.5	1		03/12/13 21:23	75-27-4	
Bromoform	ND	ug/kg	4.9	2.5	1		03/12/13 21:23	75-25-2	
Bromomethane	ND	ug/kg	4.9	2.5	1		03/12/13 21:23	74-83-9	
2-Butanone (MEK)	ND	ug/kg	9.8	4.9	1		03/12/13 21:23	78-93-3	
n-Butylbenzene	ND	ug/kg	4.9	2.5	1		03/12/13 21:23	104-51-8	
sec-Butylbenzene	ND	ug/kg	4.9	2.5	1		03/12/13 21:23	135-98-8	
tert-Butylbenzene	ND	ug/kg	4.9	2.5	1		03/12/13 21:23	98-06-6	
Carbon disulfide	ND	ug/kg	4.9	2.5	1		03/12/13 21:23	75-15-0	
Carbon tetrachloride	ND	ug/kg	4.9	2.5	1		03/12/13 21:23	56-23-5	
Chlorobenzene	ND	ug/kg	4.9	2.5	1		03/12/13 21:23	108-90-7	
Chloroethane	ND	ug/kg	4.9	2.5	1		03/12/13 21:23	75-00-3	
Chloroform	ND	ug/kg	4.9	2.5	1		03/12/13 21:23	67-66-3	
Chloromethane	ND	ug/kg	4.9	2.5	1		03/12/13 21:23	74-87-3	
2-Chlorotoluene	ND	ug/kg	4.9	2.5	1		03/12/13 21:23	95-49-8	
4-Chlorotoluene	ND	ug/kg	4.9	2.5	1		03/12/13 21:23	106-43-4	
1,2-Dibromo-3-chloropropane	ND	ug/kg	9.8	4.9	1		03/12/13 21:23	96-12-8	
Dibromochloromethane	ND	ug/kg	4.9	2.5	1		03/12/13 21:23	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/kg	4.9	2.5	1		03/12/13 21:23	106-93-4	
Dibromomethane	ND	ug/kg	4.9	2.5	1		03/12/13 21:23	74-95-3	
1,2-Dichlorobenzene	ND	ug/kg	4.9	2.5	1		03/12/13 21:23	95-50-1	
1,3-Dichlorobenzene	ND	ug/kg	4.9	2.5	1		03/12/13 21:23	541-73-1	
1,4-Dichlorobenzene	ND	ug/kg	4.9	2.5	1		03/12/13 21:23	106-46-7	
Dichlorodifluoromethane	ND	ug/kg	4.9	2.5	1		03/12/13 21:23	75-71-8	
1,1-Dichloroethane	ND	ug/kg	4.9	2.5	1		03/12/13 21:23	75-34-3	
1,2-Dichloroethane	ND	ug/kg	4.9	2.5	1		03/12/13 21:23	107-06-2	
1,2-Dichloroethene (Total)	ND	ug/kg	4.9	2.5	1		03/12/13 21:23	540-59-0	
1,1-Dichloroethene	ND	ug/kg	4.9	2.5	1		03/12/13 21:23	75-35-4	
cis-1,2-Dichloroethene	ND	ug/kg	4.9	2.5	1		03/12/13 21:23	156-59-2	
trans-1,2-Dichloroethene	ND	ug/kg	4.9	2.5	1		03/12/13 21:23	156-60-5	
1,2-Dichloropropane	ND	ug/kg	4.9	2.5	1		03/12/13 21:23	78-87-5	
1,3-Dichloropropane	ND	ug/kg	4.9	2.5	1		03/12/13 21:23	142-28-9	
2,2-Dichloropropane	ND	ug/kg	4.9	2.5	1		03/12/13 21:23	594-20-7	
1,1-Dichloropropene	ND	ug/kg	4.9	2.5	1		03/12/13 21:23	563-58-6	
cis-1,3-Dichloropropene	ND	ug/kg	4.9	2.5	1		03/12/13 21:23	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/kg	4.9	2.5	1		03/12/13 21:23	10061-02-6	
Ethylbenzene	ND	ug/kg	4.9	2.5	1		03/12/13 21:23	100-41-4	
Hexachloro-1,3-butadiene	ND	ug/kg	4.9	2.5	1		03/12/13 21:23	87-68-3	
2-Hexanone	ND	ug/kg	19.7	9.8	1		03/12/13 21:23	591-78-6	
Isopropylbenzene (Cumene)	ND	ug/kg	4.9	2.5	1		03/12/13 21:23	98-82-8	
p-Isopropyltoluene	ND	ug/kg	4.9	2.5	1		03/12/13 21:23	99-87-6	
Methylene chloride	ND	ug/kg	4.9	2.5	1		03/12/13 21:23	75-09-2	

Date: 03/15/2013 10:48 AM

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Big MO Soil Sampling

Pace Project No.: 60139568

Sample: BM-022613-SB33-7.8-8 **Lab ID: 60139568043** Collected: 02/26/13 14:35 Received: 03/01/13 03:10 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA Analytical Method: EPA 8260									
4-Methyl-2-pentanone (MIBK)	ND	ug/kg	9.8	4.9	1		03/12/13 21:23	108-10-1	
Methyl-tert-butyl ether	ND	ug/kg	4.9	2.5	1		03/12/13 21:23	1634-04-4	
Naphthalene	ND	ug/kg	9.8	4.9	1		03/12/13 21:23	91-20-3	
n-Propylbenzene	ND	ug/kg	4.9	2.5	1		03/12/13 21:23	103-65-1	
Styrene	ND	ug/kg	4.9	2.5	1		03/12/13 21:23	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/kg	4.9	2.5	1		03/12/13 21:23	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/kg	4.9	2.5	1		03/12/13 21:23	79-34-5	
Tetrachloroethene	ND	ug/kg	4.9	2.5	1		03/12/13 21:23	127-18-4	
Toluene	ND	ug/kg	4.9	2.5	1		03/12/13 21:23	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/kg	4.9	2.5	1		03/12/13 21:23	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/kg	4.9	2.5	1		03/12/13 21:23	120-82-1	
1,1,1-Trichloroethane	ND	ug/kg	4.9	2.5	1		03/12/13 21:23	71-55-6	
1,1,2-Trichloroethane	ND	ug/kg	4.9	2.5	1		03/12/13 21:23	79-00-5	
Trichloroethene	ND	ug/kg	4.9	2.5	1		03/12/13 21:23	79-01-6	
Trichlorofluoromethane	ND	ug/kg	4.9	2.5	1		03/12/13 21:23	75-69-4	
1,2,3-Trichloropropane	ND	ug/kg	4.9	2.5	1		03/12/13 21:23	96-18-4	
1,2,4-Trimethylbenzene	ND	ug/kg	4.9	2.5	1		03/12/13 21:23	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/kg	4.9	2.5	1		03/12/13 21:23	108-67-8	
Vinyl chloride	ND	ug/kg	4.9	2.5	1		03/12/13 21:23	75-01-4	
Xylene (Total)	ND	ug/kg	4.9	2.5	1		03/12/13 21:23	1330-20-7	
Surrogates									
Dibromofluoromethane (S)	105	%	76-125		1		03/12/13 21:23	1868-53-7	
Toluene-d8 (S)	98	%	80-120		1		03/12/13 21:23	2037-26-5	
4-Bromofluorobenzene (S)	105	%	80-120		1		03/12/13 21:23	460-00-4	
1,2-Dichloroethane-d4 (S)	113	%	76-132		1		03/12/13 21:23	17060-07-0	
Percent Moisture Analytical Method: ASTM D2974									
Percent Moisture	6.3	%	0.50	0.50	1		03/06/13 00:00		

ANALYTICAL RESULTS

Project: Big MO Soil Sampling

Pace Project No.: 60139568

Sample: BM-022613-SB33-11.3-11.5 **Lab ID:** 60139568044 **Collected:** 02/26/13 14:40 **Received:** 03/01/13 03:10 **Matrix:** Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA		Analytical Method: EPA 8260							
Acetone	ND	ug/kg	644	322	50		03/10/13 14:38	67-64-1	
Benzene	350	ug/kg	161	80.5	50		03/10/13 14:38	71-43-2	
Bromobenzene	ND	ug/kg	161	80.5	50		03/10/13 14:38	108-86-1	
Bromochloromethane	ND	ug/kg	161	80.5	50		03/10/13 14:38	74-97-5	
Bromodichloromethane	ND	ug/kg	161	80.5	50		03/10/13 14:38	75-27-4	
Bromoform	ND	ug/kg	161	80.5	50		03/10/13 14:38	75-25-2	
Bromomethane	ND	ug/kg	161	80.5	50		03/10/13 14:38	74-83-9	
2-Butanone (MEK)	ND	ug/kg	322	161	50		03/10/13 14:38	78-93-3	
n-Butylbenzene	ND	ug/kg	161	80.5	50		03/10/13 14:38	104-51-8	
sec-Butylbenzene	ND	ug/kg	161	80.5	50		03/10/13 14:38	135-98-8	
tert-Butylbenzene	ND	ug/kg	161	80.5	50		03/10/13 14:38	98-06-6	
Carbon disulfide	ND	ug/kg	161	80.5	50		03/10/13 14:38	75-15-0	
Carbon tetrachloride	ND	ug/kg	161	80.5	50		03/10/13 14:38	56-23-5	
Chlorobenzene	982	ug/kg	161	80.5	50		03/10/13 14:38	108-90-7	
Chloroethane	ND	ug/kg	161	80.5	50		03/10/13 14:38	75-00-3	
Chloroform	ND	ug/kg	161	80.5	50		03/10/13 14:38	67-66-3	
Chloromethane	109J	ug/kg	161	80.5	50		03/10/13 14:38	74-87-3	
2-Chlorotoluene	ND	ug/kg	161	80.5	50		03/10/13 14:38	95-49-8	
4-Chlorotoluene	ND	ug/kg	161	80.5	50		03/10/13 14:38	106-43-4	
1,2-Dibromo-3-chloropropane	ND	ug/kg	322	161	50		03/10/13 14:38	96-12-8	
Dibromochloromethane	ND	ug/kg	161	80.5	50		03/10/13 14:38	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/kg	161	80.5	50		03/10/13 14:38	106-93-4	
Dibromomethane	ND	ug/kg	161	80.5	50		03/10/13 14:38	74-95-3	
1,2-Dichlorobenzene	ND	ug/kg	161	80.5	50		03/10/13 14:38	95-50-1	
1,3-Dichlorobenzene	ND	ug/kg	161	80.5	50		03/10/13 14:38	541-73-1	
1,4-Dichlorobenzene	ND	ug/kg	161	80.5	50		03/10/13 14:38	106-46-7	
Dichlorodifluoromethane	ND	ug/kg	161	80.5	50		03/10/13 14:38	75-71-8	
1,1-Dichloroethane	ND	ug/kg	161	80.5	50		03/10/13 14:38	75-34-3	
1,2-Dichloroethane	ND	ug/kg	161	80.5	50		03/10/13 14:38	107-06-2	
1,2-Dichloroethene (Total)	ND	ug/kg	161	80.5	50		03/10/13 14:38	540-59-0	
1,1-Dichloroethene	ND	ug/kg	161	80.5	50		03/10/13 14:38	75-35-4	
cis-1,2-Dichloroethene	ND	ug/kg	161	80.5	50		03/10/13 14:38	156-59-2	
trans-1,2-Dichloroethene	ND	ug/kg	161	80.5	50		03/10/13 14:38	156-60-5	
1,2-Dichloropropane	ND	ug/kg	161	80.5	50		03/10/13 14:38	78-87-5	
1,3-Dichloropropane	ND	ug/kg	161	80.5	50		03/10/13 14:38	142-28-9	
2,2-Dichloropropane	ND	ug/kg	161	80.5	50		03/10/13 14:38	594-20-7	
1,1-Dichloropropene	ND	ug/kg	161	80.5	50		03/10/13 14:38	563-58-6	
cis-1,3-Dichloropropene	ND	ug/kg	161	80.5	50		03/10/13 14:38	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/kg	161	80.5	50		03/10/13 14:38	10061-02-6	
Ethylbenzene	ND	ug/kg	161	80.5	50		03/10/13 14:38	100-41-4	
Hexachloro-1,3-butadiene	ND	ug/kg	161	80.5	50		03/10/13 14:38	87-68-3	
2-Hexanone	ND	ug/kg	644	322	50		03/10/13 14:38	591-78-6	
Isopropylbenzene (Cumene)	ND	ug/kg	161	80.5	50		03/10/13 14:38	98-82-8	
p-Isopropyltoluene	ND	ug/kg	161	80.5	50		03/10/13 14:38	99-87-6	
Methylene chloride	ND	ug/kg	161	80.5	50		03/10/13 14:38	75-09-2	

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REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Big MO Soil Sampling

Pace Project No.: 60139568

Sample: BM-022613-SB33-11.3-11.5 **Lab ID:** 60139568044 **Collected:** 02/26/13 14:40 **Received:** 03/01/13 03:10 **Matrix:** Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA									
Analytical Method: EPA 8260									
4-Methyl-2-pentanone (MIBK)	ND	ug/kg	322	161	50		03/10/13 14:38	108-10-1	
Methyl-tert-butyl ether	ND	ug/kg	161	80.5	50		03/10/13 14:38	1634-04-4	
Naphthalene	ND	ug/kg	322	161	50		03/10/13 14:38	91-20-3	
n-Propylbenzene	ND	ug/kg	161	80.5	50		03/10/13 14:38	103-65-1	
Styrene	ND	ug/kg	161	80.5	50		03/10/13 14:38	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/kg	161	80.5	50		03/10/13 14:38	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/kg	161	80.5	50		03/10/13 14:38	79-34-5	
Tetrachloroethene	ND	ug/kg	161	80.5	50		03/10/13 14:38	127-18-4	
Toluene	ND	ug/kg	161	80.5	50		03/10/13 14:38	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/kg	161	80.5	50		03/10/13 14:38	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/kg	161	80.5	50		03/10/13 14:38	120-82-1	
1,1,1-Trichloroethane	ND	ug/kg	161	80.5	50		03/10/13 14:38	71-55-6	
1,1,2-Trichloroethane	ND	ug/kg	161	80.5	50		03/10/13 14:38	79-00-5	
Trichloroethene	ND	ug/kg	161	80.5	50		03/10/13 14:38	79-01-6	
Trichlorofluoromethane	ND	ug/kg	161	80.5	50		03/10/13 14:38	75-69-4	
1,2,3-Trichloropropane	ND	ug/kg	161	80.5	50		03/10/13 14:38	96-18-4	
1,2,4-Trimethylbenzene	ND	ug/kg	161	80.5	50		03/10/13 14:38	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/kg	161	80.5	50		03/10/13 14:38	108-67-8	
Vinyl chloride	ND	ug/kg	161	80.5	50		03/10/13 14:38	75-01-4	
Xylene (Total)	ND	ug/kg	161	80.5	50		03/10/13 14:38	1330-20-7	
Surrogates									
Dibromofluoromethane (S)	100 %		76-125		50		03/10/13 14:38	1868-53-7	
Toluene-d8 (S)	100 %		80-120		50		03/10/13 14:38	2037-26-5	
4-Bromofluorobenzene (S)	99 %		80-120		50		03/10/13 14:38	460-00-4	
1,2-Dichloroethane-d4 (S)	101 %		76-132		50		03/10/13 14:38	17060-07-0	
Percent Moisture									
Analytical Method: ASTM D2974									
Percent Moisture	5.0 %		0.50	0.50	1		03/06/13 00:00		

ANALYTICAL RESULTS

Project: Big MO Soil Sampling

Pace Project No.: 60139568

Sample: **BM-022613-SB33-13.3-13.5** Lab ID: **60139568045** Collected: 02/26/13 14:45 Received: 03/01/13 03:10 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA		Analytical Method: EPA 8260							
Acetone	ND	ug/kg	3160	1580	250		03/10/13 00:01	67-64-1	
Benzene	2270	ug/kg	791	395	250		03/10/13 00:01	71-43-2	
Bromobenzene	ND	ug/kg	791	395	250		03/10/13 00:01	108-86-1	
Bromochloromethane	ND	ug/kg	791	395	250		03/10/13 00:01	74-97-5	
Bromodichloromethane	ND	ug/kg	791	395	250		03/10/13 00:01	75-27-4	
Bromoform	ND	ug/kg	791	395	250		03/10/13 00:01	75-25-2	
Bromomethane	ND	ug/kg	791	395	250		03/10/13 00:01	74-83-9	
2-Butanone (MEK)	ND	ug/kg	1580	791	250		03/10/13 00:01	78-93-3	
n-Butylbenzene	ND	ug/kg	791	395	250		03/10/13 00:01	104-51-8	
sec-Butylbenzene	ND	ug/kg	791	395	250		03/10/13 00:01	135-98-8	
tert-Butylbenzene	ND	ug/kg	791	395	250		03/10/13 00:01	98-06-6	
Carbon disulfide	ND	ug/kg	791	395	250		03/10/13 00:01	75-15-0	
Carbon tetrachloride	ND	ug/kg	791	395	250		03/10/13 00:01	56-23-5	
Chlorobenzene	68000	ug/kg	1580	791	500		03/10/13 14:54	108-90-7	
Chloroethane	ND	ug/kg	791	395	250		03/10/13 00:01	75-00-3	
Chloroform	ND	ug/kg	791	395	250		03/10/13 00:01	67-66-3	
Chloromethane	ND	ug/kg	791	395	250		03/10/13 00:01	74-87-3	
2-Chlorotoluene	ND	ug/kg	791	395	250		03/10/13 00:01	95-49-8	
4-Chlorotoluene	ND	ug/kg	791	395	250		03/10/13 00:01	106-43-4	
1,2-Dibromo-3-chloropropane	ND	ug/kg	1580	791	250		03/10/13 00:01	96-12-8	
Dibromochloromethane	ND	ug/kg	791	395	250		03/10/13 00:01	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/kg	791	395	250		03/10/13 00:01	106-93-4	
Dibromomethane	ND	ug/kg	791	395	250		03/10/13 00:01	74-95-3	
1,2-Dichlorobenzene	ND	ug/kg	791	395	250		03/10/13 00:01	95-50-1	
1,3-Dichlorobenzene	ND	ug/kg	791	395	250		03/10/13 00:01	541-73-1	
1,4-Dichlorobenzene	ND	ug/kg	791	395	250		03/10/13 00:01	106-46-7	
Dichlorodifluoromethane	ND	ug/kg	791	395	250		03/10/13 00:01	75-71-8	
1,1-Dichloroethane	ND	ug/kg	791	395	250		03/10/13 00:01	75-34-3	
1,2-Dichloroethane	ND	ug/kg	791	395	250		03/10/13 00:01	107-06-2	
1,2-Dichloroethene (Total)	ND	ug/kg	791	395	250		03/10/13 00:01	540-59-0	
1,1-Dichloroethene	ND	ug/kg	791	395	250		03/10/13 00:01	75-35-4	
cis-1,2-Dichloroethene	ND	ug/kg	791	395	250		03/10/13 00:01	156-59-2	
trans-1,2-Dichloroethene	ND	ug/kg	791	395	250		03/10/13 00:01	156-60-5	
1,2-Dichloropropane	ND	ug/kg	791	395	250		03/10/13 00:01	78-87-5	
1,3-Dichloropropane	ND	ug/kg	791	395	250		03/10/13 00:01	142-28-9	
2,2-Dichloropropane	ND	ug/kg	791	395	250		03/10/13 00:01	594-20-7	
1,1-Dichloropropene	ND	ug/kg	791	395	250		03/10/13 00:01	563-58-6	
cis-1,3-Dichloropropene	ND	ug/kg	791	395	250		03/10/13 00:01	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/kg	791	395	250		03/10/13 00:01	10061-02-6	
Ethylbenzene	ND	ug/kg	791	395	250		03/10/13 00:01	100-41-4	
Hexachloro-1,3-butadiene	ND	ug/kg	791	395	250		03/10/13 00:01	87-68-3	
2-Hexanone	ND	ug/kg	3160	1580	250		03/10/13 00:01	591-78-6	
Isopropylbenzene (Cumene)	ND	ug/kg	791	395	250		03/10/13 00:01	98-82-8	
p-Isopropyltoluene	ND	ug/kg	791	395	250		03/10/13 00:01	99-87-6	
Methylene chloride	ND	ug/kg	791	395	250		03/10/13 00:01	75-09-2	

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ANALYTICAL RESULTS

Project: Big MO Soil Sampling

Pace Project No.: 60139568

Sample: BM-022613-SB33-13.3-13.5 **Lab ID:** 60139568045 **Collected:** 02/26/13 14:45 **Received:** 03/01/13 03:10 **Matrix:** Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA									
Analytical Method: EPA 8260									
4-Methyl-2-pentanone (MIBK)	ND	ug/kg	1580	791	250		03/10/13 00:01	108-10-1	
Methyl-tert-butyl ether	ND	ug/kg	791	395	250		03/10/13 00:01	1634-04-4	
Naphthalene	ND	ug/kg	1580	791	250		03/10/13 00:01	91-20-3	
n-Propylbenzene	ND	ug/kg	791	395	250		03/10/13 00:01	103-65-1	
Styrene	ND	ug/kg	791	395	250		03/10/13 00:01	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/kg	791	395	250		03/10/13 00:01	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/kg	791	395	250		03/10/13 00:01	79-34-5	
Tetrachloroethene	ND	ug/kg	791	395	250		03/10/13 00:01	127-18-4	
Toluene	ND	ug/kg	791	395	250		03/10/13 00:01	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/kg	791	395	250		03/10/13 00:01	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/kg	791	395	250		03/10/13 00:01	120-82-1	
1,1,1-Trichloroethane	ND	ug/kg	791	395	250		03/10/13 00:01	71-55-6	
1,1,2-Trichloroethane	ND	ug/kg	791	395	250		03/10/13 00:01	79-00-5	
Trichloroethene	ND	ug/kg	791	395	250		03/10/13 00:01	79-01-6	
Trichlorofluoromethane	ND	ug/kg	791	395	250		03/10/13 00:01	75-69-4	
1,2,3-Trichloropropane	ND	ug/kg	791	395	250		03/10/13 00:01	96-18-4	
1,2,4-Trimethylbenzene	ND	ug/kg	791	395	250		03/10/13 00:01	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/kg	791	395	250		03/10/13 00:01	108-67-8	
Vinyl chloride	ND	ug/kg	791	395	250		03/10/13 00:01	75-01-4	
Xylene (Total)	ND	ug/kg	791	395	250		03/10/13 00:01	1330-20-7	
Surrogates									
Dibromofluoromethane (S)	102 %		76-125		250		03/10/13 00:01	1868-53-7	
Toluene-d8 (S)	102 %		80-120		250		03/10/13 00:01	2037-26-5	
4-Bromofluorobenzene (S)	102 %		80-120		250		03/10/13 00:01	460-00-4	
1,2-Dichloroethane-d4 (S)	103 %		76-132		250		03/10/13 00:01	17060-07-0	
Percent Moisture									
Analytical Method: ASTM D2974									
Percent Moisture	3.2 %		0.50	0.50	1		03/06/13 00:00		

ANALYTICAL RESULTS

Project: Big MO Soil Sampling

Pace Project No.: 60139568

Sample: BM-022613-SB33-12.5-13 Lab ID: 60139568046 Collected: 02/26/13 15:00 Received: 03/01/13 03:10 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA		Analytical Method: EPA 8260							
Acetone	ND	ug/kg	705	352	50		03/10/13 15:09	67-64-1	
Benzene	2850	ug/kg	176	88.1	50		03/10/13 15:09	71-43-2	
Bromobenzene	ND	ug/kg	176	88.1	50		03/10/13 15:09	108-86-1	
Bromochloromethane	ND	ug/kg	176	88.1	50		03/10/13 15:09	74-97-5	
Bromodichloromethane	ND	ug/kg	176	88.1	50		03/10/13 15:09	75-27-4	
Bromoform	ND	ug/kg	176	88.1	50		03/10/13 15:09	75-25-2	
Bromomethane	ND	ug/kg	176	88.1	50		03/10/13 15:09	74-83-9	
2-Butanone (MEK)	186J	ug/kg	352	176	50		03/10/13 15:09	78-93-3	
n-Butylbenzene	ND	ug/kg	176	88.1	50		03/10/13 15:09	104-51-8	
sec-Butylbenzene	ND	ug/kg	176	88.1	50		03/10/13 15:09	135-98-8	
tert-Butylbenzene	ND	ug/kg	176	88.1	50		03/10/13 15:09	98-06-6	
Carbon disulfide	ND	ug/kg	176	88.1	50		03/10/13 15:09	75-15-0	
Carbon tetrachloride	ND	ug/kg	176	88.1	50		03/10/13 15:09	56-23-5	
Chlorobenzene	8490	ug/kg	176	88.1	50		03/10/13 15:09	108-90-7	
Chloroethane	ND	ug/kg	176	88.1	50		03/10/13 15:09	75-00-3	
Chloroform	ND	ug/kg	176	88.1	50		03/10/13 15:09	67-66-3	
Chloromethane	100J	ug/kg	176	88.1	50		03/10/13 15:09	74-87-3	
2-Chlorotoluene	ND	ug/kg	176	88.1	50		03/10/13 15:09	95-49-8	
4-Chlorotoluene	ND	ug/kg	176	88.1	50		03/10/13 15:09	106-43-4	
1,2-Dibromo-3-chloropropane	ND	ug/kg	352	176	50		03/10/13 15:09	96-12-8	
Dibromochloromethane	ND	ug/kg	176	88.1	50		03/10/13 15:09	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/kg	176	88.1	50		03/10/13 15:09	106-93-4	
Dibromomethane	ND	ug/kg	176	88.1	50		03/10/13 15:09	74-95-3	
1,2-Dichlorobenzene	ND	ug/kg	176	88.1	50		03/10/13 15:09	95-50-1	
1,3-Dichlorobenzene	ND	ug/kg	176	88.1	50		03/10/13 15:09	541-73-1	
1,4-Dichlorobenzene	ND	ug/kg	176	88.1	50		03/10/13 15:09	106-46-7	
Dichlorodifluoromethane	ND	ug/kg	176	88.1	50		03/10/13 15:09	75-71-8	
1,1-Dichloroethane	ND	ug/kg	176	88.1	50		03/10/13 15:09	75-34-3	
1,2-Dichloroethane	ND	ug/kg	176	88.1	50		03/10/13 15:09	107-06-2	
1,2-Dichloroethene (Total)	ND	ug/kg	176	88.1	50		03/10/13 15:09	540-59-0	
1,1-Dichloroethene	ND	ug/kg	176	88.1	50		03/10/13 15:09	75-35-4	
cis-1,2-Dichloroethene	ND	ug/kg	176	88.1	50		03/10/13 15:09	156-59-2	
trans-1,2-Dichloroethene	ND	ug/kg	176	88.1	50		03/10/13 15:09	156-60-5	
1,2-Dichloropropane	ND	ug/kg	176	88.1	50		03/10/13 15:09	78-87-5	
1,3-Dichloropropane	ND	ug/kg	176	88.1	50		03/10/13 15:09	142-28-9	
2,2-Dichloropropane	ND	ug/kg	176	88.1	50		03/10/13 15:09	594-20-7	
1,1-Dichloropropene	ND	ug/kg	176	88.1	50		03/10/13 15:09	563-58-6	
cis-1,3-Dichloropropene	ND	ug/kg	176	88.1	50		03/10/13 15:09	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/kg	176	88.1	50		03/10/13 15:09	10061-02-6	
Ethylbenzene	ND	ug/kg	176	88.1	50		03/10/13 15:09	100-41-4	
Hexachloro-1,3-butadiene	ND	ug/kg	176	88.1	50		03/10/13 15:09	87-68-3	
2-Hexanone	ND	ug/kg	705	352	50		03/10/13 15:09	591-78-6	
Isopropylbenzene (Cumene)	ND	ug/kg	176	88.1	50		03/10/13 15:09	98-82-8	
p-Isopropyltoluene	ND	ug/kg	176	88.1	50		03/10/13 15:09	99-87-6	
Methylene chloride	ND	ug/kg	176	88.1	50		03/10/13 15:09	75-09-2	

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ANALYTICAL RESULTS

Project: Big MO Soil Sampling

Pace Project No.: 60139568

Sample: BM-022613-SB33-12.5-13 **Lab ID:** 60139568046 **Collected:** 02/26/13 15:00 **Received:** 03/01/13 03:10 **Matrix:** Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA									
Analytical Method: EPA 8260									
4-Methyl-2-pentanone (MIBK)	ND	ug/kg	352	176	50		03/10/13 15:09	108-10-1	
Methyl-tert-butyl ether	ND	ug/kg	176	88.1	50		03/10/13 15:09	1634-04-4	
Naphthalene	ND	ug/kg	352	176	50		03/10/13 15:09	91-20-3	
n-Propylbenzene	ND	ug/kg	176	88.1	50		03/10/13 15:09	103-65-1	
Styrene	ND	ug/kg	176	88.1	50		03/10/13 15:09	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/kg	176	88.1	50		03/10/13 15:09	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/kg	176	88.1	50		03/10/13 15:09	79-34-5	
Tetrachloroethene	ND	ug/kg	176	88.1	50		03/10/13 15:09	127-18-4	
Toluene	ND	ug/kg	176	88.1	50		03/10/13 15:09	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/kg	176	88.1	50		03/10/13 15:09	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/kg	176	88.1	50		03/10/13 15:09	120-82-1	
1,1,1-Trichloroethane	ND	ug/kg	176	88.1	50		03/10/13 15:09	71-55-6	
1,1,2-Trichloroethane	ND	ug/kg	176	88.1	50		03/10/13 15:09	79-00-5	
Trichloroethene	ND	ug/kg	176	88.1	50		03/10/13 15:09	79-01-6	
Trichlorofluoromethane	ND	ug/kg	176	88.1	50		03/10/13 15:09	75-69-4	
1,2,3-Trichloropropane	ND	ug/kg	176	88.1	50		03/10/13 15:09	96-18-4	
1,2,4-Trimethylbenzene	ND	ug/kg	176	88.1	50		03/10/13 15:09	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/kg	176	88.1	50		03/10/13 15:09	108-67-8	
Vinyl chloride	ND	ug/kg	176	88.1	50		03/10/13 15:09	75-01-4	
Xylene (Total)	ND	ug/kg	176	88.1	50		03/10/13 15:09	1330-20-7	
Surrogates									
Dibromofluoromethane (S)	98 %		76-125		50		03/10/13 15:09	1868-53-7	
Toluene-d8 (S)	101 %		80-120		50		03/10/13 15:09	2037-26-5	
4-Bromofluorobenzene (S)	101 %		80-120		50		03/10/13 15:09	460-00-4	
1,2-Dichloroethane-d4 (S)	100 %		76-132		50		03/10/13 15:09	17060-07-0	
Percent Moisture									
Analytical Method: ASTM D2974									
Percent Moisture	12.2 %		0.50	0.50	1		03/06/13 00:00		

ANALYTICAL RESULTS

Project: Big MO Soil Sampling

Pace Project No.: 60139568

Sample: **BM-022613-SB34-10.9-11.1** Lab ID: **60139568047** Collected: 02/26/13 13:50 Received: 03/01/13 03:10 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA		Analytical Method: EPA 8260							
Acetone	ND	ug/kg	586	293	50		03/10/13 15:24	67-64-1	
Benzene	82.7J	ug/kg	147	73.3	50		03/10/13 15:24	71-43-2	
Bromobenzene	ND	ug/kg	147	73.3	50		03/10/13 15:24	108-86-1	
Bromochloromethane	ND	ug/kg	147	73.3	50		03/10/13 15:24	74-97-5	
Bromodichloromethane	ND	ug/kg	147	73.3	50		03/10/13 15:24	75-27-4	
Bromoform	ND	ug/kg	147	73.3	50		03/10/13 15:24	75-25-2	
Bromomethane	ND	ug/kg	147	73.3	50		03/10/13 15:24	74-83-9	
2-Butanone (MEK)	ND	ug/kg	293	147	50		03/10/13 15:24	78-93-3	
n-Butylbenzene	ND	ug/kg	147	73.3	50		03/10/13 15:24	104-51-8	
sec-Butylbenzene	ND	ug/kg	147	73.3	50		03/10/13 15:24	135-98-8	
tert-Butylbenzene	ND	ug/kg	147	73.3	50		03/10/13 15:24	98-06-6	
Carbon disulfide	ND	ug/kg	147	73.3	50		03/10/13 15:24	75-15-0	
Carbon tetrachloride	ND	ug/kg	147	73.3	50		03/10/13 15:24	56-23-5	
Chlorobenzene	299	ug/kg	147	73.3	50		03/10/13 15:24	108-90-7	
Chloroethane	ND	ug/kg	147	73.3	50		03/10/13 15:24	75-00-3	
Chloroform	ND	ug/kg	147	73.3	50		03/10/13 15:24	67-66-3	
Chloromethane	98.0J	ug/kg	147	73.3	50		03/10/13 15:24	74-87-3	
2-Chlorotoluene	ND	ug/kg	147	73.3	50		03/10/13 15:24	95-49-8	
4-Chlorotoluene	ND	ug/kg	147	73.3	50		03/10/13 15:24	106-43-4	
1,2-Dibromo-3-chloropropane	ND	ug/kg	293	147	50		03/10/13 15:24	96-12-8	
Dibromochloromethane	ND	ug/kg	147	73.3	50		03/10/13 15:24	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/kg	147	73.3	50		03/10/13 15:24	106-93-4	
Dibromomethane	ND	ug/kg	147	73.3	50		03/10/13 15:24	74-95-3	
1,2-Dichlorobenzene	ND	ug/kg	147	73.3	50		03/10/13 15:24	95-50-1	
1,3-Dichlorobenzene	ND	ug/kg	147	73.3	50		03/10/13 15:24	541-73-1	
1,4-Dichlorobenzene	ND	ug/kg	147	73.3	50		03/10/13 15:24	106-46-7	
Dichlorodifluoromethane	ND	ug/kg	147	73.3	50		03/10/13 15:24	75-71-8	
1,1-Dichloroethane	ND	ug/kg	147	73.3	50		03/10/13 15:24	75-34-3	
1,2-Dichloroethane	ND	ug/kg	147	73.3	50		03/10/13 15:24	107-06-2	
1,2-Dichloroethene (Total)	ND	ug/kg	147	73.3	50		03/10/13 15:24	540-59-0	
1,1-Dichloroethene	ND	ug/kg	147	73.3	50		03/10/13 15:24	75-35-4	
cis-1,2-Dichloroethene	ND	ug/kg	147	73.3	50		03/10/13 15:24	156-59-2	
trans-1,2-Dichloroethene	ND	ug/kg	147	73.3	50		03/10/13 15:24	156-60-5	
1,2-Dichloropropane	ND	ug/kg	147	73.3	50		03/10/13 15:24	78-87-5	
1,3-Dichloropropane	ND	ug/kg	147	73.3	50		03/10/13 15:24	142-28-9	
2,2-Dichloropropane	ND	ug/kg	147	73.3	50		03/10/13 15:24	594-20-7	
1,1-Dichloropropene	ND	ug/kg	147	73.3	50		03/10/13 15:24	563-58-6	
cis-1,3-Dichloropropene	ND	ug/kg	147	73.3	50		03/10/13 15:24	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/kg	147	73.3	50		03/10/13 15:24	10061-02-6	
Ethylbenzene	ND	ug/kg	147	73.3	50		03/10/13 15:24	100-41-4	
Hexachloro-1,3-butadiene	ND	ug/kg	147	73.3	50		03/10/13 15:24	87-68-3	
2-Hexanone	ND	ug/kg	586	293	50		03/10/13 15:24	591-78-6	
Isopropylbenzene (Cumene)	ND	ug/kg	147	73.3	50		03/10/13 15:24	98-82-8	
p-Isopropyltoluene	ND	ug/kg	147	73.3	50		03/10/13 15:24	99-87-6	
Methylene chloride	ND	ug/kg	147	73.3	50		03/10/13 15:24	75-09-2	

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ANALYTICAL RESULTS

Project: Big MO Soil Sampling

Pace Project No.: 60139568

Sample: BM-022613-SB34-10.9-11.1 **Lab ID:** 60139568047 **Collected:** 02/26/13 13:50 **Received:** 03/01/13 03:10 **Matrix:** Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA									
Analytical Method: EPA 8260									
4-Methyl-2-pentanone (MIBK)	ND	ug/kg	293	147	50		03/10/13 15:24	108-10-1	
Methyl-tert-butyl ether	ND	ug/kg	147	73.3	50		03/10/13 15:24	1634-04-4	
Naphthalene	ND	ug/kg	293	147	50		03/10/13 15:24	91-20-3	
n-Propylbenzene	ND	ug/kg	147	73.3	50		03/10/13 15:24	103-65-1	
Styrene	ND	ug/kg	147	73.3	50		03/10/13 15:24	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/kg	147	73.3	50		03/10/13 15:24	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/kg	147	73.3	50		03/10/13 15:24	79-34-5	
Tetrachloroethene	ND	ug/kg	147	73.3	50		03/10/13 15:24	127-18-4	
Toluene	ND	ug/kg	147	73.3	50		03/10/13 15:24	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/kg	147	73.3	50		03/10/13 15:24	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/kg	147	73.3	50		03/10/13 15:24	120-82-1	
1,1,1-Trichloroethane	ND	ug/kg	147	73.3	50		03/10/13 15:24	71-55-6	
1,1,2-Trichloroethane	ND	ug/kg	147	73.3	50		03/10/13 15:24	79-00-5	
Trichloroethene	ND	ug/kg	147	73.3	50		03/10/13 15:24	79-01-6	
Trichlorofluoromethane	ND	ug/kg	147	73.3	50		03/10/13 15:24	75-69-4	
1,2,3-Trichloropropane	ND	ug/kg	147	73.3	50		03/10/13 15:24	96-18-4	
1,2,4-Trimethylbenzene	ND	ug/kg	147	73.3	50		03/10/13 15:24	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/kg	147	73.3	50		03/10/13 15:24	108-67-8	
Vinyl chloride	ND	ug/kg	147	73.3	50		03/10/13 15:24	75-01-4	
Xylene (Total)	ND	ug/kg	147	73.3	50		03/10/13 15:24	1330-20-7	
Surrogates									
Dibromofluoromethane (S)	99 %		76-125		50		03/10/13 15:24	1868-53-7	
Toluene-d8 (S)	101 %		80-120		50		03/10/13 15:24	2037-26-5	
4-Bromofluorobenzene (S)	100 %		80-120		50		03/10/13 15:24	460-00-4	
1,2-Dichloroethane-d4 (S)	100 %		76-132		50		03/10/13 15:24	17060-07-0	
Percent Moisture									
Analytical Method: ASTM D2974									
Percent Moisture	2.2 %		0.50	0.50	1		03/07/13 00:00		

ANALYTICAL RESULTS

Project: Big MO Soil Sampling

Pace Project No.: 60139568

Sample: BM-022613-SB34-13.3-13.5 Lab ID: 60139568048 Collected: 02/26/13 13:55 Received: 03/01/13 03:10 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA		Analytical Method: EPA 8260							
Acetone	ND	ug/kg	645	323	50		03/10/13 15:39	67-64-1	
Benzene	ND	ug/kg	161	80.6	50		03/10/13 15:39	71-43-2	
Bromobenzene	ND	ug/kg	161	80.6	50		03/10/13 15:39	108-86-1	
Bromochloromethane	ND	ug/kg	161	80.6	50		03/10/13 15:39	74-97-5	
Bromodichloromethane	ND	ug/kg	161	80.6	50		03/10/13 15:39	75-27-4	
Bromoform	ND	ug/kg	161	80.6	50		03/10/13 15:39	75-25-2	
Bromomethane	ND	ug/kg	161	80.6	50		03/10/13 15:39	74-83-9	
2-Butanone (MEK)	ND	ug/kg	323	161	50		03/10/13 15:39	78-93-3	
n-Butylbenzene	ND	ug/kg	161	80.6	50		03/10/13 15:39	104-51-8	
sec-Butylbenzene	ND	ug/kg	161	80.6	50		03/10/13 15:39	135-98-8	
tert-Butylbenzene	ND	ug/kg	161	80.6	50		03/10/13 15:39	98-06-6	
Carbon disulfide	ND	ug/kg	161	80.6	50		03/10/13 15:39	75-15-0	
Carbon tetrachloride	ND	ug/kg	161	80.6	50		03/10/13 15:39	56-23-5	
Chlorobenzene	494	ug/kg	161	80.6	50		03/10/13 15:39	108-90-7	
Chloroethane	ND	ug/kg	161	80.6	50		03/10/13 15:39	75-00-3	
Chloroform	ND	ug/kg	161	80.6	50		03/10/13 15:39	67-66-3	
Chloromethane	112J	ug/kg	161	80.6	50		03/10/13 15:39	74-87-3	
2-Chlorotoluene	ND	ug/kg	161	80.6	50		03/10/13 15:39	95-49-8	
4-Chlorotoluene	ND	ug/kg	161	80.6	50		03/10/13 15:39	106-43-4	
1,2-Dibromo-3-chloropropane	ND	ug/kg	323	161	50		03/10/13 15:39	96-12-8	
Dibromochloromethane	ND	ug/kg	161	80.6	50		03/10/13 15:39	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/kg	161	80.6	50		03/10/13 15:39	106-93-4	
Dibromomethane	ND	ug/kg	161	80.6	50		03/10/13 15:39	74-95-3	
1,2-Dichlorobenzene	ND	ug/kg	161	80.6	50		03/10/13 15:39	95-50-1	
1,3-Dichlorobenzene	ND	ug/kg	161	80.6	50		03/10/13 15:39	541-73-1	
1,4-Dichlorobenzene	ND	ug/kg	161	80.6	50		03/10/13 15:39	106-46-7	
Dichlorodifluoromethane	ND	ug/kg	161	80.6	50		03/10/13 15:39	75-71-8	
1,1-Dichloroethane	ND	ug/kg	161	80.6	50		03/10/13 15:39	75-34-3	
1,2-Dichloroethane	ND	ug/kg	161	80.6	50		03/10/13 15:39	107-06-2	
1,2-Dichloroethene (Total)	ND	ug/kg	161	80.6	50		03/10/13 15:39	540-59-0	
1,1-Dichloroethene	ND	ug/kg	161	80.6	50		03/10/13 15:39	75-35-4	
cis-1,2-Dichloroethene	ND	ug/kg	161	80.6	50		03/10/13 15:39	156-59-2	
trans-1,2-Dichloroethene	ND	ug/kg	161	80.6	50		03/10/13 15:39	156-60-5	
1,2-Dichloropropane	ND	ug/kg	161	80.6	50		03/10/13 15:39	78-87-5	
1,3-Dichloropropane	ND	ug/kg	161	80.6	50		03/10/13 15:39	142-28-9	
2,2-Dichloropropane	ND	ug/kg	161	80.6	50		03/10/13 15:39	594-20-7	
1,1-Dichloropropene	ND	ug/kg	161	80.6	50		03/10/13 15:39	563-58-6	
cis-1,3-Dichloropropene	ND	ug/kg	161	80.6	50		03/10/13 15:39	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/kg	161	80.6	50		03/10/13 15:39	10061-02-6	
Ethylbenzene	ND	ug/kg	161	80.6	50		03/10/13 15:39	100-41-4	
Hexachloro-1,3-butadiene	ND	ug/kg	161	80.6	50		03/10/13 15:39	87-68-3	
2-Hexanone	ND	ug/kg	645	323	50		03/10/13 15:39	591-78-6	
Isopropylbenzene (Cumene)	ND	ug/kg	161	80.6	50		03/10/13 15:39	98-82-8	
p-Isopropyltoluene	ND	ug/kg	161	80.6	50		03/10/13 15:39	99-87-6	
Methylene chloride	ND	ug/kg	161	80.6	50		03/10/13 15:39	75-09-2	

Date: 03/15/2013 10:48 AM

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Big MO Soil Sampling

Pace Project No.: 60139568

Sample: BM-022613-SB34-13.3-13.5 **Lab ID: 60139568048** Collected: 02/26/13 13:55 Received: 03/01/13 03:10 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA									
Analytical Method: EPA 8260									
4-Methyl-2-pentanone (MIBK)	ND	ug/kg	323	161	50		03/10/13 15:39	108-10-1	
Methyl-tert-butyl ether	ND	ug/kg	161	80.6	50		03/10/13 15:39	1634-04-4	
Naphthalene	ND	ug/kg	323	161	50		03/10/13 15:39	91-20-3	
n-Propylbenzene	ND	ug/kg	161	80.6	50		03/10/13 15:39	103-65-1	
Styrene	ND	ug/kg	161	80.6	50		03/10/13 15:39	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/kg	161	80.6	50		03/10/13 15:39	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/kg	161	80.6	50		03/10/13 15:39	79-34-5	
Tetrachloroethene	ND	ug/kg	161	80.6	50		03/10/13 15:39	127-18-4	
Toluene	ND	ug/kg	161	80.6	50		03/10/13 15:39	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/kg	161	80.6	50		03/10/13 15:39	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/kg	161	80.6	50		03/10/13 15:39	120-82-1	
1,1,1-Trichloroethane	ND	ug/kg	161	80.6	50		03/10/13 15:39	71-55-6	
1,1,2-Trichloroethane	ND	ug/kg	161	80.6	50		03/10/13 15:39	79-00-5	
Trichloroethene	ND	ug/kg	161	80.6	50		03/10/13 15:39	79-01-6	
Trichlorofluoromethane	ND	ug/kg	161	80.6	50		03/10/13 15:39	75-69-4	
1,2,3-Trichloropropane	ND	ug/kg	161	80.6	50		03/10/13 15:39	96-18-4	
1,2,4-Trimethylbenzene	ND	ug/kg	161	80.6	50		03/10/13 15:39	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/kg	161	80.6	50		03/10/13 15:39	108-67-8	
Vinyl chloride	ND	ug/kg	161	80.6	50		03/10/13 15:39	75-01-4	
Xylene (Total)	ND	ug/kg	161	80.6	50		03/10/13 15:39	1330-20-7	
Surrogates									
Dibromofluoromethane (S)	100 %		76-125		50		03/10/13 15:39	1868-53-7	
Toluene-d8 (S)	102 %		80-120		50		03/10/13 15:39	2037-26-5	
4-Bromofluorobenzene (S)	100 %		80-120		50		03/10/13 15:39	460-00-4	
1,2-Dichloroethane-d4 (S)	101 %		76-132		50		03/10/13 15:39	17060-07-0	
Percent Moisture									
Analytical Method: ASTM D2974									
Percent Moisture	2.7 %		0.50	0.50	1		03/07/13 00:00		

ANALYTICAL RESULTS

Project: Big MO Soil Sampling

Pace Project No.: 60139568

Sample: BM-022613-SB34-7.3-7.5 Lab ID: 60139568049 Collected: 02/26/13 14:00 Received: 03/01/13 03:10 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA		Analytical Method: EPA 8260							
Acetone	45.8	ug/kg	13.4	6.7	1		03/11/13 16:42	67-64-1	
Benzene	ND	ug/kg	3.3	1.7	1		03/11/13 16:42	71-43-2	
Bromobenzene	ND	ug/kg	3.3	1.7	1		03/11/13 16:42	108-86-1	
Bromochloromethane	ND	ug/kg	3.3	1.7	1		03/11/13 16:42	74-97-5	
Bromodichloromethane	ND	ug/kg	3.3	1.7	1		03/11/13 16:42	75-27-4	
Bromoform	ND	ug/kg	3.3	1.7	1		03/11/13 16:42	75-25-2	
Bromomethane	ND	ug/kg	3.3	1.7	1		03/11/13 16:42	74-83-9	
2-Butanone (MEK)	ND	ug/kg	6.7	3.3	1		03/11/13 16:42	78-93-3	
n-Butylbenzene	ND	ug/kg	3.3	1.7	1		03/11/13 16:42	104-51-8	
sec-Butylbenzene	ND	ug/kg	3.3	1.7	1		03/11/13 16:42	135-98-8	
tert-Butylbenzene	ND	ug/kg	3.3	1.7	1		03/11/13 16:42	98-06-6	
Carbon disulfide	ND	ug/kg	3.3	1.7	1		03/11/13 16:42	75-15-0	
Carbon tetrachloride	ND	ug/kg	3.3	1.7	1		03/11/13 16:42	56-23-5	
Chlorobenzene	ND	ug/kg	3.3	1.7	1		03/11/13 16:42	108-90-7	
Chloroethane	ND	ug/kg	3.3	1.7	1		03/11/13 16:42	75-00-3	
Chloroform	ND	ug/kg	3.3	1.7	1		03/11/13 16:42	67-66-3	
Chloromethane	ND	ug/kg	3.3	1.7	1		03/11/13 16:42	74-87-3	
2-Chlorotoluene	ND	ug/kg	3.3	1.7	1		03/11/13 16:42	95-49-8	
4-Chlorotoluene	ND	ug/kg	3.3	1.7	1		03/11/13 16:42	106-43-4	
1,2-Dibromo-3-chloropropane	ND	ug/kg	6.7	3.3	1		03/11/13 16:42	96-12-8	
Dibromochloromethane	ND	ug/kg	3.3	1.7	1		03/11/13 16:42	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/kg	3.3	1.7	1		03/11/13 16:42	106-93-4	
Dibromomethane	ND	ug/kg	3.3	1.7	1		03/11/13 16:42	74-95-3	
1,2-Dichlorobenzene	ND	ug/kg	3.3	1.7	1		03/11/13 16:42	95-50-1	
1,3-Dichlorobenzene	ND	ug/kg	3.3	1.7	1		03/11/13 16:42	541-73-1	
1,4-Dichlorobenzene	ND	ug/kg	3.3	1.7	1		03/11/13 16:42	106-46-7	
Dichlorodifluoromethane	ND	ug/kg	3.3	1.7	1		03/11/13 16:42	75-71-8	
1,1-Dichloroethane	ND	ug/kg	3.3	1.7	1		03/11/13 16:42	75-34-3	
1,2-Dichloroethane	ND	ug/kg	3.3	1.7	1		03/11/13 16:42	107-06-2	
1,2-Dichloroethene (Total)	ND	ug/kg	3.3	1.7	1		03/11/13 16:42	540-59-0	
1,1-Dichloroethene	ND	ug/kg	3.3	1.7	1		03/11/13 16:42	75-35-4	
cis-1,2-Dichloroethene	ND	ug/kg	3.3	1.7	1		03/11/13 16:42	156-59-2	
trans-1,2-Dichloroethene	ND	ug/kg	3.3	1.7	1		03/11/13 16:42	156-60-5	
1,2-Dichloropropane	ND	ug/kg	3.3	1.7	1		03/11/13 16:42	78-87-5	
1,3-Dichloropropane	ND	ug/kg	3.3	1.7	1		03/11/13 16:42	142-28-9	
2,2-Dichloropropane	ND	ug/kg	3.3	1.7	1		03/11/13 16:42	594-20-7	
1,1-Dichloropropene	ND	ug/kg	3.3	1.7	1		03/11/13 16:42	563-58-6	
cis-1,3-Dichloropropene	ND	ug/kg	3.3	1.7	1		03/11/13 16:42	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/kg	3.3	1.7	1		03/11/13 16:42	10061-02-6	
Ethylbenzene	ND	ug/kg	3.3	1.7	1		03/11/13 16:42	100-41-4	
Hexachloro-1,3-butadiene	ND	ug/kg	3.3	1.7	1		03/11/13 16:42	87-68-3	
2-Hexanone	ND	ug/kg	13.4	6.7	1		03/11/13 16:42	591-78-6	
Isopropylbenzene (Cumene)	ND	ug/kg	3.3	1.7	1		03/11/13 16:42	98-82-8	
p-Isopropyltoluene	ND	ug/kg	3.3	1.7	1		03/11/13 16:42	99-87-6	
Methylene chloride	ND	ug/kg	3.3	1.7	1		03/11/13 16:42	75-09-2	

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REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Big MO Soil Sampling

Pace Project No.: 60139568

Sample: BM-022613-SB34-7.3-7.5 **Lab ID:** 60139568049 **Collected:** 02/26/13 14:00 **Received:** 03/01/13 03:10 **Matrix:** Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA									
Analytical Method: EPA 8260									
4-Methyl-2-pentanone (MIBK)	ND	ug/kg	6.7	3.3	1		03/11/13 16:42	108-10-1	
Methyl-tert-butyl ether	ND	ug/kg	3.3	1.7	1		03/11/13 16:42	1634-04-4	
Naphthalene	ND	ug/kg	6.7	3.3	1		03/11/13 16:42	91-20-3	
n-Propylbenzene	ND	ug/kg	3.3	1.7	1		03/11/13 16:42	103-65-1	
Styrene	ND	ug/kg	3.3	1.7	1		03/11/13 16:42	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/kg	3.3	1.7	1		03/11/13 16:42	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/kg	3.3	1.7	1		03/11/13 16:42	79-34-5	
Tetrachloroethene	ND	ug/kg	3.3	1.7	1		03/11/13 16:42	127-18-4	
Toluene	ND	ug/kg	3.3	1.7	1		03/11/13 16:42	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/kg	3.3	1.7	1		03/11/13 16:42	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/kg	3.3	1.7	1		03/11/13 16:42	120-82-1	
1,1,1-Trichloroethane	ND	ug/kg	3.3	1.7	1		03/11/13 16:42	71-55-6	
1,1,2-Trichloroethane	ND	ug/kg	3.3	1.7	1		03/11/13 16:42	79-00-5	
Trichloroethene	ND	ug/kg	3.3	1.7	1		03/11/13 16:42	79-01-6	
Trichlorofluoromethane	ND	ug/kg	3.3	1.7	1		03/11/13 16:42	75-69-4	
1,2,3-Trichloropropane	ND	ug/kg	3.3	1.7	1		03/11/13 16:42	96-18-4	
1,2,4-Trimethylbenzene	ND	ug/kg	3.3	1.7	1		03/11/13 16:42	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/kg	3.3	1.7	1		03/11/13 16:42	108-67-8	
Vinyl chloride	ND	ug/kg	3.3	1.7	1		03/11/13 16:42	75-01-4	
Xylene (Total)	ND	ug/kg	3.3	1.7	1		03/11/13 16:42	1330-20-7	
Surrogates									
Dibromofluoromethane (S)	98 %		76-125		1		03/11/13 16:42	1868-53-7	1e
Toluene-d8 (S)	99 %		80-120		1		03/11/13 16:42	2037-26-5	
4-Bromofluorobenzene (S)	97 %		80-120		1		03/11/13 16:42	460-00-4	
1,2-Dichloroethane-d4 (S)	107 %		76-132		1		03/11/13 16:42	17060-07-0	
Percent Moisture									
Analytical Method: ASTM D2974									
Percent Moisture	7.6 %		0.50	0.50	1		03/07/13 00:00		

ANALYTICAL RESULTS

Project: Big MO Soil Sampling

Pace Project No.: 60139568

Sample: **BM-022613-SB34-13-13.3** Lab ID: **60139568050** Collected: 02/26/13 14:05 Received: 03/01/13 03:10 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA		Analytical Method: EPA 8260							
Acetone	ND	ug/kg	581	291	50		03/10/13 17:26	67-64-1	
Benzene	349	ug/kg	145	72.6	50		03/10/13 17:26	71-43-2	
Bromobenzene	ND	ug/kg	145	72.6	50		03/10/13 17:26	108-86-1	
Bromochloromethane	ND	ug/kg	145	72.6	50		03/10/13 17:26	74-97-5	
Bromodichloromethane	ND	ug/kg	145	72.6	50		03/10/13 17:26	75-27-4	
Bromoform	ND	ug/kg	145	72.6	50		03/10/13 17:26	75-25-2	
Bromomethane	ND	ug/kg	145	72.6	50		03/10/13 17:26	74-83-9	
2-Butanone (MEK)	158J	ug/kg	291	145	50		03/10/13 17:26	78-93-3	
n-Butylbenzene	ND	ug/kg	145	72.6	50		03/10/13 17:26	104-51-8	
sec-Butylbenzene	ND	ug/kg	145	72.6	50		03/10/13 17:26	135-98-8	
tert-Butylbenzene	ND	ug/kg	145	72.6	50		03/10/13 17:26	98-06-6	
Carbon disulfide	ND	ug/kg	145	72.6	50		03/10/13 17:26	75-15-0	
Carbon tetrachloride	ND	ug/kg	145	72.6	50		03/10/13 17:26	56-23-5	
Chlorobenzene	4080	ug/kg	145	72.6	50		03/10/13 17:26	108-90-7	
Chloroethane	ND	ug/kg	145	72.6	50		03/10/13 17:26	75-00-3	
Chloroform	ND	ug/kg	145	72.6	50		03/10/13 17:26	67-66-3	
Chloromethane	107J	ug/kg	145	72.6	50		03/10/13 17:26	74-87-3	
2-Chlorotoluene	ND	ug/kg	145	72.6	50		03/10/13 17:26	95-49-8	
4-Chlorotoluene	ND	ug/kg	145	72.6	50		03/10/13 17:26	106-43-4	
1,2-Dibromo-3-chloropropane	ND	ug/kg	291	145	50		03/10/13 17:26	96-12-8	
Dibromochloromethane	ND	ug/kg	145	72.6	50		03/10/13 17:26	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/kg	145	72.6	50		03/10/13 17:26	106-93-4	
Dibromomethane	ND	ug/kg	145	72.6	50		03/10/13 17:26	74-95-3	
1,2-Dichlorobenzene	ND	ug/kg	145	72.6	50		03/10/13 17:26	95-50-1	
1,3-Dichlorobenzene	ND	ug/kg	145	72.6	50		03/10/13 17:26	541-73-1	
1,4-Dichlorobenzene	ND	ug/kg	145	72.6	50		03/10/13 17:26	106-46-7	
Dichlorodifluoromethane	ND	ug/kg	145	72.6	50		03/10/13 17:26	75-71-8	
1,1-Dichloroethane	ND	ug/kg	145	72.6	50		03/10/13 17:26	75-34-3	
1,2-Dichloroethane	ND	ug/kg	145	72.6	50		03/10/13 17:26	107-06-2	
1,2-Dichloroethene (Total)	ND	ug/kg	145	72.6	50		03/10/13 17:26	540-59-0	
1,1-Dichloroethene	ND	ug/kg	145	72.6	50		03/10/13 17:26	75-35-4	
cis-1,2-Dichloroethene	ND	ug/kg	145	72.6	50		03/10/13 17:26	156-59-2	
trans-1,2-Dichloroethene	ND	ug/kg	145	72.6	50		03/10/13 17:26	156-60-5	
1,2-Dichloropropane	ND	ug/kg	145	72.6	50		03/10/13 17:26	78-87-5	
1,3-Dichloropropane	ND	ug/kg	145	72.6	50		03/10/13 17:26	142-28-9	
2,2-Dichloropropane	ND	ug/kg	145	72.6	50		03/10/13 17:26	594-20-7	
1,1-Dichloropropene	ND	ug/kg	145	72.6	50		03/10/13 17:26	563-58-6	
cis-1,3-Dichloropropene	ND	ug/kg	145	72.6	50		03/10/13 17:26	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/kg	145	72.6	50		03/10/13 17:26	10061-02-6	
Ethylbenzene	ND	ug/kg	145	72.6	50		03/10/13 17:26	100-41-4	
Hexachloro-1,3-butadiene	ND	ug/kg	145	72.6	50		03/10/13 17:26	87-68-3	
2-Hexanone	ND	ug/kg	581	291	50		03/10/13 17:26	591-78-6	
Isopropylbenzene (Cumene)	ND	ug/kg	145	72.6	50		03/10/13 17:26	98-82-8	
p-Isopropyltoluene	ND	ug/kg	145	72.6	50		03/10/13 17:26	99-87-6	
Methylene chloride	ND	ug/kg	145	72.6	50		03/10/13 17:26	75-09-2	

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ANALYTICAL RESULTS

Project: Big MO Soil Sampling

Pace Project No.: 60139568

Sample: BM-022613-SB34-13-13.3 **Lab ID: 60139568050** Collected: 02/26/13 14:05 Received: 03/01/13 03:10 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA Analytical Method: EPA 8260									
4-Methyl-2-pentanone (MIBK)	ND	ug/kg	291	145	50		03/10/13 17:26	108-10-1	
Methyl-tert-butyl ether	ND	ug/kg	145	72.6	50		03/10/13 17:26	1634-04-4	
Naphthalene	ND	ug/kg	291	145	50		03/10/13 17:26	91-20-3	
n-Propylbenzene	ND	ug/kg	145	72.6	50		03/10/13 17:26	103-65-1	
Styrene	ND	ug/kg	145	72.6	50		03/10/13 17:26	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/kg	145	72.6	50		03/10/13 17:26	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/kg	145	72.6	50		03/10/13 17:26	79-34-5	
Tetrachloroethene	ND	ug/kg	145	72.6	50		03/10/13 17:26	127-18-4	
Toluene	ND	ug/kg	145	72.6	50		03/10/13 17:26	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/kg	145	72.6	50		03/10/13 17:26	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/kg	145	72.6	50		03/10/13 17:26	120-82-1	
1,1,1-Trichloroethane	ND	ug/kg	145	72.6	50		03/10/13 17:26	71-55-6	
1,1,2-Trichloroethane	ND	ug/kg	145	72.6	50		03/10/13 17:26	79-00-5	
Trichloroethene	ND	ug/kg	145	72.6	50		03/10/13 17:26	79-01-6	
Trichlorofluoromethane	ND	ug/kg	145	72.6	50		03/10/13 17:26	75-69-4	
1,2,3-Trichloropropane	ND	ug/kg	145	72.6	50		03/10/13 17:26	96-18-4	
1,2,4-Trimethylbenzene	ND	ug/kg	145	72.6	50		03/10/13 17:26	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/kg	145	72.6	50		03/10/13 17:26	108-67-8	
Vinyl chloride	ND	ug/kg	145	72.6	50		03/10/13 17:26	75-01-4	
Xylene (Total)	ND	ug/kg	145	72.6	50		03/10/13 17:26	1330-20-7	
Surrogates									
Dibromofluoromethane (S)	101	%	76-125		50		03/10/13 17:26	1868-53-7	
Toluene-d8 (S)	100	%	80-120		50		03/10/13 17:26	2037-26-5	
4-Bromofluorobenzene (S)	101	%	80-120		50		03/10/13 17:26	460-00-4	
1,2-Dichloroethane-d4 (S)	102	%	76-132		50		03/10/13 17:26	17060-07-0	
Percent Moisture Analytical Method: ASTM D2974									
Percent Moisture	3.4	%	0.50	0.50	1		03/07/13 00:00		

ANALYTICAL RESULTS

Project: Big MO Soil Sampling

Pace Project No.: 60139568

Sample: BM-022613-SB37-10-10.2 Lab ID: 60139568051 Collected: 02/26/13 11:50 Received: 03/01/13 03:10 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA		Analytical Method: EPA 8260							
Acetone	ND	ug/kg	632	316	50		03/10/13 17:41	67-64-1	
Benzene	190	ug/kg	158	79.0	50		03/10/13 17:41	71-43-2	
Bromobenzene	ND	ug/kg	158	79.0	50		03/10/13 17:41	108-86-1	
Bromochloromethane	ND	ug/kg	158	79.0	50		03/10/13 17:41	74-97-5	
Bromodichloromethane	ND	ug/kg	158	79.0	50		03/10/13 17:41	75-27-4	
Bromoform	ND	ug/kg	158	79.0	50		03/10/13 17:41	75-25-2	
Bromomethane	ND	ug/kg	158	79.0	50		03/10/13 17:41	74-83-9	
2-Butanone (MEK)	248J	ug/kg	316	158	50		03/10/13 17:41	78-93-3	
n-Butylbenzene	ND	ug/kg	158	79.0	50		03/10/13 17:41	104-51-8	
sec-Butylbenzene	ND	ug/kg	158	79.0	50		03/10/13 17:41	135-98-8	
tert-Butylbenzene	ND	ug/kg	158	79.0	50		03/10/13 17:41	98-06-6	
Carbon disulfide	ND	ug/kg	158	79.0	50		03/10/13 17:41	75-15-0	
Carbon tetrachloride	ND	ug/kg	158	79.0	50		03/10/13 17:41	56-23-5	
Chlorobenzene	ND	ug/kg	158	79.0	50		03/10/13 17:41	108-90-7	
Chloroethane	ND	ug/kg	158	79.0	50		03/10/13 17:41	75-00-3	
Chloroform	ND	ug/kg	158	79.0	50		03/10/13 17:41	67-66-3	
Chloromethane	133J	ug/kg	158	79.0	50		03/10/13 17:41	74-87-3	
2-Chlorotoluene	ND	ug/kg	158	79.0	50		03/10/13 17:41	95-49-8	
4-Chlorotoluene	ND	ug/kg	158	79.0	50		03/10/13 17:41	106-43-4	
1,2-Dibromo-3-chloropropane	ND	ug/kg	316	158	50		03/10/13 17:41	96-12-8	
Dibromochloromethane	ND	ug/kg	158	79.0	50		03/10/13 17:41	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/kg	158	79.0	50		03/10/13 17:41	106-93-4	
Dibromomethane	ND	ug/kg	158	79.0	50		03/10/13 17:41	74-95-3	
1,2-Dichlorobenzene	ND	ug/kg	158	79.0	50		03/10/13 17:41	95-50-1	
1,3-Dichlorobenzene	ND	ug/kg	158	79.0	50		03/10/13 17:41	541-73-1	
1,4-Dichlorobenzene	ND	ug/kg	158	79.0	50		03/10/13 17:41	106-46-7	
Dichlorodifluoromethane	ND	ug/kg	158	79.0	50		03/10/13 17:41	75-71-8	
1,1-Dichloroethane	ND	ug/kg	158	79.0	50		03/10/13 17:41	75-34-3	
1,2-Dichloroethane	ND	ug/kg	158	79.0	50		03/10/13 17:41	107-06-2	
1,2-Dichloroethene (Total)	ND	ug/kg	158	79.0	50		03/10/13 17:41	540-59-0	
1,1-Dichloroethene	ND	ug/kg	158	79.0	50		03/10/13 17:41	75-35-4	
cis-1,2-Dichloroethene	ND	ug/kg	158	79.0	50		03/10/13 17:41	156-59-2	
trans-1,2-Dichloroethene	ND	ug/kg	158	79.0	50		03/10/13 17:41	156-60-5	
1,2-Dichloropropane	ND	ug/kg	158	79.0	50		03/10/13 17:41	78-87-5	
1,3-Dichloropropane	ND	ug/kg	158	79.0	50		03/10/13 17:41	142-28-9	
2,2-Dichloropropane	ND	ug/kg	158	79.0	50		03/10/13 17:41	594-20-7	
1,1-Dichloropropene	ND	ug/kg	158	79.0	50		03/10/13 17:41	563-58-6	
cis-1,3-Dichloropropene	ND	ug/kg	158	79.0	50		03/10/13 17:41	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/kg	158	79.0	50		03/10/13 17:41	10061-02-6	
Ethylbenzene	ND	ug/kg	158	79.0	50		03/10/13 17:41	100-41-4	
Hexachloro-1,3-butadiene	ND	ug/kg	158	79.0	50		03/10/13 17:41	87-68-3	
2-Hexanone	ND	ug/kg	632	316	50		03/10/13 17:41	591-78-6	
Isopropylbenzene (Cumene)	ND	ug/kg	158	79.0	50		03/10/13 17:41	98-82-8	
p-Isopropyltoluene	ND	ug/kg	158	79.0	50		03/10/13 17:41	99-87-6	
Methylene chloride	ND	ug/kg	158	79.0	50		03/10/13 17:41	75-09-2	

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ANALYTICAL RESULTS

Project: Big MO Soil Sampling

Pace Project No.: 60139568

Sample: BM-022613-SB37-10-10.2 **Lab ID: 60139568051** Collected: 02/26/13 11:50 Received: 03/01/13 03:10 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA									
Analytical Method: EPA 8260									
4-Methyl-2-pentanone (MIBK)	ND	ug/kg	316	158	50		03/10/13 17:41	108-10-1	
Methyl-tert-butyl ether	ND	ug/kg	158	79.0	50		03/10/13 17:41	1634-04-4	
Naphthalene	ND	ug/kg	316	158	50		03/10/13 17:41	91-20-3	
n-Propylbenzene	ND	ug/kg	158	79.0	50		03/10/13 17:41	103-65-1	
Styrene	ND	ug/kg	158	79.0	50		03/10/13 17:41	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/kg	158	79.0	50		03/10/13 17:41	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/kg	158	79.0	50		03/10/13 17:41	79-34-5	
Tetrachloroethene	ND	ug/kg	158	79.0	50		03/10/13 17:41	127-18-4	
Toluene	ND	ug/kg	158	79.0	50		03/10/13 17:41	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/kg	158	79.0	50		03/10/13 17:41	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/kg	158	79.0	50		03/10/13 17:41	120-82-1	
1,1,1-Trichloroethane	ND	ug/kg	158	79.0	50		03/10/13 17:41	71-55-6	
1,1,2-Trichloroethane	ND	ug/kg	158	79.0	50		03/10/13 17:41	79-00-5	
Trichloroethene	ND	ug/kg	158	79.0	50		03/10/13 17:41	79-01-6	
Trichlorofluoromethane	ND	ug/kg	158	79.0	50		03/10/13 17:41	75-69-4	
1,2,3-Trichloropropane	ND	ug/kg	158	79.0	50		03/10/13 17:41	96-18-4	
1,2,4-Trimethylbenzene	ND	ug/kg	158	79.0	50		03/10/13 17:41	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/kg	158	79.0	50		03/10/13 17:41	108-67-8	
Vinyl chloride	ND	ug/kg	158	79.0	50		03/10/13 17:41	75-01-4	
Xylene (Total)	ND	ug/kg	158	79.0	50		03/10/13 17:41	1330-20-7	
Surrogates									
Dibromofluoromethane (S)	102 %		76-125		50		03/10/13 17:41	1868-53-7	
Toluene-d8 (S)	102 %		80-120		50		03/10/13 17:41	2037-26-5	
4-Bromofluorobenzene (S)	102 %		80-120		50		03/10/13 17:41	460-00-4	
1,2-Dichloroethane-d4 (S)	103 %		76-132		50		03/10/13 17:41	17060-07-0	
Percent Moisture									
Analytical Method: ASTM D2974									
Percent Moisture	7.2 %		0.50	0.50	1		03/07/13 00:00		

ANALYTICAL RESULTS

Project: Big MO Soil Sampling

Pace Project No.: 60139568

Sample: **BM-022613-SB37-11.8-12** Lab ID: **60139568052** Collected: 02/26/13 11:55 Received: 03/01/13 03:10 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA		Analytical Method: EPA 8260							
Acetone	ND	ug/kg	11900	5950	1000		03/10/13 17:56	67-64-1	
Benzene	137000	ug/kg	2980	1490	1000		03/10/13 17:56	71-43-2	
Bromobenzene	ND	ug/kg	2980	1490	1000		03/10/13 17:56	108-86-1	
Bromochloromethane	ND	ug/kg	2980	1490	1000		03/10/13 17:56	74-97-5	
Bromodichloromethane	ND	ug/kg	2980	1490	1000		03/10/13 17:56	75-27-4	
Bromoform	ND	ug/kg	2980	1490	1000		03/10/13 17:56	75-25-2	
Bromomethane	ND	ug/kg	2980	1490	1000		03/10/13 17:56	74-83-9	
2-Butanone (MEK)	ND	ug/kg	5950	2980	1000		03/10/13 17:56	78-93-3	
n-Butylbenzene	ND	ug/kg	2980	1490	1000		03/10/13 17:56	104-51-8	
sec-Butylbenzene	ND	ug/kg	2980	1490	1000		03/10/13 17:56	135-98-8	
tert-Butylbenzene	ND	ug/kg	2980	1490	1000		03/10/13 17:56	98-06-6	
Carbon disulfide	ND	ug/kg	2980	1490	1000		03/10/13 17:56	75-15-0	
Carbon tetrachloride	ND	ug/kg	2980	1490	1000		03/10/13 17:56	56-23-5	
Chlorobenzene	ND	ug/kg	2980	1490	1000		03/10/13 17:56	108-90-7	
Chloroethane	ND	ug/kg	2980	1490	1000		03/10/13 17:56	75-00-3	
Chloroform	ND	ug/kg	2980	1490	1000		03/10/13 17:56	67-66-3	
Chloromethane	ND	ug/kg	2980	1490	1000		03/10/13 17:56	74-87-3	
2-Chlorotoluene	ND	ug/kg	2980	1490	1000		03/10/13 17:56	95-49-8	
4-Chlorotoluene	ND	ug/kg	2980	1490	1000		03/10/13 17:56	106-43-4	
1,2-Dibromo-3-chloropropane	ND	ug/kg	5950	2980	1000		03/10/13 17:56	96-12-8	
Dibromochloromethane	ND	ug/kg	2980	1490	1000		03/10/13 17:56	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/kg	2980	1490	1000		03/10/13 17:56	106-93-4	
Dibromomethane	ND	ug/kg	2980	1490	1000		03/10/13 17:56	74-95-3	
1,2-Dichlorobenzene	ND	ug/kg	2980	1490	1000		03/10/13 17:56	95-50-1	
1,3-Dichlorobenzene	ND	ug/kg	2980	1490	1000		03/10/13 17:56	541-73-1	
1,4-Dichlorobenzene	ND	ug/kg	2980	1490	1000		03/10/13 17:56	106-46-7	
Dichlorodifluoromethane	ND	ug/kg	2980	1490	1000		03/10/13 17:56	75-71-8	
1,1-Dichloroethane	ND	ug/kg	2980	1490	1000		03/10/13 17:56	75-34-3	
1,2-Dichloroethane	ND	ug/kg	2980	1490	1000		03/10/13 17:56	107-06-2	
1,2-Dichloroethene (Total)	ND	ug/kg	2980	1490	1000		03/10/13 17:56	540-59-0	
1,1-Dichloroethene	ND	ug/kg	2980	1490	1000		03/10/13 17:56	75-35-4	
cis-1,2-Dichloroethene	ND	ug/kg	2980	1490	1000		03/10/13 17:56	156-59-2	
trans-1,2-Dichloroethene	ND	ug/kg	2980	1490	1000		03/10/13 17:56	156-60-5	
1,2-Dichloropropane	ND	ug/kg	2980	1490	1000		03/10/13 17:56	78-87-5	
1,3-Dichloropropane	ND	ug/kg	2980	1490	1000		03/10/13 17:56	142-28-9	
2,2-Dichloropropane	ND	ug/kg	2980	1490	1000		03/10/13 17:56	594-20-7	
1,1-Dichloropropene	ND	ug/kg	2980	1490	1000		03/10/13 17:56	563-58-6	
cis-1,3-Dichloropropene	ND	ug/kg	2980	1490	1000		03/10/13 17:56	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/kg	2980	1490	1000		03/10/13 17:56	10061-02-6	
Ethylbenzene	ND	ug/kg	2980	1490	1000		03/10/13 17:56	100-41-4	
Hexachloro-1,3-butadiene	ND	ug/kg	2980	1490	1000		03/10/13 17:56	87-68-3	
2-Hexanone	ND	ug/kg	11900	5950	1000		03/10/13 17:56	591-78-6	
Isopropylbenzene (Cumene)	ND	ug/kg	2980	1490	1000		03/10/13 17:56	98-82-8	
p-Isopropyltoluene	ND	ug/kg	2980	1490	1000		03/10/13 17:56	99-87-6	
Methylene chloride	ND	ug/kg	2980	1490	1000		03/10/13 17:56	75-09-2	

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ANALYTICAL RESULTS

Project: Big MO Soil Sampling

Pace Project No.: 60139568

Sample: BM-022613-SB37-11.8-12 **Lab ID:** 60139568052 Collected: 02/26/13 11:55 Received: 03/01/13 03:10 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA Analytical Method: EPA 8260									
4-Methyl-2-pentanone (MIBK)	ND	ug/kg	5950	2980	1000		03/10/13 17:56	108-10-1	
Methyl-tert-butyl ether	ND	ug/kg	2980	1490	1000		03/10/13 17:56	1634-04-4	
Naphthalene	ND	ug/kg	5950	2980	1000		03/10/13 17:56	91-20-3	
n-Propylbenzene	ND	ug/kg	2980	1490	1000		03/10/13 17:56	103-65-1	
Styrene	ND	ug/kg	2980	1490	1000		03/10/13 17:56	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/kg	2980	1490	1000		03/10/13 17:56	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/kg	2980	1490	1000		03/10/13 17:56	79-34-5	
Tetrachloroethene	ND	ug/kg	2980	1490	1000		03/10/13 17:56	127-18-4	
Toluene	ND	ug/kg	2980	1490	1000		03/10/13 17:56	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/kg	2980	1490	1000		03/10/13 17:56	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/kg	2980	1490	1000		03/10/13 17:56	120-82-1	
1,1,1-Trichloroethane	ND	ug/kg	2980	1490	1000		03/10/13 17:56	71-55-6	
1,1,2-Trichloroethane	ND	ug/kg	2980	1490	1000		03/10/13 17:56	79-00-5	
Trichloroethene	ND	ug/kg	2980	1490	1000		03/10/13 17:56	79-01-6	
Trichlorofluoromethane	ND	ug/kg	2980	1490	1000		03/10/13 17:56	75-69-4	
1,2,3-Trichloropropane	ND	ug/kg	2980	1490	1000		03/10/13 17:56	96-18-4	
1,2,4-Trimethylbenzene	ND	ug/kg	2980	1490	1000		03/10/13 17:56	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/kg	2980	1490	1000		03/10/13 17:56	108-67-8	
Vinyl chloride	ND	ug/kg	2980	1490	1000		03/10/13 17:56	75-01-4	
Xylene (Total)	ND	ug/kg	2980	1490	1000		03/10/13 17:56	1330-20-7	
Surrogates									
Dibromofluoromethane (S)	98 %		76-125		1000		03/10/13 17:56	1868-53-7	
Toluene-d8 (S)	100 %		80-120		1000		03/10/13 17:56	2037-26-5	
4-Bromofluorobenzene (S)	100 %		80-120		1000		03/10/13 17:56	460-00-4	
1,2-Dichloroethane-d4 (S)	102 %		76-132		1000		03/10/13 17:56	17060-07-0	
Percent Moisture Analytical Method: ASTM D2974									
Percent Moisture	20.3 %		0.50	0.50	1		03/07/13 00:00		

ANALYTICAL RESULTS

Project: Big MO Soil Sampling

Pace Project No.: 60139568

Sample: **BM-022613-SB37-14-14.2** Lab ID: **60139568053** Collected: 02/26/13 12:00 Received: 03/01/13 03:10 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA		Analytical Method: EPA 8260							
Acetone	ND	ug/kg	6190	3100	500		03/10/13 18:11	67-64-1	
Benzene	33600	ug/kg	1550	774	500		03/10/13 18:11	71-43-2	
Bromobenzene	ND	ug/kg	1550	774	500		03/10/13 18:11	108-86-1	
Bromochloromethane	ND	ug/kg	1550	774	500		03/10/13 18:11	74-97-5	
Bromodichloromethane	ND	ug/kg	1550	774	500		03/10/13 18:11	75-27-4	
Bromoform	ND	ug/kg	1550	774	500		03/10/13 18:11	75-25-2	
Bromomethane	ND	ug/kg	1550	774	500		03/10/13 18:11	74-83-9	
2-Butanone (MEK)	1620J	ug/kg	3100	1550	500		03/10/13 18:11	78-93-3	
n-Butylbenzene	3840	ug/kg	1550	774	500		03/10/13 18:11	104-51-8	
sec-Butylbenzene	6870	ug/kg	1550	774	500		03/10/13 18:11	135-98-8	
tert-Butylbenzene	1190J	ug/kg	1550	774	500		03/10/13 18:11	98-06-6	
Carbon disulfide	ND	ug/kg	1550	774	500		03/10/13 18:11	75-15-0	
Carbon tetrachloride	ND	ug/kg	1550	774	500		03/10/13 18:11	56-23-5	
Chlorobenzene	ND	ug/kg	1550	774	500		03/10/13 18:11	108-90-7	
Chloroethane	ND	ug/kg	1550	774	500		03/10/13 18:11	75-00-3	
Chloroform	ND	ug/kg	1550	774	500		03/10/13 18:11	67-66-3	
Chloromethane	ND	ug/kg	1550	774	500		03/10/13 18:11	74-87-3	
2-Chlorotoluene	ND	ug/kg	1550	774	500		03/10/13 18:11	95-49-8	
4-Chlorotoluene	ND	ug/kg	1550	774	500		03/10/13 18:11	106-43-4	
1,2-Dibromo-3-chloropropane	ND	ug/kg	3100	1550	500		03/10/13 18:11	96-12-8	
Dibromochloromethane	ND	ug/kg	1550	774	500		03/10/13 18:11	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/kg	1550	774	500		03/10/13 18:11	106-93-4	
Dibromomethane	ND	ug/kg	1550	774	500		03/10/13 18:11	74-95-3	
1,2-Dichlorobenzene	ND	ug/kg	1550	774	500		03/10/13 18:11	95-50-1	
1,3-Dichlorobenzene	ND	ug/kg	1550	774	500		03/10/13 18:11	541-73-1	
1,4-Dichlorobenzene	ND	ug/kg	1550	774	500		03/10/13 18:11	106-46-7	
Dichlorodifluoromethane	ND	ug/kg	1550	774	500		03/10/13 18:11	75-71-8	
1,1-Dichloroethane	ND	ug/kg	1550	774	500		03/10/13 18:11	75-34-3	
1,2-Dichloroethane	ND	ug/kg	1550	774	500		03/10/13 18:11	107-06-2	
1,2-Dichloroethene (Total)	ND	ug/kg	1550	774	500		03/10/13 18:11	540-59-0	
1,1-Dichloroethene	ND	ug/kg	1550	774	500		03/10/13 18:11	75-35-4	
cis-1,2-Dichloroethene	ND	ug/kg	1550	774	500		03/10/13 18:11	156-59-2	
trans-1,2-Dichloroethene	ND	ug/kg	1550	774	500		03/10/13 18:11	156-60-5	
1,2-Dichloropropane	ND	ug/kg	1550	774	500		03/10/13 18:11	78-87-5	
1,3-Dichloropropane	ND	ug/kg	1550	774	500		03/10/13 18:11	142-28-9	
2,2-Dichloropropane	ND	ug/kg	1550	774	500		03/10/13 18:11	594-20-7	
1,1-Dichloropropene	ND	ug/kg	1550	774	500		03/10/13 18:11	563-58-6	
cis-1,3-Dichloropropene	ND	ug/kg	1550	774	500		03/10/13 18:11	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/kg	1550	774	500		03/10/13 18:11	10061-02-6	
Ethylbenzene	ND	ug/kg	1550	774	500		03/10/13 18:11	100-41-4	
Hexachloro-1,3-butadiene	ND	ug/kg	1550	774	500		03/10/13 18:11	87-68-3	
2-Hexanone	ND	ug/kg	6190	3100	500		03/10/13 18:11	591-78-6	
Isopropylbenzene (Cumene)	7130	ug/kg	1550	774	500		03/10/13 18:11	98-82-8	
p-Isopropyltoluene	3900	ug/kg	1550	774	500		03/10/13 18:11	99-87-6	
Methylene chloride	ND	ug/kg	1550	774	500		03/10/13 18:11	75-09-2	

Date: 03/15/2013 10:48 AM

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ANALYTICAL RESULTS

Project: Big MO Soil Sampling

Pace Project No.: 60139568

Sample: BM-022613-SB37-14-14.2 **Lab ID:** 60139568053 Collected: 02/26/13 12:00 Received: 03/01/13 03:10 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA Analytical Method: EPA 8260									
4-Methyl-2-pentanone (MIBK)	ND	ug/kg	3100	1550	500		03/10/13 18:11	108-10-1	
Methyl-tert-butyl ether	ND	ug/kg	1550	774	500		03/10/13 18:11	1634-04-4	
Naphthalene	5420	ug/kg	3100	1550	500		03/10/13 18:11	91-20-3	
n-Propylbenzene	9840	ug/kg	1550	774	500		03/10/13 18:11	103-65-1	
Styrene	ND	ug/kg	1550	774	500		03/10/13 18:11	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/kg	1550	774	500		03/10/13 18:11	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/kg	1550	774	500		03/10/13 18:11	79-34-5	
Tetrachloroethene	ND	ug/kg	1550	774	500		03/10/13 18:11	127-18-4	
Toluene	ND	ug/kg	1550	774	500		03/10/13 18:11	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/kg	1550	774	500		03/10/13 18:11	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/kg	1550	774	500		03/10/13 18:11	120-82-1	
1,1,1-Trichloroethane	ND	ug/kg	1550	774	500		03/10/13 18:11	71-55-6	
1,1,2-Trichloroethane	ND	ug/kg	1550	774	500		03/10/13 18:11	79-00-5	
Trichloroethene	ND	ug/kg	1550	774	500		03/10/13 18:11	79-01-6	
Trichlorofluoromethane	ND	ug/kg	1550	774	500		03/10/13 18:11	75-69-4	
1,2,3-Trichloropropane	ND	ug/kg	1550	774	500		03/10/13 18:11	96-18-4	
1,2,4-Trimethylbenzene	838J	ug/kg	1550	774	500		03/10/13 18:11	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/kg	1550	774	500		03/10/13 18:11	108-67-8	
Vinyl chloride	ND	ug/kg	1550	774	500		03/10/13 18:11	75-01-4	
Xylene (Total)	ND	ug/kg	1550	774	500		03/10/13 18:11	1330-20-7	
Surrogates									
Dibromofluoromethane (S)	100	%	76-125		500		03/10/13 18:11	1868-53-7	
Toluene-d8 (S)	108	%	80-120		500		03/10/13 18:11	2037-26-5	
4-Bromofluorobenzene (S)	114	%	80-120		500		03/10/13 18:11	460-00-4	
1,2-Dichloroethane-d4 (S)	104	%	76-132		500		03/10/13 18:11	17060-07-0	
Percent Moisture Analytical Method: ASTM D2974									
Percent Moisture	7.0	%	0.50	0.50	1		03/07/13 00:00		

ANALYTICAL RESULTS

Project: Big MO Soil Sampling

Pace Project No.: 60139568

Sample: **BM-022613-SB37-16.2-16.4** Lab ID: **60139568054** Collected: 02/26/13 13:15 Received: 03/01/13 03:10 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA		Analytical Method: EPA 8260							
Acetone	ND	ug/kg	6570	3280	500		03/10/13 18:27	67-64-1	
Benzene	55700	ug/kg	1640	821	500		03/10/13 18:27	71-43-2	
Bromobenzene	ND	ug/kg	1640	821	500		03/10/13 18:27	108-86-1	
Bromochloromethane	ND	ug/kg	1640	821	500		03/10/13 18:27	74-97-5	
Bromodichloromethane	ND	ug/kg	1640	821	500		03/10/13 18:27	75-27-4	
Bromoform	ND	ug/kg	1640	821	500		03/10/13 18:27	75-25-2	
Bromomethane	ND	ug/kg	1640	821	500		03/10/13 18:27	74-83-9	
2-Butanone (MEK)	ND	ug/kg	3280	1640	500		03/10/13 18:27	78-93-3	
n-Butylbenzene	3640	ug/kg	1640	821	500		03/10/13 18:27	104-51-8	
sec-Butylbenzene	7100	ug/kg	1640	821	500		03/10/13 18:27	135-98-8	
tert-Butylbenzene	1250J	ug/kg	1640	821	500		03/10/13 18:27	98-06-6	
Carbon disulfide	ND	ug/kg	1640	821	500		03/10/13 18:27	75-15-0	
Carbon tetrachloride	ND	ug/kg	1640	821	500		03/10/13 18:27	56-23-5	
Chlorobenzene	ND	ug/kg	1640	821	500		03/10/13 18:27	108-90-7	
Chloroethane	ND	ug/kg	1640	821	500		03/10/13 18:27	75-00-3	
Chloroform	ND	ug/kg	1640	821	500		03/10/13 18:27	67-66-3	
Chloromethane	ND	ug/kg	1640	821	500		03/10/13 18:27	74-87-3	
2-Chlorotoluene	ND	ug/kg	1640	821	500		03/10/13 18:27	95-49-8	
4-Chlorotoluene	ND	ug/kg	1640	821	500		03/10/13 18:27	106-43-4	
1,2-Dibromo-3-chloropropane	ND	ug/kg	3280	1640	500		03/10/13 18:27	96-12-8	
Dibromochloromethane	ND	ug/kg	1640	821	500		03/10/13 18:27	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/kg	1640	821	500		03/10/13 18:27	106-93-4	
Dibromomethane	ND	ug/kg	1640	821	500		03/10/13 18:27	74-95-3	
1,2-Dichlorobenzene	ND	ug/kg	1640	821	500		03/10/13 18:27	95-50-1	
1,3-Dichlorobenzene	ND	ug/kg	1640	821	500		03/10/13 18:27	541-73-1	
1,4-Dichlorobenzene	ND	ug/kg	1640	821	500		03/10/13 18:27	106-46-7	
Dichlorodifluoromethane	ND	ug/kg	1640	821	500		03/10/13 18:27	75-71-8	
1,1-Dichloroethane	ND	ug/kg	1640	821	500		03/10/13 18:27	75-34-3	
1,2-Dichloroethane	ND	ug/kg	1640	821	500		03/10/13 18:27	107-06-2	
1,2-Dichloroethene (Total)	ND	ug/kg	1640	821	500		03/10/13 18:27	540-59-0	
1,1-Dichloroethene	ND	ug/kg	1640	821	500		03/10/13 18:27	75-35-4	
cis-1,2-Dichloroethene	ND	ug/kg	1640	821	500		03/10/13 18:27	156-59-2	
trans-1,2-Dichloroethene	ND	ug/kg	1640	821	500		03/10/13 18:27	156-60-5	
1,2-Dichloropropane	ND	ug/kg	1640	821	500		03/10/13 18:27	78-87-5	
1,3-Dichloropropane	ND	ug/kg	1640	821	500		03/10/13 18:27	142-28-9	
2,2-Dichloropropane	ND	ug/kg	1640	821	500		03/10/13 18:27	594-20-7	
1,1-Dichloropropene	ND	ug/kg	1640	821	500		03/10/13 18:27	563-58-6	
cis-1,3-Dichloropropene	ND	ug/kg	1640	821	500		03/10/13 18:27	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/kg	1640	821	500		03/10/13 18:27	10061-02-6	
Ethylbenzene	ND	ug/kg	1640	821	500		03/10/13 18:27	100-41-4	
Hexachloro-1,3-butadiene	ND	ug/kg	1640	821	500		03/10/13 18:27	87-68-3	
2-Hexanone	ND	ug/kg	6570	3280	500		03/10/13 18:27	591-78-6	
Isopropylbenzene (Cumene)	9270	ug/kg	1640	821	500		03/10/13 18:27	98-82-8	
p-Isopropyltoluene	3580	ug/kg	1640	821	500		03/10/13 18:27	99-87-6	
Methylene chloride	ND	ug/kg	1640	821	500		03/10/13 18:27	75-09-2	

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ANALYTICAL RESULTS

Project: Big MO Soil Sampling

Pace Project No.: 60139568

Sample: BM-022613-SB37-16.2-16.4 **Lab ID:** 60139568054 **Collected:** 02/26/13 13:15 **Received:** 03/01/13 03:10 **Matrix:** Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA									
Analytical Method: EPA 8260									
4-Methyl-2-pentanone (MIBK)	ND	ug/kg	3280	1640	500		03/10/13 18:27	108-10-1	
Methyl-tert-butyl ether	ND	ug/kg	1640	821	500		03/10/13 18:27	1634-04-4	
Naphthalene	6860	ug/kg	3280	1640	500		03/10/13 18:27	91-20-3	
n-Propylbenzene	13000	ug/kg	1640	821	500		03/10/13 18:27	103-65-1	
Styrene	ND	ug/kg	1640	821	500		03/10/13 18:27	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/kg	1640	821	500		03/10/13 18:27	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/kg	1640	821	500		03/10/13 18:27	79-34-5	
Tetrachloroethene	ND	ug/kg	1640	821	500		03/10/13 18:27	127-18-4	
Toluene	ND	ug/kg	1640	821	500		03/10/13 18:27	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/kg	1640	821	500		03/10/13 18:27	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/kg	1640	821	500		03/10/13 18:27	120-82-1	
1,1,1-Trichloroethane	ND	ug/kg	1640	821	500		03/10/13 18:27	71-55-6	
1,1,2-Trichloroethane	ND	ug/kg	1640	821	500		03/10/13 18:27	79-00-5	
Trichloroethene	ND	ug/kg	1640	821	500		03/10/13 18:27	79-01-6	
Trichlorofluoromethane	ND	ug/kg	1640	821	500		03/10/13 18:27	75-69-4	
1,2,3-Trichloropropane	ND	ug/kg	1640	821	500		03/10/13 18:27	96-18-4	
1,2,4-Trimethylbenzene	1400J	ug/kg	1640	821	500		03/10/13 18:27	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/kg	1640	821	500		03/10/13 18:27	108-67-8	
Vinyl chloride	ND	ug/kg	1640	821	500		03/10/13 18:27	75-01-4	
Xylene (Total)	ND	ug/kg	1640	821	500		03/10/13 18:27	1330-20-7	
Surrogates									
Dibromofluoromethane (S)	101	%	76-125		500		03/10/13 18:27	1868-53-7	
Toluene-d8 (S)	110	%	80-120		500		03/10/13 18:27	2037-26-5	
4-Bromofluorobenzene (S)	112	%	80-120		500		03/10/13 18:27	460-00-4	
1,2-Dichloroethane-d4 (S)	104	%	76-132		500		03/10/13 18:27	17060-07-0	
Percent Moisture									
Analytical Method: ASTM D2974									
Percent Moisture	9.2	%	0.50	0.50	1		03/07/13 00:00		

ANALYTICAL RESULTS

Project: Big MO Soil Sampling

Pace Project No.: 60139568

Sample: BM-022713-SB68-8.6-8.8 Lab ID: 60139568055 Collected: 02/27/13 13:45 Received: 03/01/13 03:10 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA		Analytical Method: EPA 8260							
Acetone	ND	ug/kg	1300	651	100		03/12/13 17:20	67-64-1	
Benzene	11400	ug/kg	326	163	100		03/12/13 17:20	71-43-2	
Bromobenzene	ND	ug/kg	326	163	100		03/12/13 17:20	108-86-1	
Bromochloromethane	ND	ug/kg	326	163	100		03/12/13 17:20	74-97-5	
Bromodichloromethane	ND	ug/kg	326	163	100		03/12/13 17:20	75-27-4	
Bromoform	ND	ug/kg	326	163	100		03/12/13 17:20	75-25-2	
Bromomethane	ND	ug/kg	326	163	100		03/12/13 17:20	74-83-9	
2-Butanone (MEK)	ND	ug/kg	651	326	100		03/12/13 17:20	78-93-3	
n-Butylbenzene	ND	ug/kg	326	163	100		03/12/13 17:20	104-51-8	
sec-Butylbenzene	ND	ug/kg	326	163	100		03/12/13 17:20	135-98-8	
tert-Butylbenzene	ND	ug/kg	326	163	100		03/12/13 17:20	98-06-6	
Carbon disulfide	ND	ug/kg	326	163	100		03/12/13 17:20	75-15-0	
Carbon tetrachloride	ND	ug/kg	326	163	100		03/12/13 17:20	56-23-5	
Chlorobenzene	887	ug/kg	326	163	100		03/12/13 17:20	108-90-7	
Chloroethane	ND	ug/kg	326	163	100		03/12/13 17:20	75-00-3	
Chloroform	ND	ug/kg	326	163	100		03/12/13 17:20	67-66-3	
Chloromethane	ND	ug/kg	326	163	100		03/12/13 17:20	74-87-3	
2-Chlorotoluene	ND	ug/kg	326	163	100		03/12/13 17:20	95-49-8	
4-Chlorotoluene	ND	ug/kg	326	163	100		03/12/13 17:20	106-43-4	
1,2-Dibromo-3-chloropropane	ND	ug/kg	651	326	100		03/12/13 17:20	96-12-8	
Dibromochloromethane	ND	ug/kg	326	163	100		03/12/13 17:20	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/kg	326	163	100		03/12/13 17:20	106-93-4	
Dibromomethane	ND	ug/kg	326	163	100		03/12/13 17:20	74-95-3	
1,2-Dichlorobenzene	ND	ug/kg	326	163	100		03/12/13 17:20	95-50-1	
1,3-Dichlorobenzene	ND	ug/kg	326	163	100		03/12/13 17:20	541-73-1	
1,4-Dichlorobenzene	392	ug/kg	326	163	100		03/12/13 17:20	106-46-7	
Dichlorodifluoromethane	ND	ug/kg	326	163	100		03/12/13 17:20	75-71-8	
1,1-Dichloroethane	ND	ug/kg	326	163	100		03/12/13 17:20	75-34-3	
1,2-Dichloroethane	ND	ug/kg	326	163	100		03/12/13 17:20	107-06-2	
1,2-Dichloroethene (Total)	ND	ug/kg	326	163	100		03/12/13 17:20	540-59-0	
1,1-Dichloroethene	ND	ug/kg	326	163	100		03/12/13 17:20	75-35-4	
cis-1,2-Dichloroethene	ND	ug/kg	326	163	100		03/12/13 17:20	156-59-2	
trans-1,2-Dichloroethene	ND	ug/kg	326	163	100		03/12/13 17:20	156-60-5	
1,2-Dichloropropane	ND	ug/kg	326	163	100		03/12/13 17:20	78-87-5	
1,3-Dichloropropane	ND	ug/kg	326	163	100		03/12/13 17:20	142-28-9	
2,2-Dichloropropane	ND	ug/kg	326	163	100		03/12/13 17:20	594-20-7	
1,1-Dichloropropene	ND	ug/kg	326	163	100		03/12/13 17:20	563-58-6	
cis-1,3-Dichloropropene	ND	ug/kg	326	163	100		03/12/13 17:20	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/kg	326	163	100		03/12/13 17:20	10061-02-6	
Ethylbenzene	ND	ug/kg	326	163	100		03/12/13 17:20	100-41-4	
Hexachloro-1,3-butadiene	ND	ug/kg	326	163	100		03/12/13 17:20	87-68-3	
2-Hexanone	ND	ug/kg	1300	651	100		03/12/13 17:20	591-78-6	
Isopropylbenzene (Cumene)	ND	ug/kg	326	163	100		03/12/13 17:20	98-82-8	
p-Isopropyltoluene	ND	ug/kg	326	163	100		03/12/13 17:20	99-87-6	
Methylene chloride	ND	ug/kg	326	163	100		03/12/13 17:20	75-09-2	

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ANALYTICAL RESULTS

Project: Big MO Soil Sampling

Pace Project No.: 60139568

Sample: BM-022713-SB68-8.6-8.8 **Lab ID:** 60139568055 Collected: 02/27/13 13:45 Received: 03/01/13 03:10 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA									
Analytical Method: EPA 8260									
4-Methyl-2-pentanone (MIBK)	ND	ug/kg	651	326	100		03/12/13 17:20	108-10-1	
Methyl-tert-butyl ether	ND	ug/kg	326	163	100		03/12/13 17:20	1634-04-4	
Naphthalene	ND	ug/kg	651	326	100		03/12/13 17:20	91-20-3	
n-Propylbenzene	ND	ug/kg	326	163	100		03/12/13 17:20	103-65-1	
Styrene	ND	ug/kg	326	163	100		03/12/13 17:20	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/kg	326	163	100		03/12/13 17:20	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/kg	326	163	100		03/12/13 17:20	79-34-5	
Tetrachloroethene	ND	ug/kg	326	163	100		03/12/13 17:20	127-18-4	
Toluene	ND	ug/kg	326	163	100		03/12/13 17:20	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/kg	326	163	100		03/12/13 17:20	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/kg	326	163	100		03/12/13 17:20	120-82-1	
1,1,1-Trichloroethane	ND	ug/kg	326	163	100		03/12/13 17:20	71-55-6	
1,1,2-Trichloroethane	ND	ug/kg	326	163	100		03/12/13 17:20	79-00-5	
Trichloroethene	ND	ug/kg	326	163	100		03/12/13 17:20	79-01-6	
Trichlorofluoromethane	ND	ug/kg	326	163	100		03/12/13 17:20	75-69-4	
1,2,3-Trichloropropane	ND	ug/kg	326	163	100		03/12/13 17:20	96-18-4	
1,2,4-Trimethylbenzene	ND	ug/kg	326	163	100		03/12/13 17:20	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/kg	326	163	100		03/12/13 17:20	108-67-8	
Vinyl chloride	ND	ug/kg	326	163	100		03/12/13 17:20	75-01-4	
Xylene (Total)	ND	ug/kg	326	163	100		03/12/13 17:20	1330-20-7	
Surrogates									
Dibromofluoromethane (S)	99 %		76-125		100		03/12/13 17:20	1868-53-7	
Toluene-d8 (S)	104 %		80-120		100		03/12/13 17:20	2037-26-5	
4-Bromofluorobenzene (S)	100 %		80-120		100		03/12/13 17:20	460-00-4	
1,2-Dichloroethane-d4 (S)	98 %		76-132		100		03/12/13 17:20	17060-07-0	
Percent Moisture									
Analytical Method: ASTM D2974									
Percent Moisture	5.7 %		0.50	0.50	1		03/07/13 00:00		

ANALYTICAL RESULTS

Project: Big MO Soil Sampling

Pace Project No.: 60139568

Sample: BM-022713-SB68-11.6-11.8 Lab ID: 60139568056 Collected: 02/27/13 13:50 Received: 03/01/13 03:10 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA									
Analytical Method: EPA 8260									
Acetone	ND	ug/kg	13000	6510	1000		03/12/13 18:05	67-64-1	
Benzene	98700	ug/kg	3260	1630	1000		03/12/13 18:05	71-43-2	
Bromobenzene	ND	ug/kg	3260	1630	1000		03/12/13 18:05	108-86-1	
Bromochloromethane	ND	ug/kg	3260	1630	1000		03/12/13 18:05	74-97-5	
Bromodichloromethane	ND	ug/kg	3260	1630	1000		03/12/13 18:05	75-27-4	
Bromoform	ND	ug/kg	3260	1630	1000		03/12/13 18:05	75-25-2	
Bromomethane	ND	ug/kg	3260	1630	1000		03/12/13 18:05	74-83-9	
2-Butanone (MEK)	3810J	ug/kg	6510	3260	1000		03/12/13 18:05	78-93-3	
n-Butylbenzene	ND	ug/kg	3260	1630	1000		03/12/13 18:05	104-51-8	
sec-Butylbenzene	ND	ug/kg	3260	1630	1000		03/12/13 18:05	135-98-8	
tert-Butylbenzene	ND	ug/kg	3260	1630	1000		03/12/13 18:05	98-06-6	
Carbon disulfide	ND	ug/kg	3260	1630	1000		03/12/13 18:05	75-15-0	
Carbon tetrachloride	ND	ug/kg	3260	1630	1000		03/12/13 18:05	56-23-5	
Chlorobenzene	35300	ug/kg	3260	1630	1000		03/12/13 18:05	108-90-7	
Chloroethane	ND	ug/kg	3260	1630	1000		03/12/13 18:05	75-00-3	
Chloroform	ND	ug/kg	3260	1630	1000		03/12/13 18:05	67-66-3	
Chloromethane	1660J	ug/kg	3260	1630	1000		03/12/13 18:05	74-87-3	
2-Chlorotoluene	ND	ug/kg	3260	1630	1000		03/12/13 18:05	95-49-8	
4-Chlorotoluene	ND	ug/kg	3260	1630	1000		03/12/13 18:05	106-43-4	
1,2-Dibromo-3-chloropropane	ND	ug/kg	6510	3260	1000		03/12/13 18:05	96-12-8	
Dibromochloromethane	ND	ug/kg	3260	1630	1000		03/12/13 18:05	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/kg	3260	1630	1000		03/12/13 18:05	106-93-4	
Dibromomethane	ND	ug/kg	3260	1630	1000		03/12/13 18:05	74-95-3	
1,2-Dichlorobenzene	ND	ug/kg	3260	1630	1000		03/12/13 18:05	95-50-1	
1,3-Dichlorobenzene	ND	ug/kg	3260	1630	1000		03/12/13 18:05	541-73-1	
1,4-Dichlorobenzene	ND	ug/kg	3260	1630	1000		03/12/13 18:05	106-46-7	
Dichlorodifluoromethane	ND	ug/kg	3260	1630	1000		03/12/13 18:05	75-71-8	
1,1-Dichloroethane	ND	ug/kg	3260	1630	1000		03/12/13 18:05	75-34-3	
1,2-Dichloroethane	ND	ug/kg	3260	1630	1000		03/12/13 18:05	107-06-2	
1,2-Dichloroethene (Total)	ND	ug/kg	3260	1630	1000		03/12/13 18:05	540-59-0	
1,1-Dichloroethene	ND	ug/kg	3260	1630	1000		03/12/13 18:05	75-35-4	
cis-1,2-Dichloroethene	ND	ug/kg	3260	1630	1000		03/12/13 18:05	156-59-2	
trans-1,2-Dichloroethene	ND	ug/kg	3260	1630	1000		03/12/13 18:05	156-60-5	
1,2-Dichloropropane	ND	ug/kg	3260	1630	1000		03/12/13 18:05	78-87-5	
1,3-Dichloropropane	ND	ug/kg	3260	1630	1000		03/12/13 18:05	142-28-9	
2,2-Dichloropropane	ND	ug/kg	3260	1630	1000		03/12/13 18:05	594-20-7	
1,1-Dichloropropene	ND	ug/kg	3260	1630	1000		03/12/13 18:05	563-58-6	
cis-1,3-Dichloropropene	ND	ug/kg	3260	1630	1000		03/12/13 18:05	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/kg	3260	1630	1000		03/12/13 18:05	10061-02-6	
Ethylbenzene	ND	ug/kg	3260	1630	1000		03/12/13 18:05	100-41-4	
Hexachloro-1,3-butadiene	ND	ug/kg	3260	1630	1000		03/12/13 18:05	87-68-3	
2-Hexanone	ND	ug/kg	13000	6510	1000		03/12/13 18:05	591-78-6	
Isopropylbenzene (Cumene)	ND	ug/kg	3260	1630	1000		03/12/13 18:05	98-82-8	
p-Isopropyltoluene	ND	ug/kg	3260	1630	1000		03/12/13 18:05	99-87-6	
Methylene chloride	ND	ug/kg	3260	1630	1000		03/12/13 18:05	75-09-2	

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ANALYTICAL RESULTS

Project: Big MO Soil Sampling

Pace Project No.: 60139568

Sample: **BM-022713-SB68-11.6-11.8** Lab ID: **60139568056** Collected: 02/27/13 13:50 Received: 03/01/13 03:10 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA Analytical Method: EPA 8260									
4-Methyl-2-pentanone (MIBK)	3770J	ug/kg	6510	3260	1000		03/12/13 18:05	108-10-1	
Methyl-tert-butyl ether	ND	ug/kg	3260	1630	1000		03/12/13 18:05	1634-04-4	
Naphthalene	ND	ug/kg	6510	3260	1000		03/12/13 18:05	91-20-3	
n-Propylbenzene	ND	ug/kg	3260	1630	1000		03/12/13 18:05	103-65-1	
Styrene	ND	ug/kg	3260	1630	1000		03/12/13 18:05	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/kg	3260	1630	1000		03/12/13 18:05	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/kg	3260	1630	1000		03/12/13 18:05	79-34-5	
Tetrachloroethene	ND	ug/kg	3260	1630	1000		03/12/13 18:05	127-18-4	
Toluene	ND	ug/kg	3260	1630	1000		03/12/13 18:05	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/kg	3260	1630	1000		03/12/13 18:05	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/kg	3260	1630	1000		03/12/13 18:05	120-82-1	
1,1,1-Trichloroethane	ND	ug/kg	3260	1630	1000		03/12/13 18:05	71-55-6	
1,1,2-Trichloroethane	ND	ug/kg	3260	1630	1000		03/12/13 18:05	79-00-5	
Trichloroethene	ND	ug/kg	3260	1630	1000		03/12/13 18:05	79-01-6	
Trichlorofluoromethane	ND	ug/kg	3260	1630	1000		03/12/13 18:05	75-69-4	
1,2,3-Trichloropropane	ND	ug/kg	3260	1630	1000		03/12/13 18:05	96-18-4	
1,2,4-Trimethylbenzene	ND	ug/kg	3260	1630	1000		03/12/13 18:05	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/kg	3260	1630	1000		03/12/13 18:05	108-67-8	
Vinyl chloride	ND	ug/kg	3260	1630	1000		03/12/13 18:05	75-01-4	
Xylene (Total)	ND	ug/kg	3260	1630	1000		03/12/13 18:05	1330-20-7	
Surrogates									
Dibromofluoromethane (S)	101	%	76-125		1000		03/12/13 18:05	1868-53-7	
Toluene-d8 (S)	103	%	80-120		1000		03/12/13 18:05	2037-26-5	
4-Bromofluorobenzene (S)	101	%	80-120		1000		03/12/13 18:05	460-00-4	
1,2-Dichloroethane-d4 (S)	101	%	76-132		1000		03/12/13 18:05	17060-07-0	
Percent Moisture Analytical Method: ASTM D2974									
Percent Moisture	22.9	%	0.50	0.50	1		03/07/13 00:00		

ANALYTICAL RESULTS

Project: Big MO Soil Sampling

Pace Project No.: 60139568

Sample: **BM-022713-SB68-13.4-13.6** Lab ID: **60139568057** Collected: 02/27/13 13:55 Received: 03/01/13 03:10 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA		Analytical Method: EPA 8260							
Acetone	ND	ug/kg	1200	600	100		03/12/13 18:21	67-64-1	
Benzene	14900	ug/kg	300	150	100		03/12/13 18:21	71-43-2	
Bromobenzene	ND	ug/kg	300	150	100		03/12/13 18:21	108-86-1	
Bromochloromethane	ND	ug/kg	300	150	100		03/12/13 18:21	74-97-5	
Bromodichloromethane	ND	ug/kg	300	150	100		03/12/13 18:21	75-27-4	
Bromoform	ND	ug/kg	300	150	100		03/12/13 18:21	75-25-2	
Bromomethane	ND	ug/kg	300	150	100		03/12/13 18:21	74-83-9	
2-Butanone (MEK)	ND	ug/kg	600	300	100		03/12/13 18:21	78-93-3	
n-Butylbenzene	184J	ug/kg	300	150	100		03/12/13 18:21	104-51-8	
sec-Butylbenzene	392	ug/kg	300	150	100		03/12/13 18:21	135-98-8	
tert-Butylbenzene	ND	ug/kg	300	150	100		03/12/13 18:21	98-06-6	
Carbon disulfide	ND	ug/kg	300	150	100		03/12/13 18:21	75-15-0	
Carbon tetrachloride	ND	ug/kg	300	150	100		03/12/13 18:21	56-23-5	
Chlorobenzene	5550	ug/kg	300	150	100		03/12/13 18:21	108-90-7	
Chloroethane	ND	ug/kg	300	150	100		03/12/13 18:21	75-00-3	
Chloroform	ND	ug/kg	300	150	100		03/12/13 18:21	67-66-3	
Chloromethane	195J	ug/kg	300	150	100		03/12/13 18:21	74-87-3	
2-Chlorotoluene	ND	ug/kg	300	150	100		03/12/13 18:21	95-49-8	
4-Chlorotoluene	ND	ug/kg	300	150	100		03/12/13 18:21	106-43-4	
1,2-Dibromo-3-chloropropane	ND	ug/kg	600	300	100		03/12/13 18:21	96-12-8	
Dibromochloromethane	ND	ug/kg	300	150	100		03/12/13 18:21	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/kg	300	150	100		03/12/13 18:21	106-93-4	
Dibromomethane	ND	ug/kg	300	150	100		03/12/13 18:21	74-95-3	
1,2-Dichlorobenzene	395	ug/kg	300	150	100		03/12/13 18:21	95-50-1	
1,3-Dichlorobenzene	ND	ug/kg	300	150	100		03/12/13 18:21	541-73-1	
1,4-Dichlorobenzene	436	ug/kg	300	150	100		03/12/13 18:21	106-46-7	
Dichlorodifluoromethane	ND	ug/kg	300	150	100		03/12/13 18:21	75-71-8	
1,1-Dichloroethane	ND	ug/kg	300	150	100		03/12/13 18:21	75-34-3	
1,2-Dichloroethane	ND	ug/kg	300	150	100		03/12/13 18:21	107-06-2	
1,2-Dichloroethene (Total)	ND	ug/kg	300	150	100		03/12/13 18:21	540-59-0	
1,1-Dichloroethene	ND	ug/kg	300	150	100		03/12/13 18:21	75-35-4	
cis-1,2-Dichloroethene	ND	ug/kg	300	150	100		03/12/13 18:21	156-59-2	
trans-1,2-Dichloroethene	ND	ug/kg	300	150	100		03/12/13 18:21	156-60-5	
1,2-Dichloropropane	ND	ug/kg	300	150	100		03/12/13 18:21	78-87-5	
1,3-Dichloropropane	ND	ug/kg	300	150	100		03/12/13 18:21	142-28-9	
2,2-Dichloropropane	ND	ug/kg	300	150	100		03/12/13 18:21	594-20-7	
1,1-Dichloropropene	ND	ug/kg	300	150	100		03/12/13 18:21	563-58-6	
cis-1,3-Dichloropropene	ND	ug/kg	300	150	100		03/12/13 18:21	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/kg	300	150	100		03/12/13 18:21	10061-02-6	
Ethylbenzene	ND	ug/kg	300	150	100		03/12/13 18:21	100-41-4	
Hexachloro-1,3-butadiene	ND	ug/kg	300	150	100		03/12/13 18:21	87-68-3	
2-Hexanone	ND	ug/kg	1200	600	100		03/12/13 18:21	591-78-6	
Isopropylbenzene (Cumene)	ND	ug/kg	300	150	100		03/12/13 18:21	98-82-8	
p-Isopropyltoluene	ND	ug/kg	300	150	100		03/12/13 18:21	99-87-6	
Methylene chloride	ND	ug/kg	300	150	100		03/12/13 18:21	75-09-2	

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ANALYTICAL RESULTS

Project: Big MO Soil Sampling

Pace Project No.: 60139568

Sample: BM-022713-SB68-13.4-13.6 **Lab ID:** 60139568057 **Collected:** 02/27/13 13:55 **Received:** 03/01/13 03:10 **Matrix:** Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA									
Analytical Method: EPA 8260									
4-Methyl-2-pentanone (MIBK)	ND	ug/kg	600	300	100		03/12/13 18:21	108-10-1	
Methyl-tert-butyl ether	ND	ug/kg	300	150	100		03/12/13 18:21	1634-04-4	
Naphthalene	ND	ug/kg	600	300	100		03/12/13 18:21	91-20-3	
n-Propylbenzene	333	ug/kg	300	150	100		03/12/13 18:21	103-65-1	
Styrene	ND	ug/kg	300	150	100		03/12/13 18:21	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/kg	300	150	100		03/12/13 18:21	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/kg	300	150	100		03/12/13 18:21	79-34-5	
Tetrachloroethene	ND	ug/kg	300	150	100		03/12/13 18:21	127-18-4	
Toluene	ND	ug/kg	300	150	100		03/12/13 18:21	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/kg	300	150	100		03/12/13 18:21	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/kg	300	150	100		03/12/13 18:21	120-82-1	
1,1,1-Trichloroethane	ND	ug/kg	300	150	100		03/12/13 18:21	71-55-6	
1,1,2-Trichloroethane	ND	ug/kg	300	150	100		03/12/13 18:21	79-00-5	
Trichloroethene	ND	ug/kg	300	150	100		03/12/13 18:21	79-01-6	
Trichlorofluoromethane	ND	ug/kg	300	150	100		03/12/13 18:21	75-69-4	
1,2,3-Trichloropropane	ND	ug/kg	300	150	100		03/12/13 18:21	96-18-4	
1,2,4-Trimethylbenzene	ND	ug/kg	300	150	100		03/12/13 18:21	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/kg	300	150	100		03/12/13 18:21	108-67-8	
Vinyl chloride	ND	ug/kg	300	150	100		03/12/13 18:21	75-01-4	
Xylene (Total)	ND	ug/kg	300	150	100		03/12/13 18:21	1330-20-7	
Surrogates									
Dibromofluoromethane (S)	97	%	76-125		100		03/12/13 18:21	1868-53-7	
Toluene-d8 (S)	102	%	80-120		100		03/12/13 18:21	2037-26-5	
4-Bromofluorobenzene (S)	108	%	80-120		100		03/12/13 18:21	460-00-4	
1,2-Dichloroethane-d4 (S)	97	%	76-132		100		03/12/13 18:21	17060-07-0	
Percent Moisture									
Analytical Method: ASTM D2974									
Percent Moisture	2.4	%	0.50	0.50	1		03/07/13 00:00		

ANALYTICAL RESULTS

Project: Big MO Soil Sampling

Pace Project No.: 60139568

Sample: BM-022713-SB68-11-11.5 Lab ID: 60139568058 Collected: 02/27/13 14:30 Received: 03/01/13 03:10 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA		Analytical Method: EPA 8260							
Acetone	ND	ug/kg	7520	3760	500		03/12/13 18:36	67-64-1	
Benzene	42500	ug/kg	1880	939	500		03/12/13 18:36	71-43-2	
Bromobenzene	ND	ug/kg	1880	939	500		03/12/13 18:36	108-86-1	
Bromochloromethane	ND	ug/kg	1880	939	500		03/12/13 18:36	74-97-5	
Bromodichloromethane	ND	ug/kg	1880	939	500		03/12/13 18:36	75-27-4	
Bromoform	ND	ug/kg	1880	939	500		03/12/13 18:36	75-25-2	
Bromomethane	ND	ug/kg	1880	939	500		03/12/13 18:36	74-83-9	
2-Butanone (MEK)	ND	ug/kg	3760	1880	500		03/12/13 18:36	78-93-3	
n-Butylbenzene	ND	ug/kg	1880	939	500		03/12/13 18:36	104-51-8	
sec-Butylbenzene	ND	ug/kg	1880	939	500		03/12/13 18:36	135-98-8	
tert-Butylbenzene	ND	ug/kg	1880	939	500		03/12/13 18:36	98-06-6	
Carbon disulfide	ND	ug/kg	1880	939	500		03/12/13 18:36	75-15-0	
Carbon tetrachloride	ND	ug/kg	1880	939	500		03/12/13 18:36	56-23-5	
Chlorobenzene	30100	ug/kg	1880	939	500		03/12/13 18:36	108-90-7	
Chloroethane	ND	ug/kg	1880	939	500		03/12/13 18:36	75-00-3	
Chloroform	ND	ug/kg	1880	939	500		03/12/13 18:36	67-66-3	
Chloromethane	ND	ug/kg	1880	939	500		03/12/13 18:36	74-87-3	
2-Chlorotoluene	ND	ug/kg	1880	939	500		03/12/13 18:36	95-49-8	
4-Chlorotoluene	ND	ug/kg	1880	939	500		03/12/13 18:36	106-43-4	
1,2-Dibromo-3-chloropropane	ND	ug/kg	3760	1880	500		03/12/13 18:36	96-12-8	
Dibromochloromethane	ND	ug/kg	1880	939	500		03/12/13 18:36	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/kg	1880	939	500		03/12/13 18:36	106-93-4	
Dibromomethane	ND	ug/kg	1880	939	500		03/12/13 18:36	74-95-3	
1,2-Dichlorobenzene	ND	ug/kg	1880	939	500		03/12/13 18:36	95-50-1	
1,3-Dichlorobenzene	ND	ug/kg	1880	939	500		03/12/13 18:36	541-73-1	
1,4-Dichlorobenzene	ND	ug/kg	1880	939	500		03/12/13 18:36	106-46-7	
Dichlorodifluoromethane	ND	ug/kg	1880	939	500		03/12/13 18:36	75-71-8	
1,1-Dichloroethane	ND	ug/kg	1880	939	500		03/12/13 18:36	75-34-3	
1,2-Dichloroethane	ND	ug/kg	1880	939	500		03/12/13 18:36	107-06-2	
1,2-Dichloroethene (Total)	ND	ug/kg	1880	939	500		03/12/13 18:36	540-59-0	
1,1-Dichloroethene	ND	ug/kg	1880	939	500		03/12/13 18:36	75-35-4	
cis-1,2-Dichloroethene	ND	ug/kg	1880	939	500		03/12/13 18:36	156-59-2	
trans-1,2-Dichloroethene	ND	ug/kg	1880	939	500		03/12/13 18:36	156-60-5	
1,2-Dichloropropane	ND	ug/kg	1880	939	500		03/12/13 18:36	78-87-5	
1,3-Dichloropropane	ND	ug/kg	1880	939	500		03/12/13 18:36	142-28-9	
2,2-Dichloropropane	ND	ug/kg	1880	939	500		03/12/13 18:36	594-20-7	
1,1-Dichloropropene	ND	ug/kg	1880	939	500		03/12/13 18:36	563-58-6	
cis-1,3-Dichloropropene	ND	ug/kg	1880	939	500		03/12/13 18:36	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/kg	1880	939	500		03/12/13 18:36	10061-02-6	
Ethylbenzene	ND	ug/kg	1880	939	500		03/12/13 18:36	100-41-4	
Hexachloro-1,3-butadiene	ND	ug/kg	1880	939	500		03/12/13 18:36	87-68-3	
2-Hexanone	ND	ug/kg	7520	3760	500		03/12/13 18:36	591-78-6	
Isopropylbenzene (Cumene)	ND	ug/kg	1880	939	500		03/12/13 18:36	98-82-8	
p-Isopropyltoluene	ND	ug/kg	1880	939	500		03/12/13 18:36	99-87-6	
Methylene chloride	ND	ug/kg	1880	939	500		03/12/13 18:36	75-09-2	

Date: 03/15/2013 10:48 AM

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Big MO Soil Sampling

Pace Project No.: 60139568

Sample: BM-022713-SB68-11-11.5 **Lab ID: 60139568058** Collected: 02/27/13 14:30 Received: 03/01/13 03:10 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA Analytical Method: EPA 8260									
4-Methyl-2-pentanone (MIBK)	ND	ug/kg	3760	1880	500		03/12/13 18:36	108-10-1	
Methyl-tert-butyl ether	ND	ug/kg	1880	939	500		03/12/13 18:36	1634-04-4	
Naphthalene	ND	ug/kg	3760	1880	500		03/12/13 18:36	91-20-3	
n-Propylbenzene	ND	ug/kg	1880	939	500		03/12/13 18:36	103-65-1	
Styrene	ND	ug/kg	1880	939	500		03/12/13 18:36	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/kg	1880	939	500		03/12/13 18:36	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/kg	1880	939	500		03/12/13 18:36	79-34-5	
Tetrachloroethene	ND	ug/kg	1880	939	500		03/12/13 18:36	127-18-4	
Toluene	ND	ug/kg	1880	939	500		03/12/13 18:36	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/kg	1880	939	500		03/12/13 18:36	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/kg	1880	939	500		03/12/13 18:36	120-82-1	
1,1,1-Trichloroethane	ND	ug/kg	1880	939	500		03/12/13 18:36	71-55-6	
1,1,2-Trichloroethane	ND	ug/kg	1880	939	500		03/12/13 18:36	79-00-5	
Trichloroethene	ND	ug/kg	1880	939	500		03/12/13 18:36	79-01-6	
Trichlorofluoromethane	ND	ug/kg	1880	939	500		03/12/13 18:36	75-69-4	
1,2,3-Trichloropropane	ND	ug/kg	1880	939	500		03/12/13 18:36	96-18-4	
1,2,4-Trimethylbenzene	ND	ug/kg	1880	939	500		03/12/13 18:36	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/kg	1880	939	500		03/12/13 18:36	108-67-8	
Vinyl chloride	ND	ug/kg	1880	939	500		03/12/13 18:36	75-01-4	
Xylene (Total)	ND	ug/kg	1880	939	500		03/12/13 18:36	1330-20-7	
Surrogates									
Dibromofluoromethane (S)	99 %		76-125		500		03/12/13 18:36	1868-53-7	
Toluene-d8 (S)	104 %		80-120		500		03/12/13 18:36	2037-26-5	
4-Bromofluorobenzene (S)	103 %		80-120		500		03/12/13 18:36	460-00-4	
1,2-Dichloroethane-d4 (S)	99 %		76-132		500		03/12/13 18:36	17060-07-0	
Percent Moisture Analytical Method: ASTM D2974									
Percent Moisture	16.6 %		0.50	0.50	1		03/07/13 00:00		

ANALYTICAL RESULTS

Project: Big MO Soil Sampling

Pace Project No.: 60139568

Sample: BM-022713-SB68-16-16.5 **Lab ID: 60139568059** Collected: 02/27/13 15:35 Received: 03/01/13 03:10 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA		Analytical Method: EPA 8260							
Acetone	ND	ug/kg	6930	3460	500		03/12/13 18:51	67-64-1	
Benzene	16600	ug/kg	1730	866	500		03/12/13 18:51	71-43-2	
Bromobenzene	ND	ug/kg	1730	866	500		03/12/13 18:51	108-86-1	
Bromochloromethane	ND	ug/kg	1730	866	500		03/12/13 18:51	74-97-5	
Bromodichloromethane	ND	ug/kg	1730	866	500		03/12/13 18:51	75-27-4	
Bromoform	ND	ug/kg	1730	866	500		03/12/13 18:51	75-25-2	
Bromomethane	ND	ug/kg	1730	866	500		03/12/13 18:51	74-83-9	
2-Butanone (MEK)	ND	ug/kg	3460	1730	500		03/12/13 18:51	78-93-3	
n-Butylbenzene	ND	ug/kg	1730	866	500		03/12/13 18:51	104-51-8	
sec-Butylbenzene	ND	ug/kg	1730	866	500		03/12/13 18:51	135-98-8	
tert-Butylbenzene	ND	ug/kg	1730	866	500		03/12/13 18:51	98-06-6	
Carbon disulfide	ND	ug/kg	1730	866	500		03/12/13 18:51	75-15-0	
Carbon tetrachloride	ND	ug/kg	1730	866	500		03/12/13 18:51	56-23-5	
Chlorobenzene	19400	ug/kg	1730	866	500		03/12/13 18:51	108-90-7	
Chloroethane	ND	ug/kg	1730	866	500		03/12/13 18:51	75-00-3	
Chloroform	ND	ug/kg	1730	866	500		03/12/13 18:51	67-66-3	
Chloromethane	ND	ug/kg	1730	866	500		03/12/13 18:51	74-87-3	
2-Chlorotoluene	ND	ug/kg	1730	866	500		03/12/13 18:51	95-49-8	
4-Chlorotoluene	ND	ug/kg	1730	866	500		03/12/13 18:51	106-43-4	
1,2-Dibromo-3-chloropropane	ND	ug/kg	3460	1730	500		03/12/13 18:51	96-12-8	
Dibromochloromethane	ND	ug/kg	1730	866	500		03/12/13 18:51	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/kg	1730	866	500		03/12/13 18:51	106-93-4	
Dibromomethane	ND	ug/kg	1730	866	500		03/12/13 18:51	74-95-3	
1,2-Dichlorobenzene	ND	ug/kg	1730	866	500		03/12/13 18:51	95-50-1	
1,3-Dichlorobenzene	ND	ug/kg	1730	866	500		03/12/13 18:51	541-73-1	
1,4-Dichlorobenzene	ND	ug/kg	1730	866	500		03/12/13 18:51	106-46-7	
Dichlorodifluoromethane	ND	ug/kg	1730	866	500		03/12/13 18:51	75-71-8	
1,1-Dichloroethane	ND	ug/kg	1730	866	500		03/12/13 18:51	75-34-3	
1,2-Dichloroethane	ND	ug/kg	1730	866	500		03/12/13 18:51	107-06-2	
1,2-Dichloroethene (Total)	ND	ug/kg	1730	866	500		03/12/13 18:51	540-59-0	
1,1-Dichloroethene	ND	ug/kg	1730	866	500		03/12/13 18:51	75-35-4	
cis-1,2-Dichloroethene	ND	ug/kg	1730	866	500		03/12/13 18:51	156-59-2	
trans-1,2-Dichloroethene	ND	ug/kg	1730	866	500		03/12/13 18:51	156-60-5	
1,2-Dichloropropane	ND	ug/kg	1730	866	500		03/12/13 18:51	78-87-5	
1,3-Dichloropropane	ND	ug/kg	1730	866	500		03/12/13 18:51	142-28-9	
2,2-Dichloropropane	ND	ug/kg	1730	866	500		03/12/13 18:51	594-20-7	
1,1-Dichloropropene	ND	ug/kg	1730	866	500		03/12/13 18:51	563-58-6	
cis-1,3-Dichloropropene	ND	ug/kg	1730	866	500		03/12/13 18:51	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/kg	1730	866	500		03/12/13 18:51	10061-02-6	
Ethylbenzene	ND	ug/kg	1730	866	500		03/12/13 18:51	100-41-4	
Hexachloro-1,3-butadiene	ND	ug/kg	1730	866	500		03/12/13 18:51	87-68-3	
2-Hexanone	ND	ug/kg	6930	3460	500		03/12/13 18:51	591-78-6	
Isopropylbenzene (Cumene)	ND	ug/kg	1730	866	500		03/12/13 18:51	98-82-8	
p-Isopropyltoluene	ND	ug/kg	1730	866	500		03/12/13 18:51	99-87-6	
Methylene chloride	ND	ug/kg	1730	866	500		03/12/13 18:51	75-09-2	

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REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Big MO Soil Sampling

Pace Project No.: 60139568

Sample: BM-022713-SB68-16-16.5 **Lab ID: 60139568059** Collected: 02/27/13 15:35 Received: 03/01/13 03:10 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA Analytical Method: EPA 8260									
4-Methyl-2-pentanone (MIBK)	ND	ug/kg	3460	1730	500		03/12/13 18:51	108-10-1	
Methyl-tert-butyl ether	ND	ug/kg	1730	866	500		03/12/13 18:51	1634-04-4	
Naphthalene	ND	ug/kg	3460	1730	500		03/12/13 18:51	91-20-3	
n-Propylbenzene	ND	ug/kg	1730	866	500		03/12/13 18:51	103-65-1	
Styrene	ND	ug/kg	1730	866	500		03/12/13 18:51	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/kg	1730	866	500		03/12/13 18:51	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/kg	1730	866	500		03/12/13 18:51	79-34-5	
Tetrachloroethene	ND	ug/kg	1730	866	500		03/12/13 18:51	127-18-4	
Toluene	ND	ug/kg	1730	866	500		03/12/13 18:51	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/kg	1730	866	500		03/12/13 18:51	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/kg	1730	866	500		03/12/13 18:51	120-82-1	
1,1,1-Trichloroethane	ND	ug/kg	1730	866	500		03/12/13 18:51	71-55-6	
1,1,2-Trichloroethane	ND	ug/kg	1730	866	500		03/12/13 18:51	79-00-5	
Trichloroethene	ND	ug/kg	1730	866	500		03/12/13 18:51	79-01-6	
Trichlorofluoromethane	ND	ug/kg	1730	866	500		03/12/13 18:51	75-69-4	
1,2,3-Trichloropropane	ND	ug/kg	1730	866	500		03/12/13 18:51	96-18-4	
1,2,4-Trimethylbenzene	ND	ug/kg	1730	866	500		03/12/13 18:51	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/kg	1730	866	500		03/12/13 18:51	108-67-8	
Vinyl chloride	ND	ug/kg	1730	866	500		03/12/13 18:51	75-01-4	
Xylene (Total)	ND	ug/kg	1730	866	500		03/12/13 18:51	1330-20-7	
Surrogates									
Dibromofluoromethane (S)	102 %		76-125		500		03/12/13 18:51	1868-53-7	
Toluene-d8 (S)	107 %		80-120		500		03/12/13 18:51	2037-26-5	
4-Bromofluorobenzene (S)	105 %		80-120		500		03/12/13 18:51	460-00-4	
1,2-Dichloroethane-d4 (S)	101 %		76-132		500		03/12/13 18:51	17060-07-0	
Percent Moisture Analytical Method: ASTM D2974									
Percent Moisture	13.1 %		0.50	0.50	1		03/07/13 00:00		

ANALYTICAL RESULTS

Project: Big MO Soil Sampling

Pace Project No.: 60139568

Sample: BM-022713-SB79-7.6-7.8 Lab ID: 60139568060 Collected: 02/27/13 14:15 Received: 03/01/13 03:10 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA		Analytical Method: EPA 8260							
Acetone	ND	ug/kg	676	338	50		03/12/13 19:06	67-64-1	
Benzene	662	ug/kg	169	84.5	50		03/12/13 19:06	71-43-2	
Bromobenzene	ND	ug/kg	169	84.5	50		03/12/13 19:06	108-86-1	
Bromochloromethane	ND	ug/kg	169	84.5	50		03/12/13 19:06	74-97-5	
Bromodichloromethane	ND	ug/kg	169	84.5	50		03/12/13 19:06	75-27-4	
Bromoform	ND	ug/kg	169	84.5	50		03/12/13 19:06	75-25-2	
Bromomethane	121J	ug/kg	169	84.5	50		03/12/13 19:06	74-83-9	
2-Butanone (MEK)	ND	ug/kg	338	169	50		03/12/13 19:06	78-93-3	
n-Butylbenzene	ND	ug/kg	169	84.5	50		03/12/13 19:06	104-51-8	
sec-Butylbenzene	ND	ug/kg	169	84.5	50		03/12/13 19:06	135-98-8	
tert-Butylbenzene	ND	ug/kg	169	84.5	50		03/12/13 19:06	98-06-6	
Carbon disulfide	ND	ug/kg	169	84.5	50		03/12/13 19:06	75-15-0	
Carbon tetrachloride	ND	ug/kg	169	84.5	50		03/12/13 19:06	56-23-5	
Chlorobenzene	255	ug/kg	169	84.5	50		03/12/13 19:06	108-90-7	
Chloroethane	ND	ug/kg	169	84.5	50		03/12/13 19:06	75-00-3	
Chloroform	ND	ug/kg	169	84.5	50		03/12/13 19:06	67-66-3	
Chloromethane	148J	ug/kg	169	84.5	50		03/12/13 19:06	74-87-3	
2-Chlorotoluene	ND	ug/kg	169	84.5	50		03/12/13 19:06	95-49-8	
4-Chlorotoluene	ND	ug/kg	169	84.5	50		03/12/13 19:06	106-43-4	
1,2-Dibromo-3-chloropropane	ND	ug/kg	338	169	50		03/12/13 19:06	96-12-8	
Dibromochloromethane	ND	ug/kg	169	84.5	50		03/12/13 19:06	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/kg	169	84.5	50		03/12/13 19:06	106-93-4	
Dibromomethane	ND	ug/kg	169	84.5	50		03/12/13 19:06	74-95-3	
1,2-Dichlorobenzene	ND	ug/kg	169	84.5	50		03/12/13 19:06	95-50-1	
1,3-Dichlorobenzene	ND	ug/kg	169	84.5	50		03/12/13 19:06	541-73-1	
1,4-Dichlorobenzene	ND	ug/kg	169	84.5	50		03/12/13 19:06	106-46-7	
Dichlorodifluoromethane	ND	ug/kg	169	84.5	50		03/12/13 19:06	75-71-8	
1,1-Dichloroethane	ND	ug/kg	169	84.5	50		03/12/13 19:06	75-34-3	
1,2-Dichloroethane	ND	ug/kg	169	84.5	50		03/12/13 19:06	107-06-2	
1,2-Dichloroethene (Total)	ND	ug/kg	169	84.5	50		03/12/13 19:06	540-59-0	
1,1-Dichloroethene	ND	ug/kg	169	84.5	50		03/12/13 19:06	75-35-4	
cis-1,2-Dichloroethene	ND	ug/kg	169	84.5	50		03/12/13 19:06	156-59-2	
trans-1,2-Dichloroethene	ND	ug/kg	169	84.5	50		03/12/13 19:06	156-60-5	
1,2-Dichloropropane	ND	ug/kg	169	84.5	50		03/12/13 19:06	78-87-5	
1,3-Dichloropropane	ND	ug/kg	169	84.5	50		03/12/13 19:06	142-28-9	
2,2-Dichloropropane	ND	ug/kg	169	84.5	50		03/12/13 19:06	594-20-7	
1,1-Dichloropropene	ND	ug/kg	169	84.5	50		03/12/13 19:06	563-58-6	
cis-1,3-Dichloropropene	ND	ug/kg	169	84.5	50		03/12/13 19:06	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/kg	169	84.5	50		03/12/13 19:06	10061-02-6	
Ethylbenzene	ND	ug/kg	169	84.5	50		03/12/13 19:06	100-41-4	
Hexachloro-1,3-butadiene	ND	ug/kg	169	84.5	50		03/12/13 19:06	87-68-3	
2-Hexanone	ND	ug/kg	676	338	50		03/12/13 19:06	591-78-6	
Isopropylbenzene (Cumene)	ND	ug/kg	169	84.5	50		03/12/13 19:06	98-82-8	
p-Isopropyltoluene	ND	ug/kg	169	84.5	50		03/12/13 19:06	99-87-6	
Methylene chloride	ND	ug/kg	169	84.5	50		03/12/13 19:06	75-09-2	

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ANALYTICAL RESULTS

Project: Big MO Soil Sampling

Pace Project No.: 60139568

Sample: BM-022713-SB79-7.6-7.8 **Lab ID: 60139568060** Collected: 02/27/13 14:15 Received: 03/01/13 03:10 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA Analytical Method: EPA 8260									
4-Methyl-2-pentanone (MIBK)	ND	ug/kg	338	169	50		03/12/13 19:06	108-10-1	
Methyl-tert-butyl ether	ND	ug/kg	169	84.5	50		03/12/13 19:06	1634-04-4	
Naphthalene	ND	ug/kg	338	169	50		03/12/13 19:06	91-20-3	
n-Propylbenzene	ND	ug/kg	169	84.5	50		03/12/13 19:06	103-65-1	
Styrene	ND	ug/kg	169	84.5	50		03/12/13 19:06	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/kg	169	84.5	50		03/12/13 19:06	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/kg	169	84.5	50		03/12/13 19:06	79-34-5	
Tetrachloroethene	ND	ug/kg	169	84.5	50		03/12/13 19:06	127-18-4	
Toluene	96.3J	ug/kg	169	84.5	50		03/12/13 19:06	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/kg	169	84.5	50		03/12/13 19:06	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/kg	169	84.5	50		03/12/13 19:06	120-82-1	
1,1,1-Trichloroethane	ND	ug/kg	169	84.5	50		03/12/13 19:06	71-55-6	
1,1,2-Trichloroethane	ND	ug/kg	169	84.5	50		03/12/13 19:06	79-00-5	
Trichloroethene	ND	ug/kg	169	84.5	50		03/12/13 19:06	79-01-6	
Trichlorofluoromethane	ND	ug/kg	169	84.5	50		03/12/13 19:06	75-69-4	
1,2,3-Trichloropropane	ND	ug/kg	169	84.5	50		03/12/13 19:06	96-18-4	
1,2,4-Trimethylbenzene	ND	ug/kg	169	84.5	50		03/12/13 19:06	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/kg	169	84.5	50		03/12/13 19:06	108-67-8	
Vinyl chloride	ND	ug/kg	169	84.5	50		03/12/13 19:06	75-01-4	
Xylene (Total)	ND	ug/kg	169	84.5	50		03/12/13 19:06	1330-20-7	
Surrogates									
Dibromofluoromethane (S)	101	%	76-125		50		03/12/13 19:06	1868-53-7	
Toluene-d8 (S)	105	%	80-120		50		03/12/13 19:06	2037-26-5	
4-Bromofluorobenzene (S)	100	%	80-120		50		03/12/13 19:06	460-00-4	
1,2-Dichloroethane-d4 (S)	101	%	76-132		50		03/12/13 19:06	17060-07-0	
Percent Moisture Analytical Method: ASTM D2974									
Percent Moisture	6.5	%	0.50	0.50	1		03/07/13 00:00		

ANALYTICAL RESULTS

Project: Big MO Soil Sampling

Pace Project No.: 60139568

Sample: **BM-022713-SB79-11.2-11.4** Lab ID: **60139568061** Collected: 02/27/13 14:20 Received: 03/01/13 03:10 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA		Analytical Method: EPA 8260							
Acetone	ND	ug/kg	651	325	50		03/12/13 19:22	67-64-1	
Benzene	261	ug/kg	163	81.3	50		03/12/13 19:22	71-43-2	
Bromobenzene	ND	ug/kg	163	81.3	50		03/12/13 19:22	108-86-1	
Bromochloromethane	ND	ug/kg	163	81.3	50		03/12/13 19:22	74-97-5	
Bromodichloromethane	ND	ug/kg	163	81.3	50		03/12/13 19:22	75-27-4	
Bromoform	ND	ug/kg	163	81.3	50		03/12/13 19:22	75-25-2	
Bromomethane	123J	ug/kg	163	81.3	50		03/12/13 19:22	74-83-9	
2-Butanone (MEK)	ND	ug/kg	325	163	50		03/12/13 19:22	78-93-3	
n-Butylbenzene	ND	ug/kg	163	81.3	50		03/12/13 19:22	104-51-8	
sec-Butylbenzene	ND	ug/kg	163	81.3	50		03/12/13 19:22	135-98-8	
tert-Butylbenzene	ND	ug/kg	163	81.3	50		03/12/13 19:22	98-06-6	
Carbon disulfide	ND	ug/kg	163	81.3	50		03/12/13 19:22	75-15-0	
Carbon tetrachloride	ND	ug/kg	163	81.3	50		03/12/13 19:22	56-23-5	
Chlorobenzene	205	ug/kg	163	81.3	50		03/12/13 19:22	108-90-7	
Chloroethane	ND	ug/kg	163	81.3	50		03/12/13 19:22	75-00-3	
Chloroform	ND	ug/kg	163	81.3	50		03/12/13 19:22	67-66-3	
Chloromethane	117J	ug/kg	163	81.3	50		03/12/13 19:22	74-87-3	
2-Chlorotoluene	ND	ug/kg	163	81.3	50		03/12/13 19:22	95-49-8	
4-Chlorotoluene	ND	ug/kg	163	81.3	50		03/12/13 19:22	106-43-4	
1,2-Dibromo-3-chloropropane	ND	ug/kg	325	163	50		03/12/13 19:22	96-12-8	
Dibromochloromethane	ND	ug/kg	163	81.3	50		03/12/13 19:22	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/kg	163	81.3	50		03/12/13 19:22	106-93-4	
Dibromomethane	ND	ug/kg	163	81.3	50		03/12/13 19:22	74-95-3	
1,2-Dichlorobenzene	ND	ug/kg	163	81.3	50		03/12/13 19:22	95-50-1	
1,3-Dichlorobenzene	ND	ug/kg	163	81.3	50		03/12/13 19:22	541-73-1	
1,4-Dichlorobenzene	ND	ug/kg	163	81.3	50		03/12/13 19:22	106-46-7	
Dichlorodifluoromethane	ND	ug/kg	163	81.3	50		03/12/13 19:22	75-71-8	
1,1-Dichloroethane	ND	ug/kg	163	81.3	50		03/12/13 19:22	75-34-3	
1,2-Dichloroethane	ND	ug/kg	163	81.3	50		03/12/13 19:22	107-06-2	
1,2-Dichloroethene (Total)	ND	ug/kg	163	81.3	50		03/12/13 19:22	540-59-0	
1,1-Dichloroethene	ND	ug/kg	163	81.3	50		03/12/13 19:22	75-35-4	
cis-1,2-Dichloroethene	ND	ug/kg	163	81.3	50		03/12/13 19:22	156-59-2	
trans-1,2-Dichloroethene	ND	ug/kg	163	81.3	50		03/12/13 19:22	156-60-5	
1,2-Dichloropropane	ND	ug/kg	163	81.3	50		03/12/13 19:22	78-87-5	
1,3-Dichloropropane	ND	ug/kg	163	81.3	50		03/12/13 19:22	142-28-9	
2,2-Dichloropropane	ND	ug/kg	163	81.3	50		03/12/13 19:22	594-20-7	
1,1-Dichloropropene	ND	ug/kg	163	81.3	50		03/12/13 19:22	563-58-6	
cis-1,3-Dichloropropene	ND	ug/kg	163	81.3	50		03/12/13 19:22	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/kg	163	81.3	50		03/12/13 19:22	10061-02-6	
Ethylbenzene	ND	ug/kg	163	81.3	50		03/12/13 19:22	100-41-4	
Hexachloro-1,3-butadiene	ND	ug/kg	163	81.3	50		03/12/13 19:22	87-68-3	
2-Hexanone	ND	ug/kg	651	325	50		03/12/13 19:22	591-78-6	
Isopropylbenzene (Cumene)	ND	ug/kg	163	81.3	50		03/12/13 19:22	98-82-8	
p-Isopropyltoluene	ND	ug/kg	163	81.3	50		03/12/13 19:22	99-87-6	
Methylene chloride	ND	ug/kg	163	81.3	50		03/12/13 19:22	75-09-2	

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ANALYTICAL RESULTS

Project: Big MO Soil Sampling

Pace Project No.: 60139568

Sample: BM-022713-SB79-11.2-11.4 **Lab ID:** 60139568061 **Collected:** 02/27/13 14:20 **Received:** 03/01/13 03:10 **Matrix:** Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA									
Analytical Method: EPA 8260									
4-Methyl-2-pentanone (MIBK)	ND	ug/kg	325	163	50		03/12/13 19:22	108-10-1	
Methyl-tert-butyl ether	ND	ug/kg	163	81.3	50		03/12/13 19:22	1634-04-4	
Naphthalene	ND	ug/kg	325	163	50		03/12/13 19:22	91-20-3	
n-Propylbenzene	ND	ug/kg	163	81.3	50		03/12/13 19:22	103-65-1	
Styrene	ND	ug/kg	163	81.3	50		03/12/13 19:22	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/kg	163	81.3	50		03/12/13 19:22	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/kg	163	81.3	50		03/12/13 19:22	79-34-5	
Tetrachloroethene	ND	ug/kg	163	81.3	50		03/12/13 19:22	127-18-4	
Toluene	ND	ug/kg	163	81.3	50		03/12/13 19:22	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/kg	163	81.3	50		03/12/13 19:22	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/kg	163	81.3	50		03/12/13 19:22	120-82-1	
1,1,1-Trichloroethane	ND	ug/kg	163	81.3	50		03/12/13 19:22	71-55-6	
1,1,2-Trichloroethane	ND	ug/kg	163	81.3	50		03/12/13 19:22	79-00-5	
Trichloroethene	ND	ug/kg	163	81.3	50		03/12/13 19:22	79-01-6	
Trichlorofluoromethane	ND	ug/kg	163	81.3	50		03/12/13 19:22	75-69-4	
1,2,3-Trichloropropane	ND	ug/kg	163	81.3	50		03/12/13 19:22	96-18-4	
1,2,4-Trimethylbenzene	ND	ug/kg	163	81.3	50		03/12/13 19:22	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/kg	163	81.3	50		03/12/13 19:22	108-67-8	
Vinyl chloride	ND	ug/kg	163	81.3	50		03/12/13 19:22	75-01-4	
Xylene (Total)	ND	ug/kg	163	81.3	50		03/12/13 19:22	1330-20-7	
Surrogates									
Dibromofluoromethane (S)	101	%	76-125		50		03/12/13 19:22	1868-53-7	
Toluene-d8 (S)	103	%	80-120		50		03/12/13 19:22	2037-26-5	
4-Bromofluorobenzene (S)	98	%	80-120		50		03/12/13 19:22	460-00-4	
1,2-Dichloroethane-d4 (S)	100	%	76-132		50		03/12/13 19:22	17060-07-0	
Percent Moisture									
Analytical Method: ASTM D2974									
Percent Moisture	2.9	%	0.50	0.50	1		03/07/13 00:00		

ANALYTICAL RESULTS

Project: Big MO Soil Sampling

Pace Project No.: 60139568

Sample: BM-022713-SB79-13.2-13.4 Lab ID: 60139568062 Collected: 02/27/13 14:25 Received: 03/01/13 03:10 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA		Analytical Method: EPA 8260							
Acetone	ND	ug/kg	639	319	50		03/12/13 19:37	67-64-1	
Benzene	616	ug/kg	160	79.8	50		03/12/13 19:37	71-43-2	
Bromobenzene	ND	ug/kg	160	79.8	50		03/12/13 19:37	108-86-1	
Bromochloromethane	ND	ug/kg	160	79.8	50		03/12/13 19:37	74-97-5	
Bromodichloromethane	ND	ug/kg	160	79.8	50		03/12/13 19:37	75-27-4	
Bromoform	ND	ug/kg	160	79.8	50		03/12/13 19:37	75-25-2	
Bromomethane	110J	ug/kg	160	79.8	50		03/12/13 19:37	74-83-9	
2-Butanone (MEK)	ND	ug/kg	319	160	50		03/12/13 19:37	78-93-3	
n-Butylbenzene	ND	ug/kg	160	79.8	50		03/12/13 19:37	104-51-8	
sec-Butylbenzene	ND	ug/kg	160	79.8	50		03/12/13 19:37	135-98-8	
tert-Butylbenzene	ND	ug/kg	160	79.8	50		03/12/13 19:37	98-06-6	
Carbon disulfide	ND	ug/kg	160	79.8	50		03/12/13 19:37	75-15-0	
Carbon tetrachloride	ND	ug/kg	160	79.8	50		03/12/13 19:37	56-23-5	
Chlorobenzene	576	ug/kg	160	79.8	50		03/12/13 19:37	108-90-7	
Chloroethane	ND	ug/kg	160	79.8	50		03/12/13 19:37	75-00-3	
Chloroform	ND	ug/kg	160	79.8	50		03/12/13 19:37	67-66-3	
Chloromethane	125J	ug/kg	160	79.8	50		03/12/13 19:37	74-87-3	
2-Chlorotoluene	ND	ug/kg	160	79.8	50		03/12/13 19:37	95-49-8	
4-Chlorotoluene	ND	ug/kg	160	79.8	50		03/12/13 19:37	106-43-4	
1,2-Dibromo-3-chloropropane	ND	ug/kg	319	160	50		03/12/13 19:37	96-12-8	
Dibromochloromethane	ND	ug/kg	160	79.8	50		03/12/13 19:37	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/kg	160	79.8	50		03/12/13 19:37	106-93-4	
Dibromomethane	ND	ug/kg	160	79.8	50		03/12/13 19:37	74-95-3	
1,2-Dichlorobenzene	ND	ug/kg	160	79.8	50		03/12/13 19:37	95-50-1	
1,3-Dichlorobenzene	ND	ug/kg	160	79.8	50		03/12/13 19:37	541-73-1	
1,4-Dichlorobenzene	ND	ug/kg	160	79.8	50		03/12/13 19:37	106-46-7	
Dichlorodifluoromethane	ND	ug/kg	160	79.8	50		03/12/13 19:37	75-71-8	
1,1-Dichloroethane	ND	ug/kg	160	79.8	50		03/12/13 19:37	75-34-3	
1,2-Dichloroethane	ND	ug/kg	160	79.8	50		03/12/13 19:37	107-06-2	
1,2-Dichloroethene (Total)	ND	ug/kg	160	79.8	50		03/12/13 19:37	540-59-0	
1,1-Dichloroethene	ND	ug/kg	160	79.8	50		03/12/13 19:37	75-35-4	
cis-1,2-Dichloroethene	ND	ug/kg	160	79.8	50		03/12/13 19:37	156-59-2	
trans-1,2-Dichloroethene	ND	ug/kg	160	79.8	50		03/12/13 19:37	156-60-5	
1,2-Dichloropropane	ND	ug/kg	160	79.8	50		03/12/13 19:37	78-87-5	
1,3-Dichloropropane	ND	ug/kg	160	79.8	50		03/12/13 19:37	142-28-9	
2,2-Dichloropropane	ND	ug/kg	160	79.8	50		03/12/13 19:37	594-20-7	
1,1-Dichloropropene	ND	ug/kg	160	79.8	50		03/12/13 19:37	563-58-6	
cis-1,3-Dichloropropene	ND	ug/kg	160	79.8	50		03/12/13 19:37	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/kg	160	79.8	50		03/12/13 19:37	10061-02-6	
Ethylbenzene	ND	ug/kg	160	79.8	50		03/12/13 19:37	100-41-4	
Hexachloro-1,3-butadiene	ND	ug/kg	160	79.8	50		03/12/13 19:37	87-68-3	
2-Hexanone	ND	ug/kg	639	319	50		03/12/13 19:37	591-78-6	
Isopropylbenzene (Cumene)	ND	ug/kg	160	79.8	50		03/12/13 19:37	98-82-8	
p-Isopropyltoluene	ND	ug/kg	160	79.8	50		03/12/13 19:37	99-87-6	
Methylene chloride	ND	ug/kg	160	79.8	50		03/12/13 19:37	75-09-2	

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ANALYTICAL RESULTS

Project: Big MO Soil Sampling

Pace Project No.: 60139568

Sample: BM-022713-SB79-13.2-13.4 **Lab ID: 60139568062** Collected: 02/27/13 14:25 Received: 03/01/13 03:10 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA									
Analytical Method: EPA 8260									
4-Methyl-2-pentanone (MIBK)	ND	ug/kg	319	160	50		03/12/13 19:37	108-10-1	
Methyl-tert-butyl ether	ND	ug/kg	160	79.8	50		03/12/13 19:37	1634-04-4	
Naphthalene	ND	ug/kg	319	160	50		03/12/13 19:37	91-20-3	
n-Propylbenzene	ND	ug/kg	160	79.8	50		03/12/13 19:37	103-65-1	
Styrene	ND	ug/kg	160	79.8	50		03/12/13 19:37	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/kg	160	79.8	50		03/12/13 19:37	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/kg	160	79.8	50		03/12/13 19:37	79-34-5	
Tetrachloroethene	ND	ug/kg	160	79.8	50		03/12/13 19:37	127-18-4	
Toluene	ND	ug/kg	160	79.8	50		03/12/13 19:37	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/kg	160	79.8	50		03/12/13 19:37	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/kg	160	79.8	50		03/12/13 19:37	120-82-1	
1,1,1-Trichloroethane	ND	ug/kg	160	79.8	50		03/12/13 19:37	71-55-6	
1,1,2-Trichloroethane	ND	ug/kg	160	79.8	50		03/12/13 19:37	79-00-5	
Trichloroethene	ND	ug/kg	160	79.8	50		03/12/13 19:37	79-01-6	
Trichlorofluoromethane	ND	ug/kg	160	79.8	50		03/12/13 19:37	75-69-4	
1,2,3-Trichloropropane	ND	ug/kg	160	79.8	50		03/12/13 19:37	96-18-4	
1,2,4-Trimethylbenzene	ND	ug/kg	160	79.8	50		03/12/13 19:37	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/kg	160	79.8	50		03/12/13 19:37	108-67-8	
Vinyl chloride	ND	ug/kg	160	79.8	50		03/12/13 19:37	75-01-4	
Xylene (Total)	ND	ug/kg	160	79.8	50		03/12/13 19:37	1330-20-7	
Surrogates									
Dibromofluoromethane (S)	102 %		76-125		50		03/12/13 19:37	1868-53-7	
Toluene-d8 (S)	104 %		80-120		50		03/12/13 19:37	2037-26-5	
4-Bromofluorobenzene (S)	99 %		80-120		50		03/12/13 19:37	460-00-4	
1,2-Dichloroethane-d4 (S)	102 %		76-132		50		03/12/13 19:37	17060-07-0	
Percent Moisture									
Analytical Method: ASTM D2974									
Percent Moisture	3.4 %		0.50	0.50	1		03/07/13 00:00		

ANALYTICAL RESULTS

Project: Big MO Soil Sampling

Pace Project No.: 60139568

Sample: **BM-022713-SB79-13.0-13.5** Lab ID: **60139568063** Collected: 02/27/13 14:40 Received: 03/01/13 03:10 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA		Analytical Method: EPA 8260							
Acetone	ND	ug/kg	1410	706	100		03/12/13 19:52	67-64-1	
Benzene	17300	ug/kg	353	177	100		03/12/13 19:52	71-43-2	
Bromobenzene	ND	ug/kg	353	177	100		03/12/13 19:52	108-86-1	
Bromochloromethane	ND	ug/kg	353	177	100		03/12/13 19:52	74-97-5	
Bromodichloromethane	ND	ug/kg	353	177	100		03/12/13 19:52	75-27-4	
Bromoform	ND	ug/kg	353	177	100		03/12/13 19:52	75-25-2	
Bromomethane	ND	ug/kg	353	177	100		03/12/13 19:52	74-83-9	
2-Butanone (MEK)	ND	ug/kg	706	353	100		03/12/13 19:52	78-93-3	
n-Butylbenzene	ND	ug/kg	353	177	100		03/12/13 19:52	104-51-8	
sec-Butylbenzene	ND	ug/kg	353	177	100		03/12/13 19:52	135-98-8	
tert-Butylbenzene	ND	ug/kg	353	177	100		03/12/13 19:52	98-06-6	
Carbon disulfide	ND	ug/kg	353	177	100		03/12/13 19:52	75-15-0	
Carbon tetrachloride	ND	ug/kg	353	177	100		03/12/13 19:52	56-23-5	
Chlorobenzene	8790	ug/kg	353	177	100		03/12/13 19:52	108-90-7	
Chloroethane	ND	ug/kg	353	177	100		03/12/13 19:52	75-00-3	
Chloroform	ND	ug/kg	353	177	100		03/12/13 19:52	67-66-3	
Chloromethane	ND	ug/kg	353	177	100		03/12/13 19:52	74-87-3	
2-Chlorotoluene	ND	ug/kg	353	177	100		03/12/13 19:52	95-49-8	
4-Chlorotoluene	ND	ug/kg	353	177	100		03/12/13 19:52	106-43-4	
1,2-Dibromo-3-chloropropane	ND	ug/kg	706	353	100		03/12/13 19:52	96-12-8	
Dibromochloromethane	ND	ug/kg	353	177	100		03/12/13 19:52	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/kg	353	177	100		03/12/13 19:52	106-93-4	
Dibromomethane	ND	ug/kg	353	177	100		03/12/13 19:52	74-95-3	
1,2-Dichlorobenzene	ND	ug/kg	353	177	100		03/12/13 19:52	95-50-1	
1,3-Dichlorobenzene	ND	ug/kg	353	177	100		03/12/13 19:52	541-73-1	
1,4-Dichlorobenzene	ND	ug/kg	353	177	100		03/12/13 19:52	106-46-7	
Dichlorodifluoromethane	ND	ug/kg	353	177	100		03/12/13 19:52	75-71-8	
1,1-Dichloroethane	ND	ug/kg	353	177	100		03/12/13 19:52	75-34-3	
1,2-Dichloroethane	ND	ug/kg	353	177	100		03/12/13 19:52	107-06-2	
1,2-Dichloroethene (Total)	ND	ug/kg	353	177	100		03/12/13 19:52	540-59-0	
1,1-Dichloroethene	ND	ug/kg	353	177	100		03/12/13 19:52	75-35-4	
cis-1,2-Dichloroethene	ND	ug/kg	353	177	100		03/12/13 19:52	156-59-2	
trans-1,2-Dichloroethene	ND	ug/kg	353	177	100		03/12/13 19:52	156-60-5	
1,2-Dichloropropane	ND	ug/kg	353	177	100		03/12/13 19:52	78-87-5	
1,3-Dichloropropane	ND	ug/kg	353	177	100		03/12/13 19:52	142-28-9	
2,2-Dichloropropane	ND	ug/kg	353	177	100		03/12/13 19:52	594-20-7	
1,1-Dichloropropene	ND	ug/kg	353	177	100		03/12/13 19:52	563-58-6	
cis-1,3-Dichloropropene	ND	ug/kg	353	177	100		03/12/13 19:52	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/kg	353	177	100		03/12/13 19:52	10061-02-6	
Ethylbenzene	ND	ug/kg	353	177	100		03/12/13 19:52	100-41-4	
Hexachloro-1,3-butadiene	ND	ug/kg	353	177	100		03/12/13 19:52	87-68-3	
2-Hexanone	ND	ug/kg	1410	706	100		03/12/13 19:52	591-78-6	
Isopropylbenzene (Cumene)	ND	ug/kg	353	177	100		03/12/13 19:52	98-82-8	
p-Isopropyltoluene	ND	ug/kg	353	177	100		03/12/13 19:52	99-87-6	
Methylene chloride	ND	ug/kg	353	177	100		03/12/13 19:52	75-09-2	

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ANALYTICAL RESULTS

Project: Big MO Soil Sampling

Pace Project No.: 60139568

Sample: BM-022713-SB79-13.0-13.5 **Lab ID:** 60139568063 **Collected:** 02/27/13 14:40 **Received:** 03/01/13 03:10 **Matrix:** Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA									
Analytical Method: EPA 8260									
4-Methyl-2-pentanone (MIBK)	ND	ug/kg	706	353	100		03/12/13 19:52	108-10-1	
Methyl-tert-butyl ether	ND	ug/kg	353	177	100		03/12/13 19:52	1634-04-4	
Naphthalene	ND	ug/kg	706	353	100		03/12/13 19:52	91-20-3	
n-Propylbenzene	ND	ug/kg	353	177	100		03/12/13 19:52	103-65-1	
Styrene	ND	ug/kg	353	177	100		03/12/13 19:52	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/kg	353	177	100		03/12/13 19:52	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/kg	353	177	100		03/12/13 19:52	79-34-5	
Tetrachloroethene	ND	ug/kg	353	177	100		03/12/13 19:52	127-18-4	
Toluene	ND	ug/kg	353	177	100		03/12/13 19:52	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/kg	353	177	100		03/12/13 19:52	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/kg	353	177	100		03/12/13 19:52	120-82-1	
1,1,1-Trichloroethane	ND	ug/kg	353	177	100		03/12/13 19:52	71-55-6	
1,1,2-Trichloroethane	ND	ug/kg	353	177	100		03/12/13 19:52	79-00-5	
Trichloroethene	ND	ug/kg	353	177	100		03/12/13 19:52	79-01-6	
Trichlorofluoromethane	ND	ug/kg	353	177	100		03/12/13 19:52	75-69-4	
1,2,3-Trichloropropane	ND	ug/kg	353	177	100		03/12/13 19:52	96-18-4	
1,2,4-Trimethylbenzene	ND	ug/kg	353	177	100		03/12/13 19:52	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/kg	353	177	100		03/12/13 19:52	108-67-8	
Vinyl chloride	ND	ug/kg	353	177	100		03/12/13 19:52	75-01-4	
Xylene (Total)	ND	ug/kg	353	177	100		03/12/13 19:52	1330-20-7	
Surrogates									
Dibromofluoromethane (S)	101	%	76-125		100		03/12/13 19:52	1868-53-7	
Toluene-d8 (S)	105	%	80-120		100		03/12/13 19:52	2037-26-5	
4-Bromofluorobenzene (S)	100	%	80-120		100		03/12/13 19:52	460-00-4	
1,2-Dichloroethane-d4 (S)	100	%	76-132		100		03/12/13 19:52	17060-07-0	
Percent Moisture									
Analytical Method: ASTM D2974									
Percent Moisture	4.3	%	0.50	0.50	1		03/07/13 00:00		

ANALYTICAL RESULTS

Project: Big MO Soil Sampling

Pace Project No.: 60139568

Sample: **BM-022713-SB79-16-16.4** Lab ID: **60139568064** Collected: 02/27/13 14:45 Received: 03/01/13 03:10 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA		Analytical Method: EPA 8260							
Acetone	ND	ug/kg	725	363	50		03/12/13 20:07	67-64-1	
Benzene	1220	ug/kg	181	90.7	50		03/12/13 20:07	71-43-2	
Bromobenzene	ND	ug/kg	181	90.7	50		03/12/13 20:07	108-86-1	
Bromochloromethane	ND	ug/kg	181	90.7	50		03/12/13 20:07	74-97-5	
Bromodichloromethane	ND	ug/kg	181	90.7	50		03/12/13 20:07	75-27-4	
Bromoform	ND	ug/kg	181	90.7	50		03/12/13 20:07	75-25-2	
Bromomethane	123J	ug/kg	181	90.7	50		03/12/13 20:07	74-83-9	
2-Butanone (MEK)	ND	ug/kg	363	181	50		03/12/13 20:07	78-93-3	
n-Butylbenzene	ND	ug/kg	181	90.7	50		03/12/13 20:07	104-51-8	
sec-Butylbenzene	ND	ug/kg	181	90.7	50		03/12/13 20:07	135-98-8	
tert-Butylbenzene	ND	ug/kg	181	90.7	50		03/12/13 20:07	98-06-6	
Carbon disulfide	ND	ug/kg	181	90.7	50		03/12/13 20:07	75-15-0	
Carbon tetrachloride	ND	ug/kg	181	90.7	50		03/12/13 20:07	56-23-5	
Chlorobenzene	928	ug/kg	181	90.7	50		03/12/13 20:07	108-90-7	
Chloroethane	ND	ug/kg	181	90.7	50		03/12/13 20:07	75-00-3	
Chloroform	ND	ug/kg	181	90.7	50		03/12/13 20:07	67-66-3	
Chloromethane	129J	ug/kg	181	90.7	50		03/12/13 20:07	74-87-3	
2-Chlorotoluene	ND	ug/kg	181	90.7	50		03/12/13 20:07	95-49-8	
4-Chlorotoluene	ND	ug/kg	181	90.7	50		03/12/13 20:07	106-43-4	
1,2-Dibromo-3-chloropropane	ND	ug/kg	363	181	50		03/12/13 20:07	96-12-8	
Dibromochloromethane	ND	ug/kg	181	90.7	50		03/12/13 20:07	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/kg	181	90.7	50		03/12/13 20:07	106-93-4	
Dibromomethane	ND	ug/kg	181	90.7	50		03/12/13 20:07	74-95-3	
1,2-Dichlorobenzene	ND	ug/kg	181	90.7	50		03/12/13 20:07	95-50-1	
1,3-Dichlorobenzene	ND	ug/kg	181	90.7	50		03/12/13 20:07	541-73-1	
1,4-Dichlorobenzene	ND	ug/kg	181	90.7	50		03/12/13 20:07	106-46-7	
Dichlorodifluoromethane	ND	ug/kg	181	90.7	50		03/12/13 20:07	75-71-8	
1,1-Dichloroethane	ND	ug/kg	181	90.7	50		03/12/13 20:07	75-34-3	
1,2-Dichloroethane	ND	ug/kg	181	90.7	50		03/12/13 20:07	107-06-2	
1,2-Dichloroethene (Total)	ND	ug/kg	181	90.7	50		03/12/13 20:07	540-59-0	
1,1-Dichloroethene	ND	ug/kg	181	90.7	50		03/12/13 20:07	75-35-4	
cis-1,2-Dichloroethene	ND	ug/kg	181	90.7	50		03/12/13 20:07	156-59-2	
trans-1,2-Dichloroethene	ND	ug/kg	181	90.7	50		03/12/13 20:07	156-60-5	
1,2-Dichloropropane	ND	ug/kg	181	90.7	50		03/12/13 20:07	78-87-5	
1,3-Dichloropropane	ND	ug/kg	181	90.7	50		03/12/13 20:07	142-28-9	
2,2-Dichloropropane	ND	ug/kg	181	90.7	50		03/12/13 20:07	594-20-7	
1,1-Dichloropropene	ND	ug/kg	181	90.7	50		03/12/13 20:07	563-58-6	
cis-1,3-Dichloropropene	ND	ug/kg	181	90.7	50		03/12/13 20:07	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/kg	181	90.7	50		03/12/13 20:07	10061-02-6	
Ethylbenzene	ND	ug/kg	181	90.7	50		03/12/13 20:07	100-41-4	
Hexachloro-1,3-butadiene	ND	ug/kg	181	90.7	50		03/12/13 20:07	87-68-3	
2-Hexanone	ND	ug/kg	725	363	50		03/12/13 20:07	591-78-6	
Isopropylbenzene (Cumene)	ND	ug/kg	181	90.7	50		03/12/13 20:07	98-82-8	
p-Isopropyltoluene	ND	ug/kg	181	90.7	50		03/12/13 20:07	99-87-6	
Methylene chloride	ND	ug/kg	181	90.7	50		03/12/13 20:07	75-09-2	

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ANALYTICAL RESULTS

Project: Big MO Soil Sampling

Pace Project No.: 60139568

Sample: BM-022713-SB79-16-16.4 **Lab ID: 60139568064** Collected: 02/27/13 14:45 Received: 03/01/13 03:10 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA Analytical Method: EPA 8260									
4-Methyl-2-pentanone (MIBK)	ND	ug/kg	363	181	50		03/12/13 20:07	108-10-1	
Methyl-tert-butyl ether	ND	ug/kg	181	90.7	50		03/12/13 20:07	1634-04-4	
Naphthalene	ND	ug/kg	363	181	50		03/12/13 20:07	91-20-3	
n-Propylbenzene	ND	ug/kg	181	90.7	50		03/12/13 20:07	103-65-1	
Styrene	ND	ug/kg	181	90.7	50		03/12/13 20:07	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/kg	181	90.7	50		03/12/13 20:07	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/kg	181	90.7	50		03/12/13 20:07	79-34-5	
Tetrachloroethene	ND	ug/kg	181	90.7	50		03/12/13 20:07	127-18-4	
Toluene	ND	ug/kg	181	90.7	50		03/12/13 20:07	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/kg	181	90.7	50		03/12/13 20:07	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/kg	181	90.7	50		03/12/13 20:07	120-82-1	
1,1,1-Trichloroethane	ND	ug/kg	181	90.7	50		03/12/13 20:07	71-55-6	
1,1,2-Trichloroethane	ND	ug/kg	181	90.7	50		03/12/13 20:07	79-00-5	
Trichloroethene	ND	ug/kg	181	90.7	50		03/12/13 20:07	79-01-6	
Trichlorofluoromethane	ND	ug/kg	181	90.7	50		03/12/13 20:07	75-69-4	
1,2,3-Trichloropropane	ND	ug/kg	181	90.7	50		03/12/13 20:07	96-18-4	
1,2,4-Trimethylbenzene	ND	ug/kg	181	90.7	50		03/12/13 20:07	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/kg	181	90.7	50		03/12/13 20:07	108-67-8	
Vinyl chloride	ND	ug/kg	181	90.7	50		03/12/13 20:07	75-01-4	
Xylene (Total)	ND	ug/kg	181	90.7	50		03/12/13 20:07	1330-20-7	
Surrogates									
Dibromofluoromethane (S)	101	%	76-125		50		03/12/13 20:07	1868-53-7	
Toluene-d8 (S)	104	%	80-120		50		03/12/13 20:07	2037-26-5	
4-Bromofluorobenzene (S)	101	%	80-120		50		03/12/13 20:07	460-00-4	
1,2-Dichloroethane-d4 (S)	100	%	76-132		50		03/12/13 20:07	17060-07-0	
Percent Moisture Analytical Method: ASTM D2974									
Percent Moisture	5.3	%	0.50	0.50	1		03/07/13 00:00		

ANALYTICAL RESULTS

Project: Big MO Soil Sampling

Pace Project No.: 60139568

Sample: **BM-022713-SB80-7.5-7.7** Lab ID: **60139568065** Collected: 02/27/13 11:45 Received: 03/01/13 03:10 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA		Analytical Method: EPA 8260							
Acetone	ND	ug/kg	22.8	11.4	1		03/12/13 20:22	67-64-1	
Benzene	4.7J	ug/kg	5.7	2.8	1		03/12/13 20:22	71-43-2	
Bromobenzene	ND	ug/kg	5.7	2.8	1		03/12/13 20:22	108-86-1	
Bromochloromethane	ND	ug/kg	5.7	2.8	1		03/12/13 20:22	74-97-5	
Bromodichloromethane	ND	ug/kg	5.7	2.8	1		03/12/13 20:22	75-27-4	
Bromoform	ND	ug/kg	5.7	2.8	1		03/12/13 20:22	75-25-2	
Bromomethane	ND	ug/kg	5.7	2.8	1		03/12/13 20:22	74-83-9	
2-Butanone (MEK)	ND	ug/kg	11.4	5.7	1		03/12/13 20:22	78-93-3	
n-Butylbenzene	ND	ug/kg	5.7	2.8	1		03/12/13 20:22	104-51-8	
sec-Butylbenzene	ND	ug/kg	5.7	2.8	1		03/12/13 20:22	135-98-8	
tert-Butylbenzene	ND	ug/kg	5.7	2.8	1		03/12/13 20:22	98-06-6	
Carbon disulfide	ND	ug/kg	5.7	2.8	1		03/12/13 20:22	75-15-0	
Carbon tetrachloride	ND	ug/kg	5.7	2.8	1		03/12/13 20:22	56-23-5	
Chlorobenzene	5.2J	ug/kg	5.7	2.8	1		03/12/13 20:22	108-90-7	
Chloroethane	ND	ug/kg	5.7	2.8	1		03/12/13 20:22	75-00-3	
Chloroform	ND	ug/kg	5.7	2.8	1		03/12/13 20:22	67-66-3	
Chloromethane	ND	ug/kg	5.7	2.8	1		03/12/13 20:22	74-87-3	
2-Chlorotoluene	ND	ug/kg	5.7	2.8	1		03/12/13 20:22	95-49-8	
4-Chlorotoluene	ND	ug/kg	5.7	2.8	1		03/12/13 20:22	106-43-4	
1,2-Dibromo-3-chloropropane	ND	ug/kg	11.4	5.7	1		03/12/13 20:22	96-12-8	
Dibromochloromethane	ND	ug/kg	5.7	2.8	1		03/12/13 20:22	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/kg	5.7	2.8	1		03/12/13 20:22	106-93-4	
Dibromomethane	ND	ug/kg	5.7	2.8	1		03/12/13 20:22	74-95-3	
1,2-Dichlorobenzene	ND	ug/kg	5.7	2.8	1		03/12/13 20:22	95-50-1	
1,3-Dichlorobenzene	ND	ug/kg	5.7	2.8	1		03/12/13 20:22	541-73-1	
1,4-Dichlorobenzene	ND	ug/kg	5.7	2.8	1		03/12/13 20:22	106-46-7	
Dichlorodifluoromethane	ND	ug/kg	5.7	2.8	1		03/12/13 20:22	75-71-8	
1,1-Dichloroethane	ND	ug/kg	5.7	2.8	1		03/12/13 20:22	75-34-3	
1,2-Dichloroethane	ND	ug/kg	5.7	2.8	1		03/12/13 20:22	107-06-2	
1,2-Dichloroethene (Total)	ND	ug/kg	5.7	2.8	1		03/12/13 20:22	540-59-0	
1,1-Dichloroethene	ND	ug/kg	5.7	2.8	1		03/12/13 20:22	75-35-4	
cis-1,2-Dichloroethene	ND	ug/kg	5.7	2.8	1		03/12/13 20:22	156-59-2	
trans-1,2-Dichloroethene	ND	ug/kg	5.7	2.8	1		03/12/13 20:22	156-60-5	
1,2-Dichloropropane	ND	ug/kg	5.7	2.8	1		03/12/13 20:22	78-87-5	
1,3-Dichloropropane	ND	ug/kg	5.7	2.8	1		03/12/13 20:22	142-28-9	
2,2-Dichloropropane	ND	ug/kg	5.7	2.8	1		03/12/13 20:22	594-20-7	
1,1-Dichloropropene	ND	ug/kg	5.7	2.8	1		03/12/13 20:22	563-58-6	
cis-1,3-Dichloropropene	ND	ug/kg	5.7	2.8	1		03/12/13 20:22	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/kg	5.7	2.8	1		03/12/13 20:22	10061-02-6	
Ethylbenzene	ND	ug/kg	5.7	2.8	1		03/12/13 20:22	100-41-4	
Hexachloro-1,3-butadiene	ND	ug/kg	5.7	2.8	1		03/12/13 20:22	87-68-3	
2-Hexanone	ND	ug/kg	22.8	11.4	1		03/12/13 20:22	591-78-6	
Isopropylbenzene (Cumene)	ND	ug/kg	5.7	2.8	1		03/12/13 20:22	98-82-8	
p-Isopropyltoluene	ND	ug/kg	5.7	2.8	1		03/12/13 20:22	99-87-6	
Methylene chloride	ND	ug/kg	5.7	2.8	1		03/12/13 20:22	75-09-2	

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ANALYTICAL RESULTS

Project: Big MO Soil Sampling

Pace Project No.: 60139568

Sample: BM-022713-SB80-7.5-7.7 **Lab ID:** 60139568065 **Collected:** 02/27/13 11:45 **Received:** 03/01/13 03:10 **Matrix:** Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA									
Analytical Method: EPA 8260									
4-Methyl-2-pentanone (MIBK)	ND	ug/kg	11.4	5.7	1		03/12/13 20:22	108-10-1	
Methyl-tert-butyl ether	ND	ug/kg	5.7	2.8	1		03/12/13 20:22	1634-04-4	
Naphthalene	ND	ug/kg	11.4	5.7	1		03/12/13 20:22	91-20-3	
n-Propylbenzene	ND	ug/kg	5.7	2.8	1		03/12/13 20:22	103-65-1	
Styrene	ND	ug/kg	5.7	2.8	1		03/12/13 20:22	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/kg	5.7	2.8	1		03/12/13 20:22	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/kg	5.7	2.8	1		03/12/13 20:22	79-34-5	
Tetrachloroethene	ND	ug/kg	5.7	2.8	1		03/12/13 20:22	127-18-4	
Toluene	ND	ug/kg	5.7	2.8	1		03/12/13 20:22	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/kg	5.7	2.8	1		03/12/13 20:22	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/kg	5.7	2.8	1		03/12/13 20:22	120-82-1	
1,1,1-Trichloroethane	ND	ug/kg	5.7	2.8	1		03/12/13 20:22	71-55-6	
1,1,2-Trichloroethane	ND	ug/kg	5.7	2.8	1		03/12/13 20:22	79-00-5	
Trichloroethene	ND	ug/kg	5.7	2.8	1		03/12/13 20:22	79-01-6	
Trichlorofluoromethane	ND	ug/kg	5.7	2.8	1		03/12/13 20:22	75-69-4	
1,2,3-Trichloropropane	ND	ug/kg	5.7	2.8	1		03/12/13 20:22	96-18-4	
1,2,4-Trimethylbenzene	ND	ug/kg	5.7	2.8	1		03/12/13 20:22	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/kg	5.7	2.8	1		03/12/13 20:22	108-67-8	
Vinyl chloride	ND	ug/kg	5.7	2.8	1		03/12/13 20:22	75-01-4	
Xylene (Total)	ND	ug/kg	5.7	2.8	1		03/12/13 20:22	1330-20-7	
Surrogates									
Dibromofluoromethane (S)	104	%	76-125		1		03/12/13 20:22	1868-53-7	
Toluene-d8 (S)	102	%	80-120		1		03/12/13 20:22	2037-26-5	
4-Bromofluorobenzene (S)	101	%	80-120		1		03/12/13 20:22	460-00-4	
1,2-Dichloroethane-d4 (S)	111	%	76-132		1		03/12/13 20:22	17060-07-0	
Percent Moisture									
Analytical Method: ASTM D2974									
Percent Moisture	7.9	%	0.50	0.50	1		03/07/13 00:00		

ANALYTICAL RESULTS

Project: Big MO Soil Sampling

Pace Project No.: 60139568

Sample: **BM-022713-SB80-11.3-11.5** Lab ID: **60139568066** Collected: 02/27/13 11:50 Received: 03/01/13 03:10 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA		Analytical Method: EPA 8260							
Acetone	ND	ug/kg	1280	642	50		03/12/13 22:54	67-64-1	
Benzene	6020	ug/kg	321	161	50		03/12/13 22:54	71-43-2	
Bromobenzene	ND	ug/kg	321	161	50		03/12/13 22:54	108-86-1	
Bromochloromethane	ND	ug/kg	321	161	50		03/12/13 22:54	74-97-5	
Bromodichloromethane	ND	ug/kg	321	161	50		03/12/13 22:54	75-27-4	
Bromoform	ND	ug/kg	321	161	50		03/12/13 22:54	75-25-2	
Bromomethane	231J	ug/kg	321	161	50		03/12/13 22:54	74-83-9	
2-Butanone (MEK)	ND	ug/kg	642	321	50		03/12/13 22:54	78-93-3	
n-Butylbenzene	ND	ug/kg	321	161	50		03/12/13 22:54	104-51-8	
sec-Butylbenzene	ND	ug/kg	321	161	50		03/12/13 22:54	135-98-8	
tert-Butylbenzene	ND	ug/kg	321	161	50		03/12/13 22:54	98-06-6	
Carbon disulfide	ND	ug/kg	321	161	50		03/12/13 22:54	75-15-0	
Carbon tetrachloride	ND	ug/kg	321	161	50		03/12/13 22:54	56-23-5	
Chlorobenzene	3780	ug/kg	321	161	50		03/12/13 22:54	108-90-7	
Chloroethane	ND	ug/kg	321	161	50		03/12/13 22:54	75-00-3	
Chloroform	ND	ug/kg	321	161	50		03/12/13 22:54	67-66-3	
Chloromethane	302J	ug/kg	321	161	50		03/12/13 22:54	74-87-3	
2-Chlorotoluene	164J	ug/kg	321	161	50		03/12/13 22:54	95-49-8	
4-Chlorotoluene	ND	ug/kg	321	161	50		03/12/13 22:54	106-43-4	
1,2-Dibromo-3-chloropropane	ND	ug/kg	642	321	50		03/12/13 22:54	96-12-8	
Dibromochloromethane	ND	ug/kg	321	161	50		03/12/13 22:54	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/kg	321	161	50		03/12/13 22:54	106-93-4	
Dibromomethane	ND	ug/kg	321	161	50		03/12/13 22:54	74-95-3	
1,2-Dichlorobenzene	ND	ug/kg	321	161	50		03/12/13 22:54	95-50-1	
1,3-Dichlorobenzene	ND	ug/kg	321	161	50		03/12/13 22:54	541-73-1	
1,4-Dichlorobenzene	ND	ug/kg	321	161	50		03/12/13 22:54	106-46-7	
Dichlorodifluoromethane	ND	ug/kg	321	161	50		03/12/13 22:54	75-71-8	
1,1-Dichloroethane	ND	ug/kg	321	161	50		03/12/13 22:54	75-34-3	
1,2-Dichloroethane	ND	ug/kg	321	161	50		03/12/13 22:54	107-06-2	
1,2-Dichloroethene (Total)	ND	ug/kg	321	161	50		03/12/13 22:54	540-59-0	
1,1-Dichloroethene	ND	ug/kg	321	161	50		03/12/13 22:54	75-35-4	
cis-1,2-Dichloroethene	ND	ug/kg	321	161	50		03/12/13 22:54	156-59-2	
trans-1,2-Dichloroethene	ND	ug/kg	321	161	50		03/12/13 22:54	156-60-5	
1,2-Dichloropropane	ND	ug/kg	321	161	50		03/12/13 22:54	78-87-5	
1,3-Dichloropropane	ND	ug/kg	321	161	50		03/12/13 22:54	142-28-9	
2,2-Dichloropropane	ND	ug/kg	321	161	50		03/12/13 22:54	594-20-7	
1,1-Dichloropropene	ND	ug/kg	321	161	50		03/12/13 22:54	563-58-6	
cis-1,3-Dichloropropene	ND	ug/kg	321	161	50		03/12/13 22:54	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/kg	321	161	50		03/12/13 22:54	10061-02-6	
Ethylbenzene	ND	ug/kg	321	161	50		03/12/13 22:54	100-41-4	
Hexachloro-1,3-butadiene	ND	ug/kg	321	161	50		03/12/13 22:54	87-68-3	
2-Hexanone	ND	ug/kg	1280	642	50		03/12/13 22:54	591-78-6	
Isopropylbenzene (Cumene)	ND	ug/kg	321	161	50		03/12/13 22:54	98-82-8	
p-Isopropyltoluene	ND	ug/kg	321	161	50		03/12/13 22:54	99-87-6	
Methylene chloride	ND	ug/kg	321	161	50		03/12/13 22:54	75-09-2	

Date: 03/15/2013 10:48 AM

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ANALYTICAL RESULTS

Project: Big MO Soil Sampling

Pace Project No.: 60139568

Sample: BM-022713-SB80-11.3-11.5 **Lab ID: 60139568066** Collected: 02/27/13 11:50 Received: 03/01/13 03:10 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA Analytical Method: EPA 8260									
4-Methyl-2-pentanone (MIBK)	ND	ug/kg	642	321	50		03/12/13 22:54	108-10-1	
Methyl-tert-butyl ether	ND	ug/kg	321	161	50		03/12/13 22:54	1634-04-4	
Naphthalene	ND	ug/kg	642	321	50		03/12/13 22:54	91-20-3	
n-Propylbenzene	ND	ug/kg	321	161	50		03/12/13 22:54	103-65-1	
Styrene	ND	ug/kg	321	161	50		03/12/13 22:54	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/kg	321	161	50		03/12/13 22:54	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/kg	321	161	50		03/12/13 22:54	79-34-5	
Tetrachloroethene	ND	ug/kg	321	161	50		03/12/13 22:54	127-18-4	
Toluene	209J	ug/kg	321	161	50		03/12/13 22:54	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/kg	321	161	50		03/12/13 22:54	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/kg	321	161	50		03/12/13 22:54	120-82-1	
1,1,1-Trichloroethane	ND	ug/kg	321	161	50		03/12/13 22:54	71-55-6	
1,1,2-Trichloroethane	ND	ug/kg	321	161	50		03/12/13 22:54	79-00-5	
Trichloroethene	ND	ug/kg	321	161	50		03/12/13 22:54	79-01-6	
Trichlorofluoromethane	ND	ug/kg	321	161	50		03/12/13 22:54	75-69-4	
1,2,3-Trichloropropane	ND	ug/kg	321	161	50		03/12/13 22:54	96-18-4	
1,2,4-Trimethylbenzene	ND	ug/kg	321	161	50		03/12/13 22:54	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/kg	321	161	50		03/12/13 22:54	108-67-8	
Vinyl chloride	ND	ug/kg	321	161	50		03/12/13 22:54	75-01-4	
Xylene (Total)	ND	ug/kg	321	161	50		03/12/13 22:54	1330-20-7	
Surrogates									
Dibromofluoromethane (S)	103	%	76-125		50		03/12/13 22:54	1868-53-7	
Toluene-d8 (S)	104	%	80-120		50		03/12/13 22:54	2037-26-5	
4-Bromofluorobenzene (S)	102	%	80-120		50		03/12/13 22:54	460-00-4	
1,2-Dichloroethane-d4 (S)	101	%	76-132		50		03/12/13 22:54	17060-07-0	
Percent Moisture Analytical Method: ASTM D2974									
Percent Moisture	2.7	%	0.50	0.50	1		03/07/13 00:00		

ANALYTICAL RESULTS

Project: Big MO Soil Sampling

Pace Project No.: 60139568

Sample: BM-022713-SB80-13-13.2 **Lab ID:** 60139568067 **Collected:** 02/27/13 11:55 **Received:** 03/01/13 03:10 **Matrix:** Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA		Analytical Method: EPA 8260							
Acetone	ND	ug/kg	13.2	6.6	1		03/13/13 12:47	67-64-1	
Benzene	43.1	ug/kg	3.3	1.6	1		03/13/13 12:47	71-43-2	
Bromobenzene	ND	ug/kg	3.3	1.6	1		03/13/13 12:47	108-86-1	
Bromochloromethane	ND	ug/kg	3.3	1.6	1		03/13/13 12:47	74-97-5	
Bromodichloromethane	ND	ug/kg	3.3	1.6	1		03/13/13 12:47	75-27-4	
Bromoform	ND	ug/kg	3.3	1.6	1		03/13/13 12:47	75-25-2	
Bromomethane	ND	ug/kg	3.3	1.6	1		03/13/13 12:47	74-83-9	
2-Butanone (MEK)	ND	ug/kg	6.6	3.3	1		03/13/13 12:47	78-93-3	
n-Butylbenzene	ND	ug/kg	3.3	1.6	1		03/13/13 12:47	104-51-8	
sec-Butylbenzene	ND	ug/kg	3.3	1.6	1		03/13/13 12:47	135-98-8	
tert-Butylbenzene	ND	ug/kg	3.3	1.6	1		03/13/13 12:47	98-06-6	
Carbon disulfide	ND	ug/kg	3.3	1.6	1		03/13/13 12:47	75-15-0	
Carbon tetrachloride	ND	ug/kg	3.3	1.6	1		03/13/13 12:47	56-23-5	
Chlorobenzene	82.4	ug/kg	3.3	1.6	1		03/13/13 12:47	108-90-7	
Chloroethane	ND	ug/kg	3.3	1.6	1		03/13/13 12:47	75-00-3	
Chloroform	ND	ug/kg	3.3	1.6	1		03/13/13 12:47	67-66-3	
Chloromethane	ND	ug/kg	3.3	1.6	1		03/13/13 12:47	74-87-3	
2-Chlorotoluene	ND	ug/kg	3.3	1.6	1		03/13/13 12:47	95-49-8	
4-Chlorotoluene	ND	ug/kg	3.3	1.6	1		03/13/13 12:47	106-43-4	
1,2-Dibromo-3-chloropropane	ND	ug/kg	6.6	3.3	1		03/13/13 12:47	96-12-8	
Dibromochloromethane	ND	ug/kg	3.3	1.6	1		03/13/13 12:47	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/kg	3.3	1.6	1		03/13/13 12:47	106-93-4	
Dibromomethane	ND	ug/kg	3.3	1.6	1		03/13/13 12:47	74-95-3	
1,2-Dichlorobenzene	ND	ug/kg	3.3	1.6	1		03/13/13 12:47	95-50-1	
1,3-Dichlorobenzene	ND	ug/kg	3.3	1.6	1		03/13/13 12:47	541-73-1	
1,4-Dichlorobenzene	ND	ug/kg	3.3	1.6	1		03/13/13 12:47	106-46-7	
Dichlorodifluoromethane	ND	ug/kg	3.3	1.6	1		03/13/13 12:47	75-71-8	
1,1-Dichloroethane	ND	ug/kg	3.3	1.6	1		03/13/13 12:47	75-34-3	
1,2-Dichloroethane	ND	ug/kg	3.3	1.6	1		03/13/13 12:47	107-06-2	
1,2-Dichloroethene (Total)	ND	ug/kg	3.3	1.6	1		03/13/13 12:47	540-59-0	
1,1-Dichloroethene	ND	ug/kg	3.3	1.6	1		03/13/13 12:47	75-35-4	
cis-1,2-Dichloroethene	ND	ug/kg	3.3	1.6	1		03/13/13 12:47	156-59-2	
trans-1,2-Dichloroethene	ND	ug/kg	3.3	1.6	1		03/13/13 12:47	156-60-5	
1,2-Dichloropropane	ND	ug/kg	3.3	1.6	1		03/13/13 12:47	78-87-5	
1,3-Dichloropropane	ND	ug/kg	3.3	1.6	1		03/13/13 12:47	142-28-9	
2,2-Dichloropropane	ND	ug/kg	3.3	1.6	1		03/13/13 12:47	594-20-7	
1,1-Dichloropropene	ND	ug/kg	3.3	1.6	1		03/13/13 12:47	563-58-6	
cis-1,3-Dichloropropene	ND	ug/kg	3.3	1.6	1		03/13/13 12:47	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/kg	3.3	1.6	1		03/13/13 12:47	10061-02-6	
Ethylbenzene	ND	ug/kg	3.3	1.6	1		03/13/13 12:47	100-41-4	
Hexachloro-1,3-butadiene	ND	ug/kg	3.3	1.6	1		03/13/13 12:47	87-68-3	
2-Hexanone	ND	ug/kg	13.2	6.6	1		03/13/13 12:47	591-78-6	
Isopropylbenzene (Cumene)	ND	ug/kg	3.3	1.6	1		03/13/13 12:47	98-82-8	
p-Isopropyltoluene	ND	ug/kg	3.3	1.6	1		03/13/13 12:47	99-87-6	
Methylene chloride	ND	ug/kg	3.3	1.6	1		03/13/13 12:47	75-09-2	

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REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Big MO Soil Sampling

Pace Project No.: 60139568

Sample: BM-022713-SB80-13-13.2 **Lab ID:** 60139568067 **Collected:** 02/27/13 11:55 **Received:** 03/01/13 03:10 **Matrix:** Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA									
Analytical Method: EPA 8260									
4-Methyl-2-pentanone (MIBK)	ND	ug/kg	6.6	3.3	1		03/13/13 12:47	108-10-1	
Methyl-tert-butyl ether	ND	ug/kg	3.3	1.6	1		03/13/13 12:47	1634-04-4	
Naphthalene	ND	ug/kg	6.6	3.3	1		03/13/13 12:47	91-20-3	
n-Propylbenzene	ND	ug/kg	3.3	1.6	1		03/13/13 12:47	103-65-1	
Styrene	ND	ug/kg	3.3	1.6	1		03/13/13 12:47	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/kg	3.3	1.6	1		03/13/13 12:47	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/kg	3.3	1.6	1		03/13/13 12:47	79-34-5	
Tetrachloroethene	ND	ug/kg	3.3	1.6	1		03/13/13 12:47	127-18-4	
Toluene	ND	ug/kg	3.3	1.6	1		03/13/13 12:47	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/kg	3.3	1.6	1		03/13/13 12:47	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/kg	3.3	1.6	1		03/13/13 12:47	120-82-1	
1,1,1-Trichloroethane	ND	ug/kg	3.3	1.6	1		03/13/13 12:47	71-55-6	
1,1,2-Trichloroethane	ND	ug/kg	3.3	1.6	1		03/13/13 12:47	79-00-5	
Trichloroethene	ND	ug/kg	3.3	1.6	1		03/13/13 12:47	79-01-6	
Trichlorofluoromethane	ND	ug/kg	3.3	1.6	1		03/13/13 12:47	75-69-4	
1,2,3-Trichloropropane	ND	ug/kg	3.3	1.6	1		03/13/13 12:47	96-18-4	
1,2,4-Trimethylbenzene	ND	ug/kg	3.3	1.6	1		03/13/13 12:47	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/kg	3.3	1.6	1		03/13/13 12:47	108-67-8	
Vinyl chloride	ND	ug/kg	3.3	1.6	1		03/13/13 12:47	75-01-4	
Xylene (Total)	ND	ug/kg	3.3	1.6	1		03/13/13 12:47	1330-20-7	
Surrogates									
Dibromofluoromethane (S)	101	%	76-125		1		03/13/13 12:47	1868-53-7	
Toluene-d8 (S)	101	%	80-120		1		03/13/13 12:47	2037-26-5	
4-Bromofluorobenzene (S)	99	%	80-120		1		03/13/13 12:47	460-00-4	
1,2-Dichloroethane-d4 (S)	112	%	76-132		1		03/13/13 12:47	17060-07-0	
Percent Moisture									
Analytical Method: ASTM D2974									
Percent Moisture	3.9	%	0.50	0.50	1		03/07/13 00:00		

ANALYTICAL RESULTS

Project: Big MO Soil Sampling

Pace Project No.: 60139568

Sample: **BM-022713-SB80-10.5-11** Lab ID: **60139568068** Collected: 02/27/13 13:15 Received: 03/01/13 03:10 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA		Analytical Method: EPA 8260							
Acetone	ND	ug/kg	12.5	6.2	1		03/12/13 23:25	67-64-1	
Benzene	4.3	ug/kg	3.1	1.6	1		03/12/13 23:25	71-43-2	
Bromobenzene	ND	ug/kg	3.1	1.6	1		03/12/13 23:25	108-86-1	
Bromochloromethane	ND	ug/kg	3.1	1.6	1		03/12/13 23:25	74-97-5	
Bromodichloromethane	ND	ug/kg	3.1	1.6	1		03/12/13 23:25	75-27-4	
Bromoform	ND	ug/kg	3.1	1.6	1		03/12/13 23:25	75-25-2	
Bromomethane	1.6J	ug/kg	3.1	1.6	1		03/12/13 23:25	74-83-9	B
2-Butanone (MEK)	ND	ug/kg	6.2	3.1	1		03/12/13 23:25	78-93-3	
n-Butylbenzene	ND	ug/kg	3.1	1.6	1		03/12/13 23:25	104-51-8	
sec-Butylbenzene	ND	ug/kg	3.1	1.6	1		03/12/13 23:25	135-98-8	
tert-Butylbenzene	ND	ug/kg	3.1	1.6	1		03/12/13 23:25	98-06-6	
Carbon disulfide	ND	ug/kg	3.1	1.6	1		03/12/13 23:25	75-15-0	
Carbon tetrachloride	ND	ug/kg	3.1	1.6	1		03/12/13 23:25	56-23-5	
Chlorobenzene	4.6	ug/kg	3.1	1.6	1		03/12/13 23:25	108-90-7	
Chloroethane	ND	ug/kg	3.1	1.6	1		03/12/13 23:25	75-00-3	
Chloroform	ND	ug/kg	3.1	1.6	1		03/12/13 23:25	67-66-3	
Chloromethane	ND	ug/kg	3.1	1.6	1		03/12/13 23:25	74-87-3	
2-Chlorotoluene	ND	ug/kg	3.1	1.6	1		03/12/13 23:25	95-49-8	
4-Chlorotoluene	ND	ug/kg	3.1	1.6	1		03/12/13 23:25	106-43-4	
1,2-Dibromo-3-chloropropane	ND	ug/kg	6.2	3.1	1		03/12/13 23:25	96-12-8	
Dibromochloromethane	ND	ug/kg	3.1	1.6	1		03/12/13 23:25	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/kg	3.1	1.6	1		03/12/13 23:25	106-93-4	
Dibromomethane	ND	ug/kg	3.1	1.6	1		03/12/13 23:25	74-95-3	
1,2-Dichlorobenzene	ND	ug/kg	3.1	1.6	1		03/12/13 23:25	95-50-1	
1,3-Dichlorobenzene	ND	ug/kg	3.1	1.6	1		03/12/13 23:25	541-73-1	
1,4-Dichlorobenzene	ND	ug/kg	3.1	1.6	1		03/12/13 23:25	106-46-7	
Dichlorodifluoromethane	ND	ug/kg	3.1	1.6	1		03/12/13 23:25	75-71-8	
1,1-Dichloroethane	ND	ug/kg	3.1	1.6	1		03/12/13 23:25	75-34-3	
1,2-Dichloroethane	ND	ug/kg	3.1	1.6	1		03/12/13 23:25	107-06-2	
1,2-Dichloroethene (Total)	ND	ug/kg	3.1	1.6	1		03/12/13 23:25	540-59-0	
1,1-Dichloroethene	ND	ug/kg	3.1	1.6	1		03/12/13 23:25	75-35-4	
cis-1,2-Dichloroethene	ND	ug/kg	3.1	1.6	1		03/12/13 23:25	156-59-2	
trans-1,2-Dichloroethene	ND	ug/kg	3.1	1.6	1		03/12/13 23:25	156-60-5	
1,2-Dichloropropane	ND	ug/kg	3.1	1.6	1		03/12/13 23:25	78-87-5	
1,3-Dichloropropane	ND	ug/kg	3.1	1.6	1		03/12/13 23:25	142-28-9	
2,2-Dichloropropane	ND	ug/kg	3.1	1.6	1		03/12/13 23:25	594-20-7	
1,1-Dichloropropene	ND	ug/kg	3.1	1.6	1		03/12/13 23:25	563-58-6	
cis-1,3-Dichloropropene	ND	ug/kg	3.1	1.6	1		03/12/13 23:25	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/kg	3.1	1.6	1		03/12/13 23:25	10061-02-6	
Ethylbenzene	ND	ug/kg	3.1	1.6	1		03/12/13 23:25	100-41-4	
Hexachloro-1,3-butadiene	ND	ug/kg	3.1	1.6	1		03/12/13 23:25	87-68-3	
2-Hexanone	ND	ug/kg	12.5	6.2	1		03/12/13 23:25	591-78-6	
Isopropylbenzene (Cumene)	ND	ug/kg	3.1	1.6	1		03/12/13 23:25	98-82-8	
p-Isopropyltoluene	ND	ug/kg	3.1	1.6	1		03/12/13 23:25	99-87-6	
Methylene chloride	ND	ug/kg	3.1	1.6	1		03/12/13 23:25	75-09-2	

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ANALYTICAL RESULTS

Project: Big MO Soil Sampling

Pace Project No.: 60139568

Sample: BM-022713-SB80-10.5-11 **Lab ID: 60139568068** Collected: 02/27/13 13:15 Received: 03/01/13 03:10 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA Analytical Method: EPA 8260									
4-Methyl-2-pentanone (MIBK)	ND	ug/kg	6.2	3.1	1		03/12/13 23:25	108-10-1	
Methyl-tert-butyl ether	ND	ug/kg	3.1	1.6	1		03/12/13 23:25	1634-04-4	
Naphthalene	ND	ug/kg	6.2	3.1	1		03/12/13 23:25	91-20-3	
n-Propylbenzene	ND	ug/kg	3.1	1.6	1		03/12/13 23:25	103-65-1	
Styrene	ND	ug/kg	3.1	1.6	1		03/12/13 23:25	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/kg	3.1	1.6	1		03/12/13 23:25	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/kg	3.1	1.6	1		03/12/13 23:25	79-34-5	
Tetrachloroethene	ND	ug/kg	3.1	1.6	1		03/12/13 23:25	127-18-4	
Toluene	ND	ug/kg	3.1	1.6	1		03/12/13 23:25	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/kg	3.1	1.6	1		03/12/13 23:25	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/kg	3.1	1.6	1		03/12/13 23:25	120-82-1	
1,1,1-Trichloroethane	ND	ug/kg	3.1	1.6	1		03/12/13 23:25	71-55-6	
1,1,2-Trichloroethane	ND	ug/kg	3.1	1.6	1		03/12/13 23:25	79-00-5	
Trichloroethene	ND	ug/kg	3.1	1.6	1		03/12/13 23:25	79-01-6	
Trichlorofluoromethane	ND	ug/kg	3.1	1.6	1		03/12/13 23:25	75-69-4	
1,2,3-Trichloropropane	ND	ug/kg	3.1	1.6	1		03/12/13 23:25	96-18-4	
1,2,4-Trimethylbenzene	ND	ug/kg	3.1	1.6	1		03/12/13 23:25	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/kg	3.1	1.6	1		03/12/13 23:25	108-67-8	
Vinyl chloride	ND	ug/kg	3.1	1.6	1		03/12/13 23:25	75-01-4	
Xylene (Total)	ND	ug/kg	3.1	1.6	1		03/12/13 23:25	1330-20-7	
Surrogates									
Dibromofluoromethane (S)	96 %		76-125		1		03/12/13 23:25	1868-53-7	IO
Toluene-d8 (S)	100 %		80-120		1		03/12/13 23:25	2037-26-5	
4-Bromofluorobenzene (S)	101 %		80-120		1		03/12/13 23:25	460-00-4	
1,2-Dichloroethane-d4 (S)	98 %		76-132		1		03/12/13 23:25	17060-07-0	
Percent Moisture Analytical Method: ASTM D2974									
Percent Moisture	4.8 %		0.50	0.50	1		03/07/13 00:00		

ANALYTICAL RESULTS

Project: Big MO Soil Sampling

Pace Project No.: 60139568

Sample: BM-022713-SB80-16.5-17 Lab ID: 60139568069 Collected: 02/27/13 13:20 Received: 03/01/13 03:10 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA		Analytical Method: EPA 8260							
Acetone	ND	ug/kg	14.2	7.1	1		03/13/13 13:03	67-64-1	
Benzene	45.8	ug/kg	3.5	1.8	1		03/13/13 13:03	71-43-2	
Bromobenzene	ND	ug/kg	3.5	1.8	1		03/13/13 13:03	108-86-1	
Bromochloromethane	ND	ug/kg	3.5	1.8	1		03/13/13 13:03	74-97-5	
Bromodichloromethane	ND	ug/kg	3.5	1.8	1		03/13/13 13:03	75-27-4	
Bromoform	ND	ug/kg	3.5	1.8	1		03/13/13 13:03	75-25-2	
Bromomethane	ND	ug/kg	3.5	1.8	1		03/13/13 13:03	74-83-9	
2-Butanone (MEK)	ND	ug/kg	7.1	3.5	1		03/13/13 13:03	78-93-3	
n-Butylbenzene	ND	ug/kg	3.5	1.8	1		03/13/13 13:03	104-51-8	
sec-Butylbenzene	ND	ug/kg	3.5	1.8	1		03/13/13 13:03	135-98-8	
tert-Butylbenzene	ND	ug/kg	3.5	1.8	1		03/13/13 13:03	98-06-6	
Carbon disulfide	ND	ug/kg	3.5	1.8	1		03/13/13 13:03	75-15-0	
Carbon tetrachloride	ND	ug/kg	3.5	1.8	1		03/13/13 13:03	56-23-5	
Chlorobenzene	49.4	ug/kg	3.5	1.8	1		03/13/13 13:03	108-90-7	
Chloroethane	ND	ug/kg	3.5	1.8	1		03/13/13 13:03	75-00-3	
Chloroform	ND	ug/kg	3.5	1.8	1		03/13/13 13:03	67-66-3	
Chloromethane	ND	ug/kg	3.5	1.8	1		03/13/13 13:03	74-87-3	
2-Chlorotoluene	ND	ug/kg	3.5	1.8	1		03/13/13 13:03	95-49-8	
4-Chlorotoluene	ND	ug/kg	3.5	1.8	1		03/13/13 13:03	106-43-4	
1,2-Dibromo-3-chloropropane	ND	ug/kg	7.1	3.5	1		03/13/13 13:03	96-12-8	
Dibromochloromethane	ND	ug/kg	3.5	1.8	1		03/13/13 13:03	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/kg	3.5	1.8	1		03/13/13 13:03	106-93-4	
Dibromomethane	ND	ug/kg	3.5	1.8	1		03/13/13 13:03	74-95-3	
1,2-Dichlorobenzene	ND	ug/kg	3.5	1.8	1		03/13/13 13:03	95-50-1	
1,3-Dichlorobenzene	ND	ug/kg	3.5	1.8	1		03/13/13 13:03	541-73-1	
1,4-Dichlorobenzene	ND	ug/kg	3.5	1.8	1		03/13/13 13:03	106-46-7	
Dichlorodifluoromethane	ND	ug/kg	3.5	1.8	1		03/13/13 13:03	75-71-8	
1,1-Dichloroethane	ND	ug/kg	3.5	1.8	1		03/13/13 13:03	75-34-3	
1,2-Dichloroethane	ND	ug/kg	3.5	1.8	1		03/13/13 13:03	107-06-2	
1,2-Dichloroethene (Total)	ND	ug/kg	3.5	1.8	1		03/13/13 13:03	540-59-0	
1,1-Dichloroethene	ND	ug/kg	3.5	1.8	1		03/13/13 13:03	75-35-4	
cis-1,2-Dichloroethene	ND	ug/kg	3.5	1.8	1		03/13/13 13:03	156-59-2	
trans-1,2-Dichloroethene	ND	ug/kg	3.5	1.8	1		03/13/13 13:03	156-60-5	
1,2-Dichloropropane	ND	ug/kg	3.5	1.8	1		03/13/13 13:03	78-87-5	
1,3-Dichloropropane	ND	ug/kg	3.5	1.8	1		03/13/13 13:03	142-28-9	
2,2-Dichloropropane	ND	ug/kg	3.5	1.8	1		03/13/13 13:03	594-20-7	
1,1-Dichloropropene	ND	ug/kg	3.5	1.8	1		03/13/13 13:03	563-58-6	
cis-1,3-Dichloropropene	ND	ug/kg	3.5	1.8	1		03/13/13 13:03	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/kg	3.5	1.8	1		03/13/13 13:03	10061-02-6	
Ethylbenzene	ND	ug/kg	3.5	1.8	1		03/13/13 13:03	100-41-4	
Hexachloro-1,3-butadiene	ND	ug/kg	3.5	1.8	1		03/13/13 13:03	87-68-3	
2-Hexanone	ND	ug/kg	14.2	7.1	1		03/13/13 13:03	591-78-6	
Isopropylbenzene (Cumene)	ND	ug/kg	3.5	1.8	1		03/13/13 13:03	98-82-8	
p-Isopropyltoluene	ND	ug/kg	3.5	1.8	1		03/13/13 13:03	99-87-6	
Methylene chloride	ND	ug/kg	3.5	1.8	1		03/13/13 13:03	75-09-2	

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ANALYTICAL RESULTS

Project: Big MO Soil Sampling

Pace Project No.: 60139568

Sample: BM-022713-SB80-16.5-17 **Lab ID: 60139568069** Collected: 02/27/13 13:20 Received: 03/01/13 03:10 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA Analytical Method: EPA 8260									
4-Methyl-2-pentanone (MIBK)	ND	ug/kg	7.1	3.5	1		03/13/13 13:03	108-10-1	
Methyl-tert-butyl ether	ND	ug/kg	3.5	1.8	1		03/13/13 13:03	1634-04-4	
Naphthalene	ND	ug/kg	7.1	3.5	1		03/13/13 13:03	91-20-3	
n-Propylbenzene	ND	ug/kg	3.5	1.8	1		03/13/13 13:03	103-65-1	
Styrene	ND	ug/kg	3.5	1.8	1		03/13/13 13:03	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/kg	3.5	1.8	1		03/13/13 13:03	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/kg	3.5	1.8	1		03/13/13 13:03	79-34-5	
Tetrachloroethene	ND	ug/kg	3.5	1.8	1		03/13/13 13:03	127-18-4	
Toluene	ND	ug/kg	3.5	1.8	1		03/13/13 13:03	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/kg	3.5	1.8	1		03/13/13 13:03	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/kg	3.5	1.8	1		03/13/13 13:03	120-82-1	
1,1,1-Trichloroethane	ND	ug/kg	3.5	1.8	1		03/13/13 13:03	71-55-6	
1,1,2-Trichloroethane	ND	ug/kg	3.5	1.8	1		03/13/13 13:03	79-00-5	
Trichloroethene	ND	ug/kg	3.5	1.8	1		03/13/13 13:03	79-01-6	
Trichlorofluoromethane	ND	ug/kg	3.5	1.8	1		03/13/13 13:03	75-69-4	
1,2,3-Trichloropropane	ND	ug/kg	3.5	1.8	1		03/13/13 13:03	96-18-4	
1,2,4-Trimethylbenzene	ND	ug/kg	3.5	1.8	1		03/13/13 13:03	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/kg	3.5	1.8	1		03/13/13 13:03	108-67-8	
Vinyl chloride	ND	ug/kg	3.5	1.8	1		03/13/13 13:03	75-01-4	
Xylene (Total)	ND	ug/kg	3.5	1.8	1		03/13/13 13:03	1330-20-7	
Surrogates									
Dibromofluoromethane (S)	99 %		76-125		1		03/13/13 13:03	1868-53-7	
Toluene-d8 (S)	99 %		80-120		1		03/13/13 13:03	2037-26-5	
4-Bromofluorobenzene (S)	99 %		80-120		1		03/13/13 13:03	460-00-4	
1,2-Dichloroethane-d4 (S)	111 %		76-132		1		03/13/13 13:03	17060-07-0	
Percent Moisture Analytical Method: ASTM D2974									
Percent Moisture	4.7 %		0.50	0.50	1		03/07/13 00:00		

ANALYTICAL RESULTS

Project: Big MO Soil Sampling

Pace Project No.: 60139568

Sample: BM-022713-SB27-8.4-8.6 Lab ID: 60139568070 Collected: 02/27/13 09:45 Received: 03/01/13 03:10 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA		Analytical Method: EPA 8260							
Acetone	ND	ug/kg	45900	22900	2000		03/12/13 23:55	67-64-1	
Benzene	81400	ug/kg	11500	5730	2000		03/12/13 23:55	71-43-2	
Bromobenzene	ND	ug/kg	11500	5730	2000		03/12/13 23:55	108-86-1	
Bromochloromethane	ND	ug/kg	11500	5730	2000		03/12/13 23:55	74-97-5	
Bromodichloromethane	ND	ug/kg	11500	5730	2000		03/12/13 23:55	75-27-4	
Bromoform	ND	ug/kg	11500	5730	2000		03/12/13 23:55	75-25-2	
Bromomethane	ND	ug/kg	11500	5730	2000		03/12/13 23:55	74-83-9	
2-Butanone (MEK)	ND	ug/kg	22900	11500	2000		03/12/13 23:55	78-93-3	
n-Butylbenzene	ND	ug/kg	11500	5730	2000		03/12/13 23:55	104-51-8	
sec-Butylbenzene	ND	ug/kg	11500	5730	2000		03/12/13 23:55	135-98-8	
tert-Butylbenzene	ND	ug/kg	11500	5730	2000		03/12/13 23:55	98-06-6	
Carbon disulfide	ND	ug/kg	11500	5730	2000		03/12/13 23:55	75-15-0	
Carbon tetrachloride	ND	ug/kg	11500	5730	2000		03/12/13 23:55	56-23-5	
Chlorobenzene	561000	ug/kg	11500	5730	2000		03/12/13 23:55	108-90-7	
Chloroethane	ND	ug/kg	11500	5730	2000		03/12/13 23:55	75-00-3	
Chloroform	ND	ug/kg	11500	5730	2000		03/12/13 23:55	67-66-3	
Chloromethane	ND	ug/kg	11500	5730	2000		03/12/13 23:55	74-87-3	
2-Chlorotoluene	ND	ug/kg	11500	5730	2000		03/12/13 23:55	95-49-8	
4-Chlorotoluene	ND	ug/kg	11500	5730	2000		03/12/13 23:55	106-43-4	
1,2-Dibromo-3-chloropropane	ND	ug/kg	22900	11500	2000		03/12/13 23:55	96-12-8	
Dibromochloromethane	ND	ug/kg	11500	5730	2000		03/12/13 23:55	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/kg	11500	5730	2000		03/12/13 23:55	106-93-4	
Dibromomethane	ND	ug/kg	11500	5730	2000		03/12/13 23:55	74-95-3	
1,2-Dichlorobenzene	ND	ug/kg	11500	5730	2000		03/12/13 23:55	95-50-1	
1,3-Dichlorobenzene	ND	ug/kg	11500	5730	2000		03/12/13 23:55	541-73-1	
1,4-Dichlorobenzene	ND	ug/kg	11500	5730	2000		03/12/13 23:55	106-46-7	
Dichlorodifluoromethane	ND	ug/kg	11500	5730	2000		03/12/13 23:55	75-71-8	
1,1-Dichloroethane	ND	ug/kg	11500	5730	2000		03/12/13 23:55	75-34-3	
1,2-Dichloroethane	ND	ug/kg	11500	5730	2000		03/12/13 23:55	107-06-2	
1,2-Dichloroethene (Total)	ND	ug/kg	11500	5730	2000		03/12/13 23:55	540-59-0	
1,1-Dichloroethene	ND	ug/kg	11500	5730	2000		03/12/13 23:55	75-35-4	
cis-1,2-Dichloroethene	ND	ug/kg	11500	5730	2000		03/12/13 23:55	156-59-2	
trans-1,2-Dichloroethene	ND	ug/kg	11500	5730	2000		03/12/13 23:55	156-60-5	
1,2-Dichloropropane	ND	ug/kg	11500	5730	2000		03/12/13 23:55	78-87-5	
1,3-Dichloropropane	ND	ug/kg	11500	5730	2000		03/12/13 23:55	142-28-9	
2,2-Dichloropropane	ND	ug/kg	11500	5730	2000		03/12/13 23:55	594-20-7	
1,1-Dichloropropene	ND	ug/kg	11500	5730	2000		03/12/13 23:55	563-58-6	
cis-1,3-Dichloropropene	ND	ug/kg	11500	5730	2000		03/12/13 23:55	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/kg	11500	5730	2000		03/12/13 23:55	10061-02-6	
Ethylbenzene	ND	ug/kg	11500	5730	2000		03/12/13 23:55	100-41-4	
Hexachloro-1,3-butadiene	ND	ug/kg	11500	5730	2000		03/12/13 23:55	87-68-3	
2-Hexanone	ND	ug/kg	45900	22900	2000		03/12/13 23:55	591-78-6	
Isopropylbenzene (Cumene)	ND	ug/kg	11500	5730	2000		03/12/13 23:55	98-82-8	
p-Isopropyltoluene	ND	ug/kg	11500	5730	2000		03/12/13 23:55	99-87-6	
Methylene chloride	ND	ug/kg	11500	5730	2000		03/12/13 23:55	75-09-2	

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ANALYTICAL RESULTS

Project: Big MO Soil Sampling

Pace Project No.: 60139568

Sample: BM-022713-SB27-8.4-8.6 **Lab ID:** 60139568070 **Collected:** 02/27/13 09:45 **Received:** 03/01/13 03:10 **Matrix:** Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA									
Analytical Method: EPA 8260									
4-Methyl-2-pentanone (MIBK)	ND	ug/kg	22900	11500	2000		03/12/13 23:55	108-10-1	
Methyl-tert-butyl ether	ND	ug/kg	11500	5730	2000		03/12/13 23:55	1634-04-4	
Naphthalene	ND	ug/kg	22900	11500	2000		03/12/13 23:55	91-20-3	
n-Propylbenzene	ND	ug/kg	11500	5730	2000		03/12/13 23:55	103-65-1	
Styrene	ND	ug/kg	11500	5730	2000		03/12/13 23:55	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/kg	11500	5730	2000		03/12/13 23:55	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/kg	11500	5730	2000		03/12/13 23:55	79-34-5	
Tetrachloroethene	ND	ug/kg	11500	5730	2000		03/12/13 23:55	127-18-4	
Toluene	ND	ug/kg	11500	5730	2000		03/12/13 23:55	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/kg	11500	5730	2000		03/12/13 23:55	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/kg	11500	5730	2000		03/12/13 23:55	120-82-1	
1,1,1-Trichloroethane	ND	ug/kg	11500	5730	2000		03/12/13 23:55	71-55-6	
1,1,2-Trichloroethane	ND	ug/kg	11500	5730	2000		03/12/13 23:55	79-00-5	
Trichloroethene	ND	ug/kg	11500	5730	2000		03/12/13 23:55	79-01-6	
Trichlorofluoromethane	ND	ug/kg	11500	5730	2000		03/12/13 23:55	75-69-4	
1,2,3-Trichloropropane	ND	ug/kg	11500	5730	2000		03/12/13 23:55	96-18-4	
1,2,4-Trimethylbenzene	ND	ug/kg	11500	5730	2000		03/12/13 23:55	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/kg	11500	5730	2000		03/12/13 23:55	108-67-8	
Vinyl chloride	ND	ug/kg	11500	5730	2000		03/12/13 23:55	75-01-4	
Xylene (Total)	ND	ug/kg	11500	5730	2000		03/12/13 23:55	1330-20-7	
Surrogates									
Dibromofluoromethane (S)	103	%	76-125		2000		03/12/13 23:55	1868-53-7	
Toluene-d8 (S)	103	%	80-120		2000		03/12/13 23:55	2037-26-5	
4-Bromofluorobenzene (S)	100	%	80-120		2000		03/12/13 23:55	460-00-4	
1,2-Dichloroethane-d4 (S)	102	%	76-132		2000		03/12/13 23:55	17060-07-0	
Percent Moisture									
Analytical Method: ASTM D2974									
Percent Moisture	4.6	%	0.50	0.50	1		03/07/13 00:00		

ANALYTICAL RESULTS

Project: Big MO Soil Sampling

Pace Project No.: 60139568

Sample: **BM-022713-SB27-11.5-11.7** Lab ID: **60139568071** Collected: 02/27/13 09:50 Received: 03/01/13 03:10 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA		Analytical Method: EPA 8260							
Acetone	ND	ug/kg	116000	57800	5000		03/13/13 00:10	67-64-1	
Benzene	35800	ug/kg	28900	14500	5000		03/13/13 00:10	71-43-2	
Bromobenzene	ND	ug/kg	28900	14500	5000		03/13/13 00:10	108-86-1	
Bromochloromethane	ND	ug/kg	28900	14500	5000		03/13/13 00:10	74-97-5	
Bromodichloromethane	ND	ug/kg	28900	14500	5000		03/13/13 00:10	75-27-4	
Bromoform	ND	ug/kg	28900	14500	5000		03/13/13 00:10	75-25-2	
Bromomethane	ND	ug/kg	28900	14500	5000		03/13/13 00:10	74-83-9	
2-Butanone (MEK)	ND	ug/kg	57800	28900	5000		03/13/13 00:10	78-93-3	
n-Butylbenzene	ND	ug/kg	28900	14500	5000		03/13/13 00:10	104-51-8	
sec-Butylbenzene	ND	ug/kg	28900	14500	5000		03/13/13 00:10	135-98-8	
tert-Butylbenzene	ND	ug/kg	28900	14500	5000		03/13/13 00:10	98-06-6	
Carbon disulfide	ND	ug/kg	28900	14500	5000		03/13/13 00:10	75-15-0	
Carbon tetrachloride	ND	ug/kg	28900	14500	5000		03/13/13 00:10	56-23-5	
Chlorobenzene	1110000	ug/kg	28900	14500	5000		03/13/13 00:10	108-90-7	
Chloroethane	ND	ug/kg	28900	14500	5000		03/13/13 00:10	75-00-3	
Chloroform	ND	ug/kg	28900	14500	5000		03/13/13 00:10	67-66-3	
Chloromethane	ND	ug/kg	28900	14500	5000		03/13/13 00:10	74-87-3	
2-Chlorotoluene	ND	ug/kg	28900	14500	5000		03/13/13 00:10	95-49-8	
4-Chlorotoluene	ND	ug/kg	28900	14500	5000		03/13/13 00:10	106-43-4	
1,2-Dibromo-3-chloropropane	ND	ug/kg	57800	28900	5000		03/13/13 00:10	96-12-8	
Dibromochloromethane	ND	ug/kg	28900	14500	5000		03/13/13 00:10	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/kg	28900	14500	5000		03/13/13 00:10	106-93-4	
Dibromomethane	ND	ug/kg	28900	14500	5000		03/13/13 00:10	74-95-3	
1,2-Dichlorobenzene	ND	ug/kg	28900	14500	5000		03/13/13 00:10	95-50-1	
1,3-Dichlorobenzene	ND	ug/kg	28900	14500	5000		03/13/13 00:10	541-73-1	
1,4-Dichlorobenzene	ND	ug/kg	28900	14500	5000		03/13/13 00:10	106-46-7	
Dichlorodifluoromethane	ND	ug/kg	28900	14500	5000		03/13/13 00:10	75-71-8	
1,1-Dichloroethane	ND	ug/kg	28900	14500	5000		03/13/13 00:10	75-34-3	
1,2-Dichloroethane	ND	ug/kg	28900	14500	5000		03/13/13 00:10	107-06-2	
1,2-Dichloroethene (Total)	ND	ug/kg	28900	14500	5000		03/13/13 00:10	540-59-0	
1,1-Dichloroethene	ND	ug/kg	28900	14500	5000		03/13/13 00:10	75-35-4	
cis-1,2-Dichloroethene	ND	ug/kg	28900	14500	5000		03/13/13 00:10	156-59-2	
trans-1,2-Dichloroethene	ND	ug/kg	28900	14500	5000		03/13/13 00:10	156-60-5	
1,2-Dichloropropane	ND	ug/kg	28900	14500	5000		03/13/13 00:10	78-87-5	
1,3-Dichloropropane	ND	ug/kg	28900	14500	5000		03/13/13 00:10	142-28-9	
2,2-Dichloropropane	ND	ug/kg	28900	14500	5000		03/13/13 00:10	594-20-7	
1,1-Dichloropropene	ND	ug/kg	28900	14500	5000		03/13/13 00:10	563-58-6	
cis-1,3-Dichloropropene	ND	ug/kg	28900	14500	5000		03/13/13 00:10	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/kg	28900	14500	5000		03/13/13 00:10	10061-02-6	
Ethylbenzene	ND	ug/kg	28900	14500	5000		03/13/13 00:10	100-41-4	
Hexachloro-1,3-butadiene	ND	ug/kg	28900	14500	5000		03/13/13 00:10	87-68-3	
2-Hexanone	ND	ug/kg	116000	57800	5000		03/13/13 00:10	591-78-6	
Isopropylbenzene (Cumene)	ND	ug/kg	28900	14500	5000		03/13/13 00:10	98-82-8	
p-Isopropyltoluene	ND	ug/kg	28900	14500	5000		03/13/13 00:10	99-87-6	
Methylene chloride	ND	ug/kg	28900	14500	5000		03/13/13 00:10	75-09-2	

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ANALYTICAL RESULTS

Project: Big MO Soil Sampling

Pace Project No.: 60139568

Sample: **BM-022713-SB27-11.5-11.7** Lab ID: **60139568071** Collected: 02/27/13 09:50 Received: 03/01/13 03:10 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA									
Analytical Method: EPA 8260									
4-Methyl-2-pentanone (MIBK)	ND	ug/kg	57800	28900	5000		03/13/13 00:10	108-10-1	
Methyl-tert-butyl ether	ND	ug/kg	28900	14500	5000		03/13/13 00:10	1634-04-4	
Naphthalene	ND	ug/kg	57800	28900	5000		03/13/13 00:10	91-20-3	
n-Propylbenzene	ND	ug/kg	28900	14500	5000		03/13/13 00:10	103-65-1	
Styrene	ND	ug/kg	28900	14500	5000		03/13/13 00:10	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/kg	28900	14500	5000		03/13/13 00:10	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/kg	28900	14500	5000		03/13/13 00:10	79-34-5	
Tetrachloroethene	ND	ug/kg	28900	14500	5000		03/13/13 00:10	127-18-4	
Toluene	ND	ug/kg	28900	14500	5000		03/13/13 00:10	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/kg	28900	14500	5000		03/13/13 00:10	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/kg	28900	14500	5000		03/13/13 00:10	120-82-1	
1,1,1-Trichloroethane	ND	ug/kg	28900	14500	5000		03/13/13 00:10	71-55-6	
1,1,2-Trichloroethane	ND	ug/kg	28900	14500	5000		03/13/13 00:10	79-00-5	
Trichloroethene	ND	ug/kg	28900	14500	5000		03/13/13 00:10	79-01-6	
Trichlorofluoromethane	ND	ug/kg	28900	14500	5000		03/13/13 00:10	75-69-4	
1,2,3-Trichloropropane	ND	ug/kg	28900	14500	5000		03/13/13 00:10	96-18-4	
1,2,4-Trimethylbenzene	ND	ug/kg	28900	14500	5000		03/13/13 00:10	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/kg	28900	14500	5000		03/13/13 00:10	108-67-8	
Vinyl chloride	ND	ug/kg	28900	14500	5000		03/13/13 00:10	75-01-4	
Xylene (Total)	ND	ug/kg	28900	14500	5000		03/13/13 00:10	1330-20-7	
Surrogates									
Dibromofluoromethane (S)	105 %		76-125		5000		03/13/13 00:10	1868-53-7	
Toluene-d8 (S)	105 %		80-120		5000		03/13/13 00:10	2037-26-5	
4-Bromofluorobenzene (S)	99 %		80-120		5000		03/13/13 00:10	460-00-4	
1,2-Dichloroethane-d4 (S)	103 %		76-132		5000		03/13/13 00:10	17060-07-0	
Percent Moisture									
Analytical Method: ASTM D2974									
Percent Moisture	3.5 %		0.50	0.50	1		03/07/13 00:00		

ANALYTICAL RESULTS

Project: Big MO Soil Sampling

Pace Project No.: 60139568

Sample: BM-022713-SB27-10-10.5 Lab ID: 60139568072 Collected: 02/27/13 11:00 Received: 03/01/13 03:10 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA		Analytical Method: EPA 8260							
Acetone	ND	ug/kg	26000	13000	2000		03/13/13 00:25	67-64-1	
Benzene	55800	ug/kg	6490	3250	2000		03/13/13 00:25	71-43-2	
Bromobenzene	ND	ug/kg	6490	3250	2000		03/13/13 00:25	108-86-1	
Bromochloromethane	ND	ug/kg	6490	3250	2000		03/13/13 00:25	74-97-5	
Bromodichloromethane	ND	ug/kg	6490	3250	2000		03/13/13 00:25	75-27-4	
Bromoform	ND	ug/kg	6490	3250	2000		03/13/13 00:25	75-25-2	
Bromomethane	ND	ug/kg	6490	3250	2000		03/13/13 00:25	74-83-9	
2-Butanone (MEK)	ND	ug/kg	13000	6490	2000		03/13/13 00:25	78-93-3	
n-Butylbenzene	ND	ug/kg	6490	3250	2000		03/13/13 00:25	104-51-8	
sec-Butylbenzene	ND	ug/kg	6490	3250	2000		03/13/13 00:25	135-98-8	
tert-Butylbenzene	ND	ug/kg	6490	3250	2000		03/13/13 00:25	98-06-6	
Carbon disulfide	ND	ug/kg	6490	3250	2000		03/13/13 00:25	75-15-0	
Carbon tetrachloride	ND	ug/kg	6490	3250	2000		03/13/13 00:25	56-23-5	
Chlorobenzene	272000	ug/kg	6490	3250	2000		03/13/13 00:25	108-90-7	
Chloroethane	ND	ug/kg	6490	3250	2000		03/13/13 00:25	75-00-3	
Chloroform	ND	ug/kg	6490	3250	2000		03/13/13 00:25	67-66-3	
Chloromethane	ND	ug/kg	6490	3250	2000		03/13/13 00:25	74-87-3	
2-Chlorotoluene	3810J	ug/kg	6490	3250	2000		03/13/13 00:25	95-49-8	
4-Chlorotoluene	ND	ug/kg	6490	3250	2000		03/13/13 00:25	106-43-4	
1,2-Dibromo-3-chloropropane	ND	ug/kg	13000	6490	2000		03/13/13 00:25	96-12-8	
Dibromochloromethane	ND	ug/kg	6490	3250	2000		03/13/13 00:25	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/kg	6490	3250	2000		03/13/13 00:25	106-93-4	
Dibromomethane	ND	ug/kg	6490	3250	2000		03/13/13 00:25	74-95-3	
1,2-Dichlorobenzene	ND	ug/kg	6490	3250	2000		03/13/13 00:25	95-50-1	
1,3-Dichlorobenzene	ND	ug/kg	6490	3250	2000		03/13/13 00:25	541-73-1	
1,4-Dichlorobenzene	ND	ug/kg	6490	3250	2000		03/13/13 00:25	106-46-7	
Dichlorodifluoromethane	ND	ug/kg	6490	3250	2000		03/13/13 00:25	75-71-8	
1,1-Dichloroethane	ND	ug/kg	6490	3250	2000		03/13/13 00:25	75-34-3	
1,2-Dichloroethane	ND	ug/kg	6490	3250	2000		03/13/13 00:25	107-06-2	
1,2-Dichloroethene (Total)	ND	ug/kg	6490	3250	2000		03/13/13 00:25	540-59-0	
1,1-Dichloroethene	ND	ug/kg	6490	3250	2000		03/13/13 00:25	75-35-4	
cis-1,2-Dichloroethene	ND	ug/kg	6490	3250	2000		03/13/13 00:25	156-59-2	
trans-1,2-Dichloroethene	ND	ug/kg	6490	3250	2000		03/13/13 00:25	156-60-5	
1,2-Dichloropropane	ND	ug/kg	6490	3250	2000		03/13/13 00:25	78-87-5	
1,3-Dichloropropane	ND	ug/kg	6490	3250	2000		03/13/13 00:25	142-28-9	
2,2-Dichloropropane	ND	ug/kg	6490	3250	2000		03/13/13 00:25	594-20-7	
1,1-Dichloropropene	ND	ug/kg	6490	3250	2000		03/13/13 00:25	563-58-6	
cis-1,3-Dichloropropene	ND	ug/kg	6490	3250	2000		03/13/13 00:25	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/kg	6490	3250	2000		03/13/13 00:25	10061-02-6	
Ethylbenzene	ND	ug/kg	6490	3250	2000		03/13/13 00:25	100-41-4	
Hexachloro-1,3-butadiene	ND	ug/kg	6490	3250	2000		03/13/13 00:25	87-68-3	
2-Hexanone	ND	ug/kg	26000	13000	2000		03/13/13 00:25	591-78-6	
Isopropylbenzene (Cumene)	ND	ug/kg	6490	3250	2000		03/13/13 00:25	98-82-8	
p-Isopropyltoluene	ND	ug/kg	6490	3250	2000		03/13/13 00:25	99-87-6	
Methylene chloride	6100J	ug/kg	6490	3250	2000		03/13/13 00:25	75-09-2	

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ANALYTICAL RESULTS

Project: Big MO Soil Sampling

Pace Project No.: 60139568

Sample: BM-022713-SB27-10-10.5 **Lab ID: 60139568072** Collected: 02/27/13 11:00 Received: 03/01/13 03:10 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA									
Analytical Method: EPA 8260									
4-Methyl-2-pentanone (MIBK)	ND	ug/kg	13000	6490	2000		03/13/13 00:25	108-10-1	
Methyl-tert-butyl ether	ND	ug/kg	6490	3250	2000		03/13/13 00:25	1634-04-4	
Naphthalene	ND	ug/kg	13000	6490	2000		03/13/13 00:25	91-20-3	
n-Propylbenzene	ND	ug/kg	6490	3250	2000		03/13/13 00:25	103-65-1	
Styrene	ND	ug/kg	6490	3250	2000		03/13/13 00:25	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/kg	6490	3250	2000		03/13/13 00:25	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/kg	6490	3250	2000		03/13/13 00:25	79-34-5	
Tetrachloroethene	ND	ug/kg	6490	3250	2000		03/13/13 00:25	127-18-4	
Toluene	ND	ug/kg	6490	3250	2000		03/13/13 00:25	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/kg	6490	3250	2000		03/13/13 00:25	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/kg	6490	3250	2000		03/13/13 00:25	120-82-1	
1,1,1-Trichloroethane	ND	ug/kg	6490	3250	2000		03/13/13 00:25	71-55-6	
1,1,2-Trichloroethane	ND	ug/kg	6490	3250	2000		03/13/13 00:25	79-00-5	
Trichloroethene	ND	ug/kg	6490	3250	2000		03/13/13 00:25	79-01-6	
Trichlorofluoromethane	ND	ug/kg	6490	3250	2000		03/13/13 00:25	75-69-4	
1,2,3-Trichloropropane	ND	ug/kg	6490	3250	2000		03/13/13 00:25	96-18-4	
1,2,4-Trimethylbenzene	ND	ug/kg	6490	3250	2000		03/13/13 00:25	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/kg	6490	3250	2000		03/13/13 00:25	108-67-8	
Vinyl chloride	ND	ug/kg	6490	3250	2000		03/13/13 00:25	75-01-4	
Xylene (Total)	ND	ug/kg	6490	3250	2000		03/13/13 00:25	1330-20-7	
Surrogates									
Dibromofluoromethane (S)	105 %		76-125		2000		03/13/13 00:25	1868-53-7	
Toluene-d8 (S)	105 %		80-120		2000		03/13/13 00:25	2037-26-5	
4-Bromofluorobenzene (S)	99 %		80-120		2000		03/13/13 00:25	460-00-4	
1,2-Dichloroethane-d4 (S)	101 %		76-132		2000		03/13/13 00:25	17060-07-0	
Percent Moisture									
Analytical Method: ASTM D2974									
Percent Moisture	5.5 %		0.50	0.50	1		03/07/13 00:00		

ANALYTICAL RESULTS

Project: Big MO Soil Sampling

Pace Project No.: 60139568

Sample: BM-022713-SB28-8.6-8.8 Lab ID: 60139568073 Collected: 02/27/13 08:35 Received: 03/01/13 03:10 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA Analytical Method: EPA 8260									
Acetone	ND	ug/kg	240000	120000	20000		03/13/13 00:41	67-64-1	
Benzene	601000	ug/kg	60100	30000	20000		03/13/13 00:41	71-43-2	
Bromobenzene	ND	ug/kg	60100	30000	20000		03/13/13 00:41	108-86-1	
Bromochloromethane	ND	ug/kg	60100	30000	20000		03/13/13 00:41	74-97-5	
Bromodichloromethane	ND	ug/kg	60100	30000	20000		03/13/13 00:41	75-27-4	
Bromoform	ND	ug/kg	60100	30000	20000		03/13/13 00:41	75-25-2	
Bromomethane	ND	ug/kg	60100	30000	20000		03/13/13 00:41	74-83-9	
2-Butanone (MEK)	82800J	ug/kg	120000	60100	20000		03/13/13 00:41	78-93-3	
n-Butylbenzene	ND	ug/kg	60100	30000	20000		03/13/13 00:41	104-51-8	
sec-Butylbenzene	ND	ug/kg	60100	30000	20000		03/13/13 00:41	135-98-8	
tert-Butylbenzene	ND	ug/kg	60100	30000	20000		03/13/13 00:41	98-06-6	
Carbon disulfide	ND	ug/kg	60100	30000	20000		03/13/13 00:41	75-15-0	
Carbon tetrachloride	ND	ug/kg	60100	30000	20000		03/13/13 00:41	56-23-5	
Chlorobenzene	3890000	ug/kg	150000	75100	50000		03/13/13 13:18	108-90-7	
Chloroethane	ND	ug/kg	60100	30000	20000		03/13/13 00:41	75-00-3	
Chloroform	ND	ug/kg	60100	30000	20000		03/13/13 00:41	67-66-3	
Chloromethane	ND	ug/kg	60100	30000	20000		03/13/13 00:41	74-87-3	
2-Chlorotoluene	ND	ug/kg	60100	30000	20000		03/13/13 00:41	95-49-8	
4-Chlorotoluene	ND	ug/kg	60100	30000	20000		03/13/13 00:41	106-43-4	
1,2-Dibromo-3-chloropropane	ND	ug/kg	120000	60100	20000		03/13/13 00:41	96-12-8	
Dibromochloromethane	ND	ug/kg	60100	30000	20000		03/13/13 00:41	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/kg	60100	30000	20000		03/13/13 00:41	106-93-4	
Dibromomethane	ND	ug/kg	60100	30000	20000		03/13/13 00:41	74-95-3	
1,2-Dichlorobenzene	ND	ug/kg	60100	30000	20000		03/13/13 00:41	95-50-1	
1,3-Dichlorobenzene	ND	ug/kg	60100	30000	20000		03/13/13 00:41	541-73-1	
1,4-Dichlorobenzene	ND	ug/kg	60100	30000	20000		03/13/13 00:41	106-46-7	
Dichlorodifluoromethane	ND	ug/kg	60100	30000	20000		03/13/13 00:41	75-71-8	
1,1-Dichloroethane	ND	ug/kg	60100	30000	20000		03/13/13 00:41	75-34-3	
1,2-Dichloroethane	ND	ug/kg	60100	30000	20000		03/13/13 00:41	107-06-2	
1,2-Dichloroethene (Total)	ND	ug/kg	60100	30000	20000		03/13/13 00:41	540-59-0	
1,1-Dichloroethene	ND	ug/kg	60100	30000	20000		03/13/13 00:41	75-35-4	
cis-1,2-Dichloroethene	ND	ug/kg	60100	30000	20000		03/13/13 00:41	156-59-2	
trans-1,2-Dichloroethene	ND	ug/kg	60100	30000	20000		03/13/13 00:41	156-60-5	
1,2-Dichloropropane	ND	ug/kg	60100	30000	20000		03/13/13 00:41	78-87-5	
1,3-Dichloropropane	ND	ug/kg	60100	30000	20000		03/13/13 00:41	142-28-9	
2,2-Dichloropropane	ND	ug/kg	60100	30000	20000		03/13/13 00:41	594-20-7	
1,1-Dichloropropene	ND	ug/kg	60100	30000	20000		03/13/13 00:41	563-58-6	
cis-1,3-Dichloropropene	ND	ug/kg	60100	30000	20000		03/13/13 00:41	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/kg	60100	30000	20000		03/13/13 00:41	10061-02-6	
Ethylbenzene	ND	ug/kg	60100	30000	20000		03/13/13 00:41	100-41-4	
Hexachloro-1,3-butadiene	ND	ug/kg	60100	30000	20000		03/13/13 00:41	87-68-3	
2-Hexanone	ND	ug/kg	240000	120000	20000		03/13/13 00:41	591-78-6	
Isopropylbenzene (Cumene)	ND	ug/kg	60100	30000	20000		03/13/13 00:41	98-82-8	
p-Isopropyltoluene	ND	ug/kg	60100	30000	20000		03/13/13 00:41	99-87-6	
Methylene chloride	61900	ug/kg	60100	30000	20000		03/13/13 00:41	75-09-2	

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ANALYTICAL RESULTS

Project: Big MO Soil Sampling

Pace Project No.: 60139568

Sample: BM-022713-SB28-8.6-8.8 **Lab ID: 60139568073** Collected: 02/27/13 08:35 Received: 03/01/13 03:10 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA									
Analytical Method: EPA 8260									
4-Methyl-2-pentanone (MIBK)	ND	ug/kg	120000	60100	20000		03/13/13 00:41	108-10-1	
Methyl-tert-butyl ether	ND	ug/kg	60100	30000	20000		03/13/13 00:41	1634-04-4	
Naphthalene	ND	ug/kg	120000	60100	20000		03/13/13 00:41	91-20-3	
n-Propylbenzene	ND	ug/kg	60100	30000	20000		03/13/13 00:41	103-65-1	
Styrene	ND	ug/kg	60100	30000	20000		03/13/13 00:41	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/kg	60100	30000	20000		03/13/13 00:41	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/kg	60100	30000	20000		03/13/13 00:41	79-34-5	
Tetrachloroethene	ND	ug/kg	60100	30000	20000		03/13/13 00:41	127-18-4	
Toluene	ND	ug/kg	60100	30000	20000		03/13/13 00:41	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/kg	60100	30000	20000		03/13/13 00:41	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/kg	60100	30000	20000		03/13/13 00:41	120-82-1	
1,1,1-Trichloroethane	ND	ug/kg	60100	30000	20000		03/13/13 00:41	71-55-6	
1,1,2-Trichloroethane	ND	ug/kg	60100	30000	20000		03/13/13 00:41	79-00-5	
Trichloroethene	ND	ug/kg	60100	30000	20000		03/13/13 00:41	79-01-6	
Trichlorofluoromethane	ND	ug/kg	60100	30000	20000		03/13/13 00:41	75-69-4	
1,2,3-Trichloropropane	ND	ug/kg	60100	30000	20000		03/13/13 00:41	96-18-4	
1,2,4-Trimethylbenzene	ND	ug/kg	60100	30000	20000		03/13/13 00:41	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/kg	60100	30000	20000		03/13/13 00:41	108-67-8	
Vinyl chloride	ND	ug/kg	60100	30000	20000		03/13/13 00:41	75-01-4	
Xylene (Total)	ND	ug/kg	60100	30000	20000		03/13/13 00:41	1330-20-7	
Surrogates									
Dibromofluoromethane (S)	105 %		76-125		20000		03/13/13 00:41	1868-53-7	
Toluene-d8 (S)	106 %		80-120		20000		03/13/13 00:41	2037-26-5	
4-Bromofluorobenzene (S)	99 %		80-120		20000		03/13/13 00:41	460-00-4	
1,2-Dichloroethane-d4 (S)	103 %		76-132		20000		03/13/13 00:41	17060-07-0	
Percent Moisture									
Analytical Method: ASTM D2974									
Percent Moisture	13.2 %		0.50	0.50	1		03/07/13 00:00		

ANALYTICAL RESULTS

Project: Big MO Soil Sampling

Pace Project No.: 60139568

Sample: BM-022713-SB28-11.1-11.3 Lab ID: 60139568074 Collected: 02/27/13 08:45 Received: 03/01/13 03:10 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA									
Analytical Method: EPA 8260									
Acetone	ND	ug/kg	13700	6850	1000		03/13/13 00:56	67-64-1	
Benzene	3000J	ug/kg	3420	1710	1000		03/13/13 00:56	71-43-2	
Bromobenzene	ND	ug/kg	3420	1710	1000		03/13/13 00:56	108-86-1	
Bromochloromethane	ND	ug/kg	3420	1710	1000		03/13/13 00:56	74-97-5	
Bromodichloromethane	ND	ug/kg	3420	1710	1000		03/13/13 00:56	75-27-4	
Bromoform	ND	ug/kg	3420	1710	1000		03/13/13 00:56	75-25-2	
Bromomethane	ND	ug/kg	3420	1710	1000		03/13/13 00:56	74-83-9	
2-Butanone (MEK)	ND	ug/kg	6850	3420	1000		03/13/13 00:56	78-93-3	
n-Butylbenzene	ND	ug/kg	3420	1710	1000		03/13/13 00:56	104-51-8	
sec-Butylbenzene	ND	ug/kg	3420	1710	1000		03/13/13 00:56	135-98-8	
tert-Butylbenzene	ND	ug/kg	3420	1710	1000		03/13/13 00:56	98-06-6	
Carbon disulfide	ND	ug/kg	3420	1710	1000		03/13/13 00:56	75-15-0	
Carbon tetrachloride	ND	ug/kg	3420	1710	1000		03/13/13 00:56	56-23-5	
Chlorobenzene	172000	ug/kg	3420	1710	1000		03/13/13 00:56	108-90-7	
Chloroethane	ND	ug/kg	3420	1710	1000		03/13/13 00:56	75-00-3	
Chloroform	ND	ug/kg	3420	1710	1000		03/13/13 00:56	67-66-3	
Chloromethane	ND	ug/kg	3420	1710	1000		03/13/13 00:56	74-87-3	
2-Chlorotoluene	ND	ug/kg	3420	1710	1000		03/13/13 00:56	95-49-8	
4-Chlorotoluene	ND	ug/kg	3420	1710	1000		03/13/13 00:56	106-43-4	
1,2-Dibromo-3-chloropropane	ND	ug/kg	6850	3420	1000		03/13/13 00:56	96-12-8	
Dibromochloromethane	ND	ug/kg	3420	1710	1000		03/13/13 00:56	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/kg	3420	1710	1000		03/13/13 00:56	106-93-4	
Dibromomethane	ND	ug/kg	3420	1710	1000		03/13/13 00:56	74-95-3	
1,2-Dichlorobenzene	ND	ug/kg	3420	1710	1000		03/13/13 00:56	95-50-1	
1,3-Dichlorobenzene	ND	ug/kg	3420	1710	1000		03/13/13 00:56	541-73-1	
1,4-Dichlorobenzene	ND	ug/kg	3420	1710	1000		03/13/13 00:56	106-46-7	
Dichlorodifluoromethane	ND	ug/kg	3420	1710	1000		03/13/13 00:56	75-71-8	
1,1-Dichloroethane	ND	ug/kg	3420	1710	1000		03/13/13 00:56	75-34-3	
1,2-Dichloroethane	ND	ug/kg	3420	1710	1000		03/13/13 00:56	107-06-2	
1,2-Dichloroethene (Total)	ND	ug/kg	3420	1710	1000		03/13/13 00:56	540-59-0	
1,1-Dichloroethene	ND	ug/kg	3420	1710	1000		03/13/13 00:56	75-35-4	
cis-1,2-Dichloroethene	ND	ug/kg	3420	1710	1000		03/13/13 00:56	156-59-2	
trans-1,2-Dichloroethene	ND	ug/kg	3420	1710	1000		03/13/13 00:56	156-60-5	
1,2-Dichloropropane	ND	ug/kg	3420	1710	1000		03/13/13 00:56	78-87-5	
1,3-Dichloropropane	ND	ug/kg	3420	1710	1000		03/13/13 00:56	142-28-9	
2,2-Dichloropropane	ND	ug/kg	3420	1710	1000		03/13/13 00:56	594-20-7	
1,1-Dichloropropene	ND	ug/kg	3420	1710	1000		03/13/13 00:56	563-58-6	
cis-1,3-Dichloropropene	ND	ug/kg	3420	1710	1000		03/13/13 00:56	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/kg	3420	1710	1000		03/13/13 00:56	10061-02-6	
Ethylbenzene	ND	ug/kg	3420	1710	1000		03/13/13 00:56	100-41-4	
Hexachloro-1,3-butadiene	ND	ug/kg	3420	1710	1000		03/13/13 00:56	87-68-3	
2-Hexanone	ND	ug/kg	13700	6850	1000		03/13/13 00:56	591-78-6	
Isopropylbenzene (Cumene)	ND	ug/kg	3420	1710	1000		03/13/13 00:56	98-82-8	
p-Isopropyltoluene	ND	ug/kg	3420	1710	1000		03/13/13 00:56	99-87-6	
Methylene chloride	2950J	ug/kg	3420	1710	1000		03/13/13 00:56	75-09-2	

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ANALYTICAL RESULTS

Project: Big MO Soil Sampling

Pace Project No.: 60139568

Sample: BM-022713-SB28-11.1-11.3 **Lab ID:** 60139568074 **Collected:** 02/27/13 08:45 **Received:** 03/01/13 03:10 **Matrix:** Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA									
Analytical Method: EPA 8260									
4-Methyl-2-pentanone (MIBK)	ND	ug/kg	6850	3420	1000		03/13/13 00:56	108-10-1	
Methyl-tert-butyl ether	ND	ug/kg	3420	1710	1000		03/13/13 00:56	1634-04-4	
Naphthalene	ND	ug/kg	6850	3420	1000		03/13/13 00:56	91-20-3	
n-Propylbenzene	ND	ug/kg	3420	1710	1000		03/13/13 00:56	103-65-1	
Styrene	ND	ug/kg	3420	1710	1000		03/13/13 00:56	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/kg	3420	1710	1000		03/13/13 00:56	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/kg	3420	1710	1000		03/13/13 00:56	79-34-5	
Tetrachloroethene	ND	ug/kg	3420	1710	1000		03/13/13 00:56	127-18-4	
Toluene	ND	ug/kg	3420	1710	1000		03/13/13 00:56	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/kg	3420	1710	1000		03/13/13 00:56	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/kg	3420	1710	1000		03/13/13 00:56	120-82-1	
1,1,1-Trichloroethane	ND	ug/kg	3420	1710	1000		03/13/13 00:56	71-55-6	
1,1,2-Trichloroethane	ND	ug/kg	3420	1710	1000		03/13/13 00:56	79-00-5	
Trichloroethene	ND	ug/kg	3420	1710	1000		03/13/13 00:56	79-01-6	
Trichlorofluoromethane	ND	ug/kg	3420	1710	1000		03/13/13 00:56	75-69-4	
1,2,3-Trichloropropane	ND	ug/kg	3420	1710	1000		03/13/13 00:56	96-18-4	
1,2,4-Trimethylbenzene	ND	ug/kg	3420	1710	1000		03/13/13 00:56	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/kg	3420	1710	1000		03/13/13 00:56	108-67-8	
Vinyl chloride	ND	ug/kg	3420	1710	1000		03/13/13 00:56	75-01-4	
Xylene (Total)	ND	ug/kg	3420	1710	1000		03/13/13 00:56	1330-20-7	
Surrogates									
Dibromofluoromethane (S)	107	%	76-125		1000		03/13/13 00:56	1868-53-7	
Toluene-d8 (S)	107	%	80-120		1000		03/13/13 00:56	2037-26-5	
4-Bromofluorobenzene (S)	101	%	80-120		1000		03/13/13 00:56	460-00-4	
1,2-Dichloroethane-d4 (S)	103	%	76-132		1000		03/13/13 00:56	17060-07-0	
Percent Moisture									
Analytical Method: ASTM D2974									
Percent Moisture	2.9	%	0.50	0.50	1		03/07/13 00:00		

ANALYTICAL RESULTS

Project: Big MO Soil Sampling

Pace Project No.: 60139568

Sample: **BM-022713-SB28-13-13.2** Lab ID: **60139568075** Collected: 02/27/13 08:55 Received: 03/01/13 03:10 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA		Analytical Method: EPA 8260							
Acetone	ND	ug/kg	25300	12600	2000		03/13/13 14:20	67-64-1	
Benzene	ND	ug/kg	6320	3160	2000		03/13/13 14:20	71-43-2	
Bromobenzene	ND	ug/kg	6320	3160	2000		03/13/13 14:20	108-86-1	
Bromochloromethane	ND	ug/kg	6320	3160	2000		03/13/13 14:20	74-97-5	
Bromodichloromethane	ND	ug/kg	6320	3160	2000		03/13/13 14:20	75-27-4	
Bromoform	ND	ug/kg	6320	3160	2000		03/13/13 14:20	75-25-2	
Bromomethane	ND	ug/kg	6320	3160	2000		03/13/13 14:20	74-83-9	
2-Butanone (MEK)	6730J	ug/kg	12600	6320	2000		03/13/13 14:20	78-93-3	
n-Butylbenzene	ND	ug/kg	6320	3160	2000		03/13/13 14:20	104-51-8	
sec-Butylbenzene	ND	ug/kg	6320	3160	2000		03/13/13 14:20	135-98-8	
tert-Butylbenzene	ND	ug/kg	6320	3160	2000		03/13/13 14:20	98-06-6	
Carbon disulfide	ND	ug/kg	6320	3160	2000		03/13/13 14:20	75-15-0	
Carbon tetrachloride	ND	ug/kg	6320	3160	2000		03/13/13 14:20	56-23-5	
Chlorobenzene	560000	ug/kg	22300	11100	5000		03/13/13 17:25	108-90-7	
Chloroethane	ND	ug/kg	6320	3160	2000		03/13/13 14:20	75-00-3	
Chloroform	ND	ug/kg	6320	3160	2000		03/13/13 14:20	67-66-3	
Chloromethane	ND	ug/kg	6320	3160	2000		03/13/13 14:20	74-87-3	
2-Chlorotoluene	ND	ug/kg	6320	3160	2000		03/13/13 14:20	95-49-8	
4-Chlorotoluene	ND	ug/kg	6320	3160	2000		03/13/13 14:20	106-43-4	
1,2-Dibromo-3-chloropropane	ND	ug/kg	12600	6320	2000		03/13/13 14:20	96-12-8	
Dibromochloromethane	ND	ug/kg	6320	3160	2000		03/13/13 14:20	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/kg	6320	3160	2000		03/13/13 14:20	106-93-4	
Dibromomethane	ND	ug/kg	6320	3160	2000		03/13/13 14:20	74-95-3	
1,2-Dichlorobenzene	ND	ug/kg	6320	3160	2000		03/13/13 14:20	95-50-1	
1,3-Dichlorobenzene	ND	ug/kg	6320	3160	2000		03/13/13 14:20	541-73-1	
1,4-Dichlorobenzene	ND	ug/kg	6320	3160	2000		03/13/13 14:20	106-46-7	
Dichlorodifluoromethane	ND	ug/kg	6320	3160	2000		03/13/13 14:20	75-71-8	
1,1-Dichloroethane	ND	ug/kg	6320	3160	2000		03/13/13 14:20	75-34-3	
1,2-Dichloroethane	ND	ug/kg	6320	3160	2000		03/13/13 14:20	107-06-2	
1,2-Dichloroethene (Total)	ND	ug/kg	6320	3160	2000		03/13/13 14:20	540-59-0	
1,1-Dichloroethene	ND	ug/kg	6320	3160	2000		03/13/13 14:20	75-35-4	
cis-1,2-Dichloroethene	ND	ug/kg	6320	3160	2000		03/13/13 14:20	156-59-2	
trans-1,2-Dichloroethene	ND	ug/kg	6320	3160	2000		03/13/13 14:20	156-60-5	
1,2-Dichloropropane	ND	ug/kg	6320	3160	2000		03/13/13 14:20	78-87-5	
1,3-Dichloropropane	ND	ug/kg	6320	3160	2000		03/13/13 14:20	142-28-9	
2,2-Dichloropropane	ND	ug/kg	6320	3160	2000		03/13/13 14:20	594-20-7	
1,1-Dichloropropene	ND	ug/kg	6320	3160	2000		03/13/13 14:20	563-58-6	
cis-1,3-Dichloropropene	ND	ug/kg	6320	3160	2000		03/13/13 14:20	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/kg	6320	3160	2000		03/13/13 14:20	10061-02-6	
Ethylbenzene	ND	ug/kg	6320	3160	2000		03/13/13 14:20	100-41-4	
Hexachloro-1,3-butadiene	ND	ug/kg	6320	3160	2000		03/13/13 14:20	87-68-3	
2-Hexanone	ND	ug/kg	25300	12600	2000		03/13/13 14:20	591-78-6	
Isopropylbenzene (Cumene)	ND	ug/kg	6320	3160	2000		03/13/13 14:20	98-82-8	
p-Isopropyltoluene	ND	ug/kg	6320	3160	2000		03/13/13 14:20	99-87-6	
Methylene chloride	5280J	ug/kg	6320	3160	2000		03/13/13 14:20	75-09-2	B

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ANALYTICAL RESULTS

Project: Big MO Soil Sampling

Pace Project No.: 60139568

Sample: BM-022713-SB28-13-13.2 **Lab ID: 60139568075** Collected: 02/27/13 08:55 Received: 03/01/13 03:10 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA Analytical Method: EPA 8260									
4-Methyl-2-pentanone (MIBK)	ND	ug/kg	12600	6320	2000		03/13/13 14:20	108-10-1	
Methyl-tert-butyl ether	ND	ug/kg	6320	3160	2000		03/13/13 14:20	1634-04-4	
Naphthalene	ND	ug/kg	12600	6320	2000		03/13/13 14:20	91-20-3	
n-Propylbenzene	ND	ug/kg	6320	3160	2000		03/13/13 14:20	103-65-1	
Styrene	ND	ug/kg	6320	3160	2000		03/13/13 14:20	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/kg	6320	3160	2000		03/13/13 14:20	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/kg	6320	3160	2000		03/13/13 14:20	79-34-5	
Tetrachloroethene	ND	ug/kg	6320	3160	2000		03/13/13 14:20	127-18-4	
Toluene	ND	ug/kg	6320	3160	2000		03/13/13 14:20	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/kg	6320	3160	2000		03/13/13 14:20	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/kg	6320	3160	2000		03/13/13 14:20	120-82-1	
1,1,1-Trichloroethane	ND	ug/kg	6320	3160	2000		03/13/13 14:20	71-55-6	
1,1,2-Trichloroethane	ND	ug/kg	6320	3160	2000		03/13/13 14:20	79-00-5	
Trichloroethene	ND	ug/kg	6320	3160	2000		03/13/13 14:20	79-01-6	
Trichlorofluoromethane	ND	ug/kg	6320	3160	2000		03/13/13 14:20	75-69-4	
1,2,3-Trichloropropane	ND	ug/kg	6320	3160	2000		03/13/13 14:20	96-18-4	
1,2,4-Trimethylbenzene	ND	ug/kg	6320	3160	2000		03/13/13 14:20	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/kg	6320	3160	2000		03/13/13 14:20	108-67-8	
Vinyl chloride	ND	ug/kg	6320	3160	2000		03/13/13 14:20	75-01-4	
Xylene (Total)	ND	ug/kg	6320	3160	2000		03/13/13 14:20	1330-20-7	
Surrogates									
Dibromofluoromethane (S)	96 %		76-125		2000		03/13/13 14:20	1868-53-7	
Toluene-d8 (S)	99 %		80-120		2000		03/13/13 14:20	2037-26-5	
4-Bromofluorobenzene (S)	99 %		80-120		2000		03/13/13 14:20	460-00-4	
1,2-Dichloroethane-d4 (S)	100 %		76-132		2000		03/13/13 14:20	17060-07-0	
Percent Moisture Analytical Method: ASTM D2974									
Percent Moisture	3.6 %		0.50	0.50	1		03/07/13 00:00		

ANALYTICAL RESULTS

Project: Big MO Soil Sampling

Pace Project No.: 60139568

Sample: BM-022713-SB28-12.5-13 Lab ID: 60139568076 Collected: 02/27/13 09:25 Received: 03/01/13 03:10 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA		Analytical Method: EPA 8260							
Acetone	ND	ug/kg	10100	5030	500		03/13/13 14:35	67-64-1	
Benzene	3180	ug/kg	2520	1260	500		03/13/13 14:35	71-43-2	
Bromobenzene	ND	ug/kg	2520	1260	500		03/13/13 14:35	108-86-1	
Bromochloromethane	ND	ug/kg	2520	1260	500		03/13/13 14:35	74-97-5	
Bromodichloromethane	ND	ug/kg	2520	1260	500		03/13/13 14:35	75-27-4	
Bromoform	ND	ug/kg	2520	1260	500		03/13/13 14:35	75-25-2	
Bromomethane	ND	ug/kg	2520	1260	500		03/13/13 14:35	74-83-9	
2-Butanone (MEK)	ND	ug/kg	5030	2520	500		03/13/13 14:35	78-93-3	
n-Butylbenzene	ND	ug/kg	2520	1260	500		03/13/13 14:35	104-51-8	
sec-Butylbenzene	ND	ug/kg	2520	1260	500		03/13/13 14:35	135-98-8	
tert-Butylbenzene	ND	ug/kg	2520	1260	500		03/13/13 14:35	98-06-6	
Carbon disulfide	ND	ug/kg	2520	1260	500		03/13/13 14:35	75-15-0	
Carbon tetrachloride	ND	ug/kg	2520	1260	500		03/13/13 14:35	56-23-5	
Chlorobenzene	211000	ug/kg	10100	5030	2000		03/13/13 17:40	108-90-7	
Chloroethane	ND	ug/kg	2520	1260	500		03/13/13 14:35	75-00-3	
Chloroform	ND	ug/kg	2520	1260	500		03/13/13 14:35	67-66-3	
Chloromethane	ND	ug/kg	2520	1260	500		03/13/13 14:35	74-87-3	
2-Chlorotoluene	ND	ug/kg	2520	1260	500		03/13/13 14:35	95-49-8	
4-Chlorotoluene	ND	ug/kg	2520	1260	500		03/13/13 14:35	106-43-4	
1,2-Dibromo-3-chloropropane	ND	ug/kg	5030	2520	500		03/13/13 14:35	96-12-8	
Dibromochloromethane	ND	ug/kg	2520	1260	500		03/13/13 14:35	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/kg	2520	1260	500		03/13/13 14:35	106-93-4	
Dibromomethane	ND	ug/kg	2520	1260	500		03/13/13 14:35	74-95-3	
1,2-Dichlorobenzene	ND	ug/kg	2520	1260	500		03/13/13 14:35	95-50-1	
1,3-Dichlorobenzene	ND	ug/kg	2520	1260	500		03/13/13 14:35	541-73-1	
1,4-Dichlorobenzene	ND	ug/kg	2520	1260	500		03/13/13 14:35	106-46-7	
Dichlorodifluoromethane	ND	ug/kg	2520	1260	500		03/13/13 14:35	75-71-8	
1,1-Dichloroethane	ND	ug/kg	2520	1260	500		03/13/13 14:35	75-34-3	
1,2-Dichloroethane	ND	ug/kg	2520	1260	500		03/13/13 14:35	107-06-2	
1,2-Dichloroethene (Total)	ND	ug/kg	2520	1260	500		03/13/13 14:35	540-59-0	
1,1-Dichloroethene	ND	ug/kg	2520	1260	500		03/13/13 14:35	75-35-4	
cis-1,2-Dichloroethene	ND	ug/kg	2520	1260	500		03/13/13 14:35	156-59-2	
trans-1,2-Dichloroethene	ND	ug/kg	2520	1260	500		03/13/13 14:35	156-60-5	
1,2-Dichloropropane	ND	ug/kg	2520	1260	500		03/13/13 14:35	78-87-5	
1,3-Dichloropropane	ND	ug/kg	2520	1260	500		03/13/13 14:35	142-28-9	
2,2-Dichloropropane	ND	ug/kg	2520	1260	500		03/13/13 14:35	594-20-7	
1,1-Dichloropropene	ND	ug/kg	2520	1260	500		03/13/13 14:35	563-58-6	
cis-1,3-Dichloropropene	ND	ug/kg	2520	1260	500		03/13/13 14:35	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/kg	2520	1260	500		03/13/13 14:35	10061-02-6	
Ethylbenzene	ND	ug/kg	2520	1260	500		03/13/13 14:35	100-41-4	
Hexachloro-1,3-butadiene	ND	ug/kg	2520	1260	500		03/13/13 14:35	87-68-3	
2-Hexanone	ND	ug/kg	10100	5030	500		03/13/13 14:35	591-78-6	
Isopropylbenzene (Cumene)	ND	ug/kg	2520	1260	500		03/13/13 14:35	98-82-8	
p-Isopropyltoluene	ND	ug/kg	2520	1260	500		03/13/13 14:35	99-87-6	
Methylene chloride	1920J	ug/kg	2520	1260	500		03/13/13 14:35	75-09-2	B

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ANALYTICAL RESULTS

Project: Big MO Soil Sampling

Pace Project No.: 60139568

Sample: **BM-022713-SB28-12.5-13** Lab ID: **60139568076** Collected: 02/27/13 09:25 Received: 03/01/13 03:10 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA									
Analytical Method: EPA 8260									
4-Methyl-2-pentanone (MIBK)	ND	ug/kg	5030	2520	500		03/13/13 14:35	108-10-1	
Methyl-tert-butyl ether	ND	ug/kg	2520	1260	500		03/13/13 14:35	1634-04-4	
Naphthalene	ND	ug/kg	5030	2520	500		03/13/13 14:35	91-20-3	
n-Propylbenzene	ND	ug/kg	2520	1260	500		03/13/13 14:35	103-65-1	
Styrene	ND	ug/kg	2520	1260	500		03/13/13 14:35	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/kg	2520	1260	500		03/13/13 14:35	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/kg	2520	1260	500		03/13/13 14:35	79-34-5	
Tetrachloroethene	ND	ug/kg	2520	1260	500		03/13/13 14:35	127-18-4	
Toluene	ND	ug/kg	2520	1260	500		03/13/13 14:35	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/kg	2520	1260	500		03/13/13 14:35	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/kg	2520	1260	500		03/13/13 14:35	120-82-1	
1,1,1-Trichloroethane	ND	ug/kg	2520	1260	500		03/13/13 14:35	71-55-6	
1,1,2-Trichloroethane	ND	ug/kg	2520	1260	500		03/13/13 14:35	79-00-5	
Trichloroethene	ND	ug/kg	2520	1260	500		03/13/13 14:35	79-01-6	
Trichlorofluoromethane	ND	ug/kg	2520	1260	500		03/13/13 14:35	75-69-4	
1,2,3-Trichloropropane	ND	ug/kg	2520	1260	500		03/13/13 14:35	96-18-4	
1,2,4-Trimethylbenzene	ND	ug/kg	2520	1260	500		03/13/13 14:35	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/kg	2520	1260	500		03/13/13 14:35	108-67-8	
Vinyl chloride	ND	ug/kg	2520	1260	500		03/13/13 14:35	75-01-4	
Xylene (Total)	ND	ug/kg	2520	1260	500		03/13/13 14:35	1330-20-7	
Surrogates									
Dibromofluoromethane (S)	97 %		76-125		500		03/13/13 14:35	1868-53-7	
Toluene-d8 (S)	100 %		80-120		500		03/13/13 14:35	2037-26-5	
4-Bromofluorobenzene (S)	98 %		80-120		500		03/13/13 14:35	460-00-4	
1,2-Dichloroethane-d4 (S)	97 %		76-132		500		03/13/13 14:35	17060-07-0	
Percent Moisture									
Analytical Method: ASTM D2974									
Percent Moisture	2.4 %		0.50	0.50	1		03/07/13 00:00		

ANALYTICAL RESULTS

Project: Big MO Soil Sampling

Pace Project No.: 60139568

Sample: **BM-022613-SB37-14.2-14.4** Lab ID: **60139568077** Collected: 02/26/13 13:10 Received: 03/01/13 03:10 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA		Analytical Method: EPA 8260							
Acetone	ND	ug/kg	7440	3720	500		03/10/13 12:37	67-64-1	
Benzene	67500	ug/kg	1860	930	500		03/10/13 12:37	71-43-2	
Bromobenzene	ND	ug/kg	1860	930	500		03/10/13 12:37	108-86-1	
Bromochloromethane	ND	ug/kg	1860	930	500		03/10/13 12:37	74-97-5	
Bromodichloromethane	ND	ug/kg	1860	930	500		03/10/13 12:37	75-27-4	
Bromoform	ND	ug/kg	1860	930	500		03/10/13 12:37	75-25-2	
Bromomethane	ND	ug/kg	1860	930	500		03/10/13 12:37	74-83-9	
2-Butanone (MEK)	ND	ug/kg	3720	1860	500		03/10/13 12:37	78-93-3	
n-Butylbenzene	4370	ug/kg	1860	930	500		03/10/13 12:37	104-51-8	
sec-Butylbenzene	7760	ug/kg	1860	930	500		03/10/13 12:37	135-98-8	
tert-Butylbenzene	1240J	ug/kg	1860	930	500		03/10/13 12:37	98-06-6	
Carbon disulfide	ND	ug/kg	1860	930	500		03/10/13 12:37	75-15-0	
Carbon tetrachloride	ND	ug/kg	1860	930	500		03/10/13 12:37	56-23-5	
Chlorobenzene	ND	ug/kg	1860	930	500		03/10/13 12:37	108-90-7	
Chloroethane	ND	ug/kg	1860	930	500		03/10/13 12:37	75-00-3	
Chloroform	ND	ug/kg	1860	930	500		03/10/13 12:37	67-66-3	
Chloromethane	ND	ug/kg	1860	930	500		03/10/13 12:37	74-87-3	
2-Chlorotoluene	ND	ug/kg	1860	930	500		03/10/13 12:37	95-49-8	
4-Chlorotoluene	ND	ug/kg	1860	930	500		03/10/13 12:37	106-43-4	
1,2-Dibromo-3-chloropropane	ND	ug/kg	3720	1860	500		03/10/13 12:37	96-12-8	
Dibromochloromethane	ND	ug/kg	1860	930	500		03/10/13 12:37	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/kg	1860	930	500		03/10/13 12:37	106-93-4	
Dibromomethane	ND	ug/kg	1860	930	500		03/10/13 12:37	74-95-3	
1,2-Dichlorobenzene	ND	ug/kg	1860	930	500		03/10/13 12:37	95-50-1	
1,3-Dichlorobenzene	ND	ug/kg	1860	930	500		03/10/13 12:37	541-73-1	
1,4-Dichlorobenzene	ND	ug/kg	1860	930	500		03/10/13 12:37	106-46-7	
Dichlorodifluoromethane	ND	ug/kg	1860	930	500		03/10/13 12:37	75-71-8	
1,1-Dichloroethane	ND	ug/kg	1860	930	500		03/10/13 12:37	75-34-3	
1,2-Dichloroethane	ND	ug/kg	1860	930	500		03/10/13 12:37	107-06-2	
1,2-Dichloroethene (Total)	ND	ug/kg	1860	930	500		03/10/13 12:37	540-59-0	
1,1-Dichloroethene	ND	ug/kg	1860	930	500		03/10/13 12:37	75-35-4	
cis-1,2-Dichloroethene	ND	ug/kg	1860	930	500		03/10/13 12:37	156-59-2	
trans-1,2-Dichloroethene	ND	ug/kg	1860	930	500		03/10/13 12:37	156-60-5	
1,2-Dichloropropane	ND	ug/kg	1860	930	500		03/10/13 12:37	78-87-5	
1,3-Dichloropropane	ND	ug/kg	1860	930	500		03/10/13 12:37	142-28-9	
2,2-Dichloropropane	ND	ug/kg	1860	930	500		03/10/13 12:37	594-20-7	
1,1-Dichloropropene	ND	ug/kg	1860	930	500		03/10/13 12:37	563-58-6	
cis-1,3-Dichloropropene	ND	ug/kg	1860	930	500		03/10/13 12:37	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/kg	1860	930	500		03/10/13 12:37	10061-02-6	
Ethylbenzene	ND	ug/kg	1860	930	500		03/10/13 12:37	100-41-4	
Hexachloro-1,3-butadiene	ND	ug/kg	1860	930	500		03/10/13 12:37	87-68-3	
2-Hexanone	ND	ug/kg	7440	3720	500		03/10/13 12:37	591-78-6	
Isopropylbenzene (Cumene)	9930	ug/kg	1860	930	500		03/10/13 12:37	98-82-8	
p-Isopropyltoluene	4280	ug/kg	1860	930	500		03/10/13 12:37	99-87-6	
Methylene chloride	ND	ug/kg	1860	930	500		03/10/13 12:37	75-09-2	

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ANALYTICAL RESULTS

Project: Big MO Soil Sampling

Pace Project No.: 60139568

Sample: **BM-022613-SB37-14.2-14.4** Lab ID: **60139568077** Collected: 02/26/13 13:10 Received: 03/01/13 03:10 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA									
Analytical Method: EPA 8260									
4-Methyl-2-pentanone (MIBK)	ND	ug/kg	3720	1860	500		03/10/13 12:37	108-10-1	
Methyl-tert-butyl ether	ND	ug/kg	1860	930	500		03/10/13 12:37	1634-04-4	
Naphthalene	6310	ug/kg	3720	1860	500		03/10/13 12:37	91-20-3	
n-Propylbenzene	14700	ug/kg	1860	930	500		03/10/13 12:37	103-65-1	
Styrene	ND	ug/kg	1860	930	500		03/10/13 12:37	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/kg	1860	930	500		03/10/13 12:37	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/kg	1860	930	500		03/10/13 12:37	79-34-5	
Tetrachloroethene	ND	ug/kg	1860	930	500		03/10/13 12:37	127-18-4	
Toluene	ND	ug/kg	1860	930	500		03/10/13 12:37	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/kg	1860	930	500		03/10/13 12:37	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/kg	1860	930	500		03/10/13 12:37	120-82-1	
1,1,1-Trichloroethane	ND	ug/kg	1860	930	500		03/10/13 12:37	71-55-6	
1,1,2-Trichloroethane	ND	ug/kg	1860	930	500		03/10/13 12:37	79-00-5	
Trichloroethene	ND	ug/kg	1860	930	500		03/10/13 12:37	79-01-6	
Trichlorofluoromethane	ND	ug/kg	1860	930	500		03/10/13 12:37	75-69-4	
1,2,3-Trichloropropane	ND	ug/kg	1860	930	500		03/10/13 12:37	96-18-4	
1,2,4-Trimethylbenzene	1830J	ug/kg	1860	930	500		03/10/13 12:37	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/kg	1860	930	500		03/10/13 12:37	108-67-8	
Vinyl chloride	ND	ug/kg	1860	930	500		03/10/13 12:37	75-01-4	
Xylene (Total)	ND	ug/kg	1860	930	500		03/10/13 12:37	1330-20-7	
Surrogates									
Dibromofluoromethane (S)	100	%	76-125		500		03/10/13 12:37	1868-53-7	
Toluene-d8 (S)	110	%	80-120		500		03/10/13 12:37	2037-26-5	
4-Bromofluorobenzene (S)	110	%	80-120		500		03/10/13 12:37	460-00-4	
1,2-Dichloroethane-d4 (S)	100	%	76-132		500		03/10/13 12:37	17060-07-0	
Percent Moisture									
Analytical Method: ASTM D2974									
Percent Moisture	10.3	%	0.50	0.50	1		03/07/13 00:00		

QUALITY CONTROL DATA

Project: Big MO Soil Sampling

Pace Project No.: 60139568

QC Batch:	MSV/52197	Analysis Method:	EPA 8260
QC Batch Method:	EPA 8260	Analysis Description:	8260 MSV 5035A Volatile Organics
Associated Lab Samples:	60139568005, 60139568006, 60139568007, 60139568008, 60139568009, 60139568010, 60139568011, 60139568012, 60139568013, 60139568014, 60139568015, 60139568016, 60139568017, 60139568018, 60139568019		

METHOD BLANK: 1149123 Matrix: Solid

Associated Lab Samples: 60139568005, 60139568006, 60139568007, 60139568008, 60139568009, 60139568010, 60139568011, 60139568012, 60139568013, 60139568014, 60139568015, 60139568016, 60139568017, 60139568018, 60139568019

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1,2-Tetrachloroethane	ug/kg	ND	5.0	03/07/13 11:06	
1,1,1-Trichloroethane	ug/kg	ND	5.0	03/07/13 11:06	
1,1,2,2-Tetrachloroethane	ug/kg	ND	5.0	03/07/13 11:06	
1,1,2-Trichloroethane	ug/kg	ND	5.0	03/07/13 11:06	
1,1-Dichloroethane	ug/kg	ND	5.0	03/07/13 11:06	
1,1-Dichloroethene	ug/kg	ND	5.0	03/07/13 11:06	
1,1-Dichloropropene	ug/kg	ND	5.0	03/07/13 11:06	
1,2,3-Trichlorobenzene	ug/kg	ND	5.0	03/07/13 11:06	
1,2,3-Trichloropropane	ug/kg	ND	5.0	03/07/13 11:06	
1,2,4-Trichlorobenzene	ug/kg	ND	5.0	03/07/13 11:06	
1,2,4-Trimethylbenzene	ug/kg	ND	5.0	03/07/13 11:06	
1,2-Dibromo-3-chloropropane	ug/kg	ND	10.0	03/07/13 11:06	
1,2-Dibromoethane (EDB)	ug/kg	ND	5.0	03/07/13 11:06	
1,2-Dichlorobenzene	ug/kg	ND	5.0	03/07/13 11:06	
1,2-Dichloroethane	ug/kg	ND	5.0	03/07/13 11:06	
1,2-Dichloroethene (Total)	ug/kg	ND	5.0	03/07/13 11:06	
1,2-Dichloropropane	ug/kg	ND	5.0	03/07/13 11:06	
1,3,5-Trimethylbenzene	ug/kg	ND	5.0	03/07/13 11:06	
1,3-Dichlorobenzene	ug/kg	ND	5.0	03/07/13 11:06	
1,3-Dichloropropane	ug/kg	ND	5.0	03/07/13 11:06	
1,4-Dichlorobenzene	ug/kg	ND	5.0	03/07/13 11:06	
2,2-Dichloropropane	ug/kg	ND	5.0	03/07/13 11:06	
2-Butanone (MEK)	ug/kg	ND	10.0	03/07/13 11:06	
2-Chlorotoluene	ug/kg	ND	5.0	03/07/13 11:06	
2-Hexanone	ug/kg	ND	20.0	03/07/13 11:06	
4-Chlorotoluene	ug/kg	ND	5.0	03/07/13 11:06	
4-Methyl-2-pentanone (MIBK)	ug/kg	ND	10.0	03/07/13 11:06	
Acetone	ug/kg	ND	20.0	03/07/13 11:06	
Benzene	ug/kg	ND	5.0	03/07/13 11:06	
Bromobenzene	ug/kg	ND	5.0	03/07/13 11:06	
Bromochloromethane	ug/kg	ND	5.0	03/07/13 11:06	
Bromodichloromethane	ug/kg	ND	5.0	03/07/13 11:06	
Bromoform	ug/kg	ND	5.0	03/07/13 11:06	
Bromomethane	ug/kg	ND	5.0	03/07/13 11:06	
Carbon disulfide	ug/kg	ND	5.0	03/07/13 11:06	
Carbon tetrachloride	ug/kg	ND	5.0	03/07/13 11:06	
Chlorobenzene	ug/kg	ND	5.0	03/07/13 11:06	
Chloroethane	ug/kg	ND	5.0	03/07/13 11:06	
Chloroform	ug/kg	ND	5.0	03/07/13 11:06	

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QUALITY CONTROL DATA

Project: Big MO Soil Sampling

Pace Project No.: 60139568

METHOD BLANK: 1149123

Matrix: Solid

Associated Lab Samples: 60139568005, 60139568006, 60139568007, 60139568008, 60139568009, 60139568010, 60139568011, 60139568012, 60139568013, 60139568014, 60139568015, 60139568016, 60139568017, 60139568018, 60139568019

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chloromethane	ug/kg	ND	5.0	03/07/13 11:06	
cis-1,2-Dichloroethene	ug/kg	ND	5.0	03/07/13 11:06	
cis-1,3-Dichloropropene	ug/kg	ND	5.0	03/07/13 11:06	
Dibromochloromethane	ug/kg	ND	5.0	03/07/13 11:06	
Dibromomethane	ug/kg	ND	5.0	03/07/13 11:06	
Dichlorodifluoromethane	ug/kg	ND	5.0	03/07/13 11:06	
Ethylbenzene	ug/kg	ND	5.0	03/07/13 11:06	
Hexachloro-1,3-butadiene	ug/kg	ND	5.0	03/07/13 11:06	
Isopropylbenzene (Cumene)	ug/kg	ND	5.0	03/07/13 11:06	
Methyl-tert-butyl ether	ug/kg	ND	5.0	03/07/13 11:06	
Methylene chloride	ug/kg	ND	5.0	03/07/13 11:06	
n-Butylbenzene	ug/kg	ND	5.0	03/07/13 11:06	
n-Propylbenzene	ug/kg	ND	5.0	03/07/13 11:06	
Naphthalene	ug/kg	ND	10.0	03/07/13 11:06	
p-Isopropyltoluene	ug/kg	ND	5.0	03/07/13 11:06	
sec-Butylbenzene	ug/kg	ND	5.0	03/07/13 11:06	
Styrene	ug/kg	ND	5.0	03/07/13 11:06	
tert-Butylbenzene	ug/kg	ND	5.0	03/07/13 11:06	
Tetrachloroethene	ug/kg	ND	5.0	03/07/13 11:06	
Toluene	ug/kg	ND	5.0	03/07/13 11:06	
trans-1,2-Dichloroethene	ug/kg	ND	5.0	03/07/13 11:06	
trans-1,3-Dichloropropene	ug/kg	ND	5.0	03/07/13 11:06	
Trichloroethene	ug/kg	ND	5.0	03/07/13 11:06	
Trichlorofluoromethane	ug/kg	ND	5.0	03/07/13 11:06	
Vinyl chloride	ug/kg	ND	5.0	03/07/13 11:06	
Xylene (Total)	ug/kg	ND	5.0	03/07/13 11:06	
1,2-Dichloroethane-d4 (S)	%	98	76-132	03/07/13 11:06	
4-Bromofluorobenzene (S)	%	99	80-120	03/07/13 11:06	
Dibromofluoromethane (S)	%	101	76-125	03/07/13 11:06	
Toluene-d8 (S)	%	104	80-120	03/07/13 11:06	

LABORATORY CONTROL SAMPLE: 1149124

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1,2-Tetrachloroethane	ug/kg	100	99.3	99	80-120	
1,1,1-Trichloroethane	ug/kg	100	99.8	100	75-128	
1,1,2,2-Tetrachloroethane	ug/kg	100	79.6	80	68-120	
1,1,2-Trichloroethane	ug/kg	100	79.1	79	73-120	
1,1-Dichloroethane	ug/kg	100	86.6	87	73-120	
1,1-Dichloroethene	ug/kg	100	90.9	91	75-128	
1,1-Dichloropropene	ug/kg	100	97.0	97	78-128	
1,2,3-Trichlorobenzene	ug/kg	100	98.8	99	77-120	
1,2,3-Trichloropropane	ug/kg	100	84.3	84	72-120	
1,2,4-Trichlorobenzene	ug/kg	100	99.6	100	76-120	

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QUALITY CONTROL DATA

Project: Big MO Soil Sampling

Pace Project No.: 60139568

LABORATORY CONTROL SAMPLE: 1149124

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2,4-Trimethylbenzene	ug/kg	100	93.5	94	77-120	
1,2-Dibromo-3-chloropropane	ug/kg	100	70.1	70	66-125	
1,2-Dibromoethane (EDB)	ug/kg	100	91.8	92	78-120	
1,2-Dichlorobenzene	ug/kg	100	94.1	94	80-120	
1,2-Dichloroethane	ug/kg	100	92.5	92	76-120	
1,2-Dichloroethene (Total)	ug/kg	200	181	91	77-120	
1,2-Dichloropropane	ug/kg	100	94.3	94	80-120	
1,3,5-Trimethylbenzene	ug/kg	100	90.2	90	76-120	
1,3-Dichlorobenzene	ug/kg	100	96.7	97	79-120	
1,3-Dichloropropane	ug/kg	100	77.6	78	73-120	
1,4-Dichlorobenzene	ug/kg	100	92.5	93	80-120	
2,2-Dichloropropane	ug/kg	100	89.5	90	66-131	
2-Butanone (MEK)	ug/kg	500	423	85	61-120	
2-Chlorotoluene	ug/kg	100	86.3	86	77-120	
2-Hexanone	ug/kg	500	363	73	66-120	
4-Chlorotoluene	ug/kg	100	89.2	89	76-120	
4-Methyl-2-pentanone (MIBK)	ug/kg	500	414	83	68-120	
Acetone	ug/kg	500	394	79	55-124	
Benzene	ug/kg	100	91.4	91	77-120	
Bromobenzene	ug/kg	100	97.5	97	80-120	
Bromochloromethane	ug/kg	100	97.0	97	77-120	
Bromodichloromethane	ug/kg	100	94.8	95	78-120	
Bromoform	ug/kg	100	82.5	83	68-123	
Bromomethane	ug/kg	100	111	111	60-140	
Carbon disulfide	ug/kg	100	84.8	85	68-123	
Carbon tetrachloride	ug/kg	100	101	101	74-136	
Chlorobenzene	ug/kg	100	89.1	89	80-120	
Chloroethane	ug/kg	100	93.7	94	60-149	
Chloroform	ug/kg	100	86.2	86	67-120	
Chloromethane	ug/kg	100	88.8	89	42-138	
cis-1,2-Dichloroethene	ug/kg	100	91.9	92	71-120	
cis-1,3-Dichloropropene	ug/kg	100	94.1	94	80-120	
Dibromochloromethane	ug/kg	100	92.3	92	80-120	
Dibromomethane	ug/kg	100	96.7	97	76-120	
Dichlorodifluoromethane	ug/kg	100	81.4	81	40-150	
Ethylbenzene	ug/kg	100	91.6	92	76-120	
Hexachloro-1,3-butadiene	ug/kg	100	88.8	89	68-131	
Isopropylbenzene (Cumene)	ug/kg	100	103	103	80-128	
Methyl-tert-butyl ether	ug/kg	100	98.3	98	71-124	
Methylene chloride	ug/kg	100	92.5	93	70-123	
n-Butylbenzene	ug/kg	100	92.4	92	73-131	
n-Propylbenzene	ug/kg	100	88.2	88	74-120	
Naphthalene	ug/kg	100	91.1	91	70-120	
p-Isopropyltoluene	ug/kg	100	97.4	97	76-121	
sec-Butylbenzene	ug/kg	100	91.9	92	75-123	
Styrene	ug/kg	100	93.0	93	78-120	
tert-Butylbenzene	ug/kg	100	94.2	94	77-120	
Tetrachloroethene	ug/kg	100	93.2	93	72-125	

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QUALITY CONTROL DATA

Project: Big MO Soil Sampling
Pace Project No.: 60139568

LABORATORY CONTROL SAMPLE: 1149124

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Toluene	ug/kg	100	98.8	99	74-120	
trans-1,2-Dichloroethene	ug/kg	100	89.2	89	77-128	
trans-1,3-Dichloropropene	ug/kg	100	92.1	92	80-120	
Trichloroethene	ug/kg	100	92.2	92	76-120	
Trichlorofluoromethane	ug/kg	100	89.3	89	72-140	
Vinyl chloride	ug/kg	100	79.8	80	65-145	
Xylene (Total)	ug/kg	300	289	96	75-120	
1,2-Dichloroethane-d4 (S)	%			102	76-132	
4-Bromofluorobenzene (S)	%			100	80-120	
Dibromofluoromethane (S)	%			107	76-125	
Toluene-d8 (S)	%			104	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1149241 1149242

Parameter	60139214003		MS	MSD	MS	MSD	MS	MSD	% Rec	Max		Qual
	Units	Result	Spike Conc.	Spike Conc.						Result	Result	
1,1,1,2-Tetrachloroethane	ug/kg	ND	108	107	63.1	74.4	58	69	40-141	16	50	
1,1,1-Trichloroethane	ug/kg	ND	108	107	77.3	94.7	72	88	40-144	20	46	
1,1,2,2-Tetrachloroethane	ug/kg	ND	108	107	48.7	55.8	45	52	40-150	14	50	
1,1,2-Trichloroethane	ug/kg	ND	108	107	53.6	58.0	50	54	40-137	8	49	
1,1-Dichloroethane	ug/kg	ND	108	107	64.8	72.3	60	67	40-131	11	46	
1,1-Dichloroethene	ug/kg	ND	108	107	68.2	78.8	63	74	40-142	14	42	
1,1-Dichloropropene	ug/kg	ND	108	107	70.0	83.4	65	78	40-144	17	48	
1,2,3-Trichlorobenzene	ug/kg	ND	108	107	49.7	70.6	46	66	40-131	35	50	
1,2,3-Trichloropropane	ug/kg	ND	108	107	51.8	57.2	48	53	40-146	10	49	
1,2,4-Trichlorobenzene	ug/kg	ND	108	107	53.3	74.6	49	70	40-134	33	50	
1,2,4-Trimethylbenzene	ug/kg	ND	108	107	57.0	78.6	53	73	40-137	32	50	
1,2-Dibromo-3-chloropropane	ug/kg	ND	108	107	44.8	46.3	42	43	40-147	3	50	
1,2-Dibromoethane (EDB)	ug/kg	ND	108	107	60.1	64.1	56	60	40-146	7	50	
1,2-Dichlorobenzene	ug/kg	ND	108	107	56.8	71.8	53	67	40-136	23	50	
1,2-Dichloroethane	ug/kg	ND	108	107	61.7	68.4	57	64	40-143	10	46	
1,2-Dichloroethene (Total)	ug/kg	ND	216	214	136	158	63	74	40-136	15	47	
1,2-Dichloropropane	ug/kg	ND	108	107	65.1	73.5	60	69	40-136	12	47	
1,3,5-Trimethylbenzene	ug/kg	ND	108	107	57.0	77.0	53	72	40-137	30	50	
1,3-Dichlorobenzene	ug/kg	ND	108	107	55.0	73.8	51	69	40-131	29	50	
1,3-Dichloropropane	ug/kg	ND	108	107	52.1	57.7	48	54	40-131	10	49	
1,4-Dichlorobenzene	ug/kg	ND	108	107	55.3	73.1	51	68	40-134	28	50	
2,2-Dichloropropane	ug/kg	ND	108	107	73.5	84.6	68	79	40-140	14	47	
2-Butanone (MEK)	ug/kg	ND	540	536	267	324	49	60	40-139	19	48	
2-Chlorotoluene	ug/kg	ND	108	107	56.4	71.7	52	67	40-139	24	50	
2-Hexanone	ug/kg	ND	540	536	220	256	41	48	40-135	15	50	
4-Chlorotoluene	ug/kg	ND	108	107	56.4	72.4	52	68	40-138	25	50	
4-Methyl-2-pentanone (MIBK)	ug/kg	ND	540	536	253	289	47	54	40-138	14	50	
Acetone	ug/kg	ND	540	536	231	286	43	53	40-142	21	50	
Benzene	ug/kg	ND	108	107	68.4	77.4	63	72	40-145	12	47	
Bromobenzene	ug/kg	ND	108	107	60.1	73.8	56	69	40-137	21	50	
Bromochloromethane	ug/kg	ND	108	107	75.4	81.0	70	76	40-140	7	48	

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QUALITY CONTROL DATA

Project: Big MO Soil Sampling
Pace Project No.: 60139568

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1149241 1149242											
Parameter	Units	60139214003 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	Max RPD	Qual
Bromodichloromethane	ug/kg	ND	108	107	63.1	69.7	58	65	40-136	10	49
Bromoform	ug/kg	ND	108	107	47.1	56.8	42	52	40-136	19	50
Bromomethane	ug/kg	ND	108	107	66.2	76.0	61	71	40-141	14	49
Carbon disulfide	ug/kg	ND	108	107	63.6	73.8	59	69	40-136	15	49
Carbon tetrachloride	ug/kg	ND	108	107	67.2	83.4	62	78	40-149	22	50
Chlorobenzene	ug/kg	ND	108	107	61.8	72.4	57	68	40-135	16	50
Chloroethane	ug/kg	ND	108	107	66.6	78.4	62	73	40-153	16	44
Chloroform	ug/kg	ND	108	107	64.6	73.8	60	69	40-131	13	47
Chloromethane	ug/kg	ND	108	107	59.0	68.8	55	64	40-133	15	46
cis-1,2-Dichloroethene	ug/kg	ND	108	107	70.1	79.5	65	74	40-132	13	48
cis-1,3-Dichloropropene	ug/kg	ND	108	107	63.2	69.9	59	65	40-135	10	50
Dibromochloromethane	ug/kg	ND	108	107	59.9	66.3	55	62	40-144	10	48
Dibromomethane	ug/kg	ND	108	107	64.2	71.3	59	67	40-135	10	46
Dichlorodifluoromethane	ug/kg	ND	108	107	46.5	64.6	43	60	40-134	33	44
Ethylbenzene	ug/kg	ND	108	107	61.5	79.1	57	74	40-151	25	48
Hexachloro-1,3-butadiene	ug/kg	ND	108	107	49.6	69.2	46	65	40-133	33	50
Isopropylbenzene (Cumene)	ug/kg	ND	108	107	64.3	87.5	60	82	40-149	30	50
Methyl-tert-butyl ether	ug/kg	ND	108	107	63.2	71.2	59	66	40-144	12	48
Methylene chloride	ug/kg	ND	108	107	60.4	68.6	56	64	40-140	13	47
n-Butylbenzene	ug/kg	ND	108	107	57.3	79.2	53	74	40-142	32	50
n-Propylbenzene	ug/kg	ND	108	107	57.7	74.8	53	70	40-139	26	50
Naphthalene	ug/kg	ND	108	107	47.9	63.7	44	59	40-158	28	48
p-Isopropyltoluene	ug/kg	ND	108	107	56.9	82.1	53	77	40-138	36	50
sec-Butylbenzene	ug/kg	ND	108	107	57.3	81.1	53	76	40-140	34	50
Styrene	ug/kg	ND	108	107	58.0	71.0	54	66	40-133	20	50
tert-Butylbenzene	ug/kg	ND	108	107	60.0	82.9	56	77	40-142	32	50
Tetrachloroethene	ug/kg	ND	108	107	62.2	80.5	58	75	40-139	26	50
Toluene	ug/kg	ND	108	107	68.7	80.3	64	75	40-150	16	46
trans-1,2-Dichloroethene	ug/kg	ND	108	107	66.4	78.9	61	74	40-142	17	50
trans-1,3-Dichloropropene	ug/kg	ND	108	107	60.7	66.8	56	62	40-146	9	50
Trichloroethene	ug/kg	ND	108	107	67.2	78.7	62	73	40-151	16	49
Trichlorofluoromethane	ug/kg	ND	108	107	61.4	79.5	57	74	40-145	26	45
Vinyl chloride	ug/kg	ND	108	107	57.9	69.4	54	65	40-149	18	49
Xylene (Total)	ug/kg	ND	324	322	187	236	58	74	40-153	24	47
1,2-Dichloroethane-d4 (S)	%						101	99	76-132		
4-Bromofluorobenzene (S)	%						101	101	80-120		
Dibromofluoromethane (S)	%						115	117	76-125		
Toluene-d8 (S)	%						103	105	80-120		

QUALITY CONTROL DATA

Project: Big MO Soil Sampling

Pace Project No.: 60139568

QC Batch:	MSV/52234	Analysis Method:	EPA 8260
QC Batch Method:	EPA 8260	Analysis Description:	8260 MSV 5035A Volatile Organics
Associated Lab Samples:	60139568001, 60139568002, 60139568003, 60139568004, 60139568024, 60139568025		

METHOD BLANK: 1150461 Matrix: Solid

Associated Lab Samples: 60139568001, 60139568002, 60139568003, 60139568004, 60139568024, 60139568025

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1,2-Tetrachloroethane	ug/kg	ND	5.0	03/09/13 12:44	
1,1,1-Trichloroethane	ug/kg	ND	5.0	03/09/13 12:44	
1,1,2,2-Tetrachloroethane	ug/kg	ND	5.0	03/09/13 12:44	
1,1,2-Trichloroethane	ug/kg	ND	5.0	03/09/13 12:44	
1,1-Dichloroethane	ug/kg	ND	5.0	03/09/13 12:44	
1,1-Dichloroethene	ug/kg	ND	5.0	03/09/13 12:44	
1,1-Dichloropropene	ug/kg	ND	5.0	03/09/13 12:44	
1,2,3-Trichlorobenzene	ug/kg	ND	5.0	03/09/13 12:44	
1,2,3-Trichloropropane	ug/kg	ND	5.0	03/09/13 12:44	
1,2,4-Trichlorobenzene	ug/kg	ND	5.0	03/09/13 12:44	
1,2,4-Trimethylbenzene	ug/kg	ND	5.0	03/09/13 12:44	
1,2-Dibromo-3-chloropropane	ug/kg	ND	10.0	03/09/13 12:44	
1,2-Dibromoethane (EDB)	ug/kg	ND	5.0	03/09/13 12:44	
1,2-Dichlorobenzene	ug/kg	ND	5.0	03/09/13 12:44	
1,2-Dichloroethane	ug/kg	ND	5.0	03/09/13 12:44	
1,2-Dichloroethene (Total)	ug/kg	ND	5.0	03/09/13 12:44	
1,2-Dichloropropane	ug/kg	ND	5.0	03/09/13 12:44	
1,3,5-Trimethylbenzene	ug/kg	ND	5.0	03/09/13 12:44	
1,3-Dichlorobenzene	ug/kg	ND	5.0	03/09/13 12:44	
1,3-Dichloropropane	ug/kg	ND	5.0	03/09/13 12:44	
1,4-Dichlorobenzene	ug/kg	ND	5.0	03/09/13 12:44	
2,2-Dichloropropane	ug/kg	ND	5.0	03/09/13 12:44	
2-Butanone (MEK)	ug/kg	ND	10.0	03/09/13 12:44	
2-Chlorotoluene	ug/kg	ND	5.0	03/09/13 12:44	
2-Hexanone	ug/kg	ND	20.0	03/09/13 12:44	
4-Chlorotoluene	ug/kg	ND	5.0	03/09/13 12:44	
4-Methyl-2-pentanone (MIBK)	ug/kg	ND	10.0	03/09/13 12:44	
Acetone	ug/kg	ND	20.0	03/09/13 12:44	
Benzene	ug/kg	ND	5.0	03/09/13 12:44	
Bromobenzene	ug/kg	ND	5.0	03/09/13 12:44	
Bromochloromethane	ug/kg	ND	5.0	03/09/13 12:44	
Bromodichloromethane	ug/kg	ND	5.0	03/09/13 12:44	
Bromoform	ug/kg	ND	5.0	03/09/13 12:44	
Bromomethane	ug/kg	ND	5.0	03/09/13 12:44	
Carbon disulfide	ug/kg	ND	5.0	03/09/13 12:44	
Carbon tetrachloride	ug/kg	ND	5.0	03/09/13 12:44	
Chlorobenzene	ug/kg	ND	5.0	03/09/13 12:44	
Chloroethane	ug/kg	ND	5.0	03/09/13 12:44	
Chloroform	ug/kg	ND	5.0	03/09/13 12:44	
Chloromethane	ug/kg	ND	5.0	03/09/13 12:44	
cis-1,2-Dichloroethene	ug/kg	ND	5.0	03/09/13 12:44	
cis-1,3-Dichloropropene	ug/kg	ND	5.0	03/09/13 12:44	
Dibromochloromethane	ug/kg	ND	5.0	03/09/13 12:44	

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QUALITY CONTROL DATA

Project: Big MO Soil Sampling

Pace Project No.: 60139568

METHOD BLANK: 1150461

Matrix: Solid

Associated Lab Samples: 60139568001, 60139568002, 60139568003, 60139568004, 60139568024, 60139568025

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Dibromomethane	ug/kg	ND	5.0	03/09/13 12:44	
Dichlorodifluoromethane	ug/kg	ND	5.0	03/09/13 12:44	
Ethylbenzene	ug/kg	ND	5.0	03/09/13 12:44	
Hexachloro-1,3-butadiene	ug/kg	ND	5.0	03/09/13 12:44	
Isopropylbenzene (Cumene)	ug/kg	ND	5.0	03/09/13 12:44	
Methyl-tert-butyl ether	ug/kg	ND	5.0	03/09/13 12:44	
Methylene chloride	ug/kg	ND	5.0	03/09/13 12:44	
n-Butylbenzene	ug/kg	ND	5.0	03/09/13 12:44	
n-Propylbenzene	ug/kg	ND	5.0	03/09/13 12:44	
Naphthalene	ug/kg	ND	10.0	03/09/13 12:44	
p-Isopropyltoluene	ug/kg	ND	5.0	03/09/13 12:44	
sec-Butylbenzene	ug/kg	ND	5.0	03/09/13 12:44	
Styrene	ug/kg	ND	5.0	03/09/13 12:44	
tert-Butylbenzene	ug/kg	ND	5.0	03/09/13 12:44	
Tetrachloroethene	ug/kg	ND	5.0	03/09/13 12:44	
Toluene	ug/kg	ND	5.0	03/09/13 12:44	
trans-1,2-Dichloroethene	ug/kg	ND	5.0	03/09/13 12:44	
trans-1,3-Dichloropropene	ug/kg	ND	5.0	03/09/13 12:44	
Trichloroethene	ug/kg	ND	5.0	03/09/13 12:44	
Trichlorofluoromethane	ug/kg	ND	5.0	03/09/13 12:44	
Vinyl chloride	ug/kg	ND	5.0	03/09/13 12:44	
Xylene (Total)	ug/kg	ND	5.0	03/09/13 12:44	
1,2-Dichloroethane-d4 (S)	%	108	76-132	03/09/13 12:44	
4-Bromofluorobenzene (S)	%	98	80-120	03/09/13 12:44	
Dibromofluoromethane (S)	%	99	76-125	03/09/13 12:44	
Toluene-d8 (S)	%	99	80-120	03/09/13 12:44	

LABORATORY CONTROL SAMPLE: 1150462

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1,2-Tetrachloroethane	ug/kg	100	97.5	98	80-120	
1,1,1-Trichloroethane	ug/kg	100	89.8	90	75-128	
1,1,2,2-Tetrachloroethane	ug/kg	100	87.8	88	68-120	
1,1,2-Trichloroethane	ug/kg	100	88.4	88	73-120	
1,1-Dichloroethane	ug/kg	100	87.3	87	73-120	
1,1-Dichloroethene	ug/kg	100	94.9	95	75-128	
1,1-Dichloropropene	ug/kg	100	98.0	98	78-128	
1,2,3-Trichlorobenzene	ug/kg	100	95.8	96	77-120	
1,2,3-Trichloropropane	ug/kg	100	91.7	92	72-120	
1,2,4-Trichlorobenzene	ug/kg	100	94.5	94	76-120	
1,2,4-Trimethylbenzene	ug/kg	100	89.9	90	77-120	
1,2-Dibromo-3-chloropropane	ug/kg	100	90.1	90	66-125	
1,2-Dibromoethane (EDB)	ug/kg	100	102	102	78-120	
1,2-Dichlorobenzene	ug/kg	100	94.2	94	80-120	
1,2-Dichloroethane	ug/kg	100	94.7	95	76-120	

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QUALITY CONTROL DATA

Project: Big MO Soil Sampling

Pace Project No.: 60139568

LABORATORY CONTROL SAMPLE: 1150462

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2-Dichloroethene (Total)	ug/kg	200	185	92	77-120	
1,2-Dichloropropane	ug/kg	100	96.2	96	80-120	
1,3,5-Trimethylbenzene	ug/kg	100	89.5	89	76-120	
1,3-Dichlorobenzene	ug/kg	100	93.4	93	79-120	
1,3-Dichloropropane	ug/kg	100	88.4	88	73-120	
1,4-Dichlorobenzene	ug/kg	100	94.0	94	80-120	
2,2-Dichloropropane	ug/kg	100	86.4	86	66-131	
2-Butanone (MEK)	ug/kg	500	454	91	61-120	
2-Chlorotoluene	ug/kg	100	89.6	90	77-120	
2-Hexanone	ug/kg	500	463	93	66-120	
4-Chlorotoluene	ug/kg	100	90.5	91	76-120	
4-Methyl-2-pentanone (MIBK)	ug/kg	500	486	97	68-120	
Acetone	ug/kg	500	441	88	55-124	
Benzene	ug/kg	100	89.3	89	77-120	
Bromobenzene	ug/kg	100	93.2	93	80-120	
Bromochloromethane	ug/kg	100	91.8	92	77-120	
Bromodichloromethane	ug/kg	100	96.3	96	78-120	
Bromoform	ug/kg	100	86.5	86	68-123	
Bromomethane	ug/kg	100	101	101	60-140	
Carbon disulfide	ug/kg	100	91.3	91	68-123	
Carbon tetrachloride	ug/kg	100	82.0	82	74-136	
Chlorobenzene	ug/kg	100	92.1	92	80-120	
Chloroethane	ug/kg	100	95.6	96	60-149	
Chloroform	ug/kg	100	86.3	86	67-120	
Chloromethane	ug/kg	100	108	108	42-138	
cis-1,2-Dichloroethene	ug/kg	100	90.9	91	71-120	
cis-1,3-Dichloropropene	ug/kg	100	96.0	96	80-120	
Dibromochloromethane	ug/kg	100	98.2	98	80-120	
Dibromomethane	ug/kg	100	100	100	76-120	
Dichlorodifluoromethane	ug/kg	100	82.9	83	40-150	
Ethylbenzene	ug/kg	100	91.9	92	76-120	
Hexachloro-1,3-butadiene	ug/kg	100	82.8	83	68-131	
Isopropylbenzene (Cumene)	ug/kg	100	102	102	80-128	
Methyl-tert-butyl ether	ug/kg	100	94.3	94	71-124	
Methylene chloride	ug/kg	100	94.6	95	70-123	
n-Butylbenzene	ug/kg	100	91.5	92	73-131	
n-Propylbenzene	ug/kg	100	86.5	87	74-120	
Naphthalene	ug/kg	100	88.4	88	70-120	
p-Isopropyltoluene	ug/kg	100	90.2	90	76-121	
sec-Butylbenzene	ug/kg	100	91.1	91	75-123	
Styrene	ug/kg	100	94.0	94	78-120	
tert-Butylbenzene	ug/kg	100	94.8	95	77-120	
Tetrachloroethene	ug/kg	100	89.6	90	72-125	
Toluene	ug/kg	100	97.8	98	74-120	
trans-1,2-Dichloroethene	ug/kg	100	93.9	94	77-128	
trans-1,3-Dichloropropene	ug/kg	100	96.6	97	80-120	
Trichloroethene	ug/kg	100	92.4	92	76-120	
Trichlorofluoromethane	ug/kg	100	89.7	90	72-140	

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QUALITY CONTROL DATA

Project: Big MO Soil Sampling
Pace Project No.: 60139568

LABORATORY CONTROL SAMPLE: 1150462

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Vinyl chloride	ug/kg	100	92.8	93	65-145	
Xylene (Total)	ug/kg	300	282	94	75-120	
1,2-Dichloroethane-d4 (S)	%			105	76-132	
4-Bromofluorobenzene (S)	%			101	80-120	
Dibromofluoromethane (S)	%			100	76-125	
Toluene-d8 (S)	%			100	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1150463 1150464

Parameter	Units	60139651001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1,1,1,2-Tetrachloroethane	ug/kg	ND	98.2	100	89.5	91.8	91	92	40-141	2	50	
1,1,1-Trichloroethane	ug/kg	ND	98.2	100	88.4	95.7	90	96	40-144	8	46	
1,1,2,2-Tetrachloroethane	ug/kg	ND	98.2	100	79.7	81.4	81	81	40-150	2	50	
1,1,2-Trichloroethane	ug/kg	ND	98.2	100	81.4	83.2	83	83	40-137	2	49	
1,1-Dichloroethane	ug/kg	ND	98.2	100	87.6	89.1	89	89	40-131	2	46	
1,1-Dichloroethene	ug/kg	ND	98.2	100	94.3	103	96	103	40-142	9	42	
1,1-Dichloropropene	ug/kg	ND	98.2	100	91.6	104	93	104	40-144	12	48	
1,2,3-Trichlorobenzene	ug/kg	ND	98.2	100	74.3	75.3	76	75	40-131	1	50	
1,2,3-Trichloropropane	ug/kg	ND	98.2	100	84.1	87.0	86	87	40-146	3	49	
1,2,4-Trichlorobenzene	ug/kg	ND	98.2	100	73.6	77.3	75	77	40-134	5	50	
1,2,4-Trimethylbenzene	ug/kg	ND	98.2	100	87.8	88.8	89	89	40-137	1	50	
1,2-Dibromo-3-chloropropane	ug/kg	ND	98.2	100	80.0	83.5	81	83	40-147	4	50	
1,2-Dibromoethane (EDB)	ug/kg	ND	98.2	100	92.6	92.5	94	92	40-146	0	50	
1,2-Dichlorobenzene	ug/kg	ND	98.2	100	84.2	86.8	86	87	40-136	3	50	
1,2-Dichloroethane	ug/kg	ND	98.2	100	90.4	90.6	92	91	40-143	0	46	
1,2-Dichloroethene (Total)	ug/kg	ND	196	200	184	192	94	96	40-136	4	47	
1,2-Dichloropropane	ug/kg	ND	98.2	100	92.7	92.5	94	92	40-136	0	47	
1,3,5-Trimethylbenzene	ug/kg	ND	98.2	100	87.5	89.0	89	89	40-137	2	50	
1,3-Dichlorobenzene	ug/kg	ND	98.2	100	84.0	89.1	85	89	40-131	6	50	
1,3-Dichloropropane	ug/kg	ND	98.2	100	83.3	85.0	85	85	40-131	2	49	
1,4-Dichlorobenzene	ug/kg	ND	98.2	100	84.3	87.1	86	87	40-134	3	50	
2,2-Dichloropropane	ug/kg	ND	98.2	100	88.5	93.7	90	94	40-140	6	47	
2-Butanone (MEK)	ug/kg	ND	491	500	414	435	83	86	40-139	5	48	
2-Chlorotoluene	ug/kg	ND	98.2	100	84.9	89.0	86	89	40-139	5	50	
2-Hexanone	ug/kg	ND	491	500	421	433	86	87	40-135	3	50	
4-Chlorotoluene	ug/kg	ND	98.2	100	86.0	88.9	88	89	40-138	3	50	
4-Methyl-2-pentanone (MIBK)	ug/kg	ND	491	500	447	462	91	92	40-138	3	50	
Acetone	ug/kg	35.4	491	500	447	464	84	86	40-142	4	50	
Benzene	ug/kg	ND	98.2	100	90.7	91.8	92	92	40-145	1	47	
Bromobenzene	ug/kg	ND	98.2	100	84.3	88.6	86	89	40-137	5	50	
Bromochloromethane	ug/kg	ND	98.2	100	89.2	91.4	91	91	40-140	2	48	
Bromodichloromethane	ug/kg	ND	98.2	100	88.6	94.1	90	94	40-136	6	49	
Bromoform	ug/kg	ND	98.2	100	78.6	80.9	80	81	40-136	3	50	
Bromomethane	ug/kg	ND	98.2	100	96.2	98.5	98	99	40-141	2	49	
Carbon disulfide	ug/kg	ND	98.2	100	86.9	90.2	88	90	40-136	4	49	
Carbon tetrachloride	ug/kg	ND	98.2	100	70.0	88.2	71	88	40-149	23	50	

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QUALITY CONTROL DATA

Project: Big MO Soil Sampling

Pace Project No.: 60139568

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1150463 1150464											
Parameter	Units	60139651001		MS	MSD	MS		MSD	% Rec	Max	Qual
		Result	Conc.	Spike	Spike	Result	Result	% Rec	% Rec	Limits	
Chlorobenzene	ug/kg	ND	98.2	100	86.2	87.9	88	88	40-135	2	50
Chloroethane	ug/kg	ND	98.2	100	88.9	99.1	91	99	40-153	11	44
Chloroform	ug/kg	ND	98.2	100	83.9	87.9	85	88	40-131	5	47
Chloromethane	ug/kg	ND	98.2	100	95.5	104	97	104	40-133	8	46
cis-1,2-Dichloroethene	ug/kg	ND	98.2	100	88.5	90.8	90	91	40-132	3	48
cis-1,3-Dichloropropene	ug/kg	ND	98.2	100	89.2	93.5	91	93	40-135	5	50
Dibromochloromethane	ug/kg	ND	98.2	100	89.1	93.3	91	93	40-144	5	48
Dibromomethane	ug/kg	ND	98.2	100	91.1	98.0	93	98	40-135	7	46
Dichlorodifluoromethane	ug/kg	ND	98.2	100	72.0	75.0	73	75	40-134	4	44
Ethylbenzene	ug/kg	ND	98.2	100	90.2	92.0	92	92	40-151	2	48
Hexachloro-1,3-butadiene	ug/kg	ND	98.2	100	74.4	77.8	76	78	40-133	4	50
Isopropylbenzene (Cumene)	ug/kg	ND	98.2	100	99.4	103	101	103	40-149	3	50
Methyl-tert-butyl ether	ug/kg	ND	98.2	100	86.6	93.7	88	94	40-144	8	48
Methylene chloride	ug/kg	ND	98.2	100	84.7	90.0	86	90	40-140	6	47
n-Butylbenzene	ug/kg	ND	98.2	100	89.5	91.8	91	92	40-142	3	50
n-Propylbenzene	ug/kg	ND	98.2	100	87.1	89.3	89	89	40-139	2	50
Naphthalene	ug/kg	ND	98.2	100	67.5	71.8	67	70	40-158	6	48
p-Isopropyltoluene	ug/kg	ND	98.2	100	89.3	92.4	91	92	40-138	3	50
sec-Butylbenzene	ug/kg	ND	98.2	100	91.7	92.8	93	93	40-140	1	50
Styrene	ug/kg	ND	98.2	100	83.8	87.8	85	88	40-133	5	50
tert-Butylbenzene	ug/kg	ND	98.2	100	93.0	96.6	95	97	40-142	4	50
Tetrachloroethene	ug/kg	ND	98.2	100	89.7	94.7	91	95	40-139	5	50
Toluene	ug/kg	ND	98.2	100	93.2	97.1	95	97	40-150	4	46
trans-1,2-Dichloroethene	ug/kg	ND	98.2	100	95.5	101	97	101	40-142	6	50
trans-1,3-Dichloropropene	ug/kg	ND	98.2	100	91.7	93.7	93	94	40-146	2	50
Trichloroethene	ug/kg	ND	98.2	100	91.2	95.2	93	95	40-151	4	49
Trichlorofluoromethane	ug/kg	ND	98.2	100	88.5	90.4	90	90	40-145	2	45
Vinyl chloride	ug/kg	ND	98.2	100	84.3	91.8	86	92	40-149	8	49
Xylene (Total)	ug/kg	ND	295	300	274	283	93	94	40-153	3	47
1,2-Dichloroethane-d4 (S)	%						97	106	76-132		
4-Bromofluorobenzene (S)	%						101	102	80-120		
Dibromofluoromethane (S)	%						98	102	76-125		
Toluene-d8 (S)	%						101	102	80-120		

QUALITY CONTROL DATA

Project: Big MO Soil Sampling

Pace Project No.: 60139568

QC Batch:	MSV/52235	Analysis Method:	EPA 8260
QC Batch Method:	EPA 8260	Analysis Description:	8260 MSV 5035A Volatile Organics
Associated Lab Samples:	60139568020, 60139568021, 60139568023, 60139568028, 60139568030, 60139568031, 60139568032, 60139568033, 60139568034, 60139568036, 60139568037, 60139568038, 60139568039, 60139568040, 60139568041, 60139568042		

METHOD BLANK: 1150487 Matrix: Solid

Associated Lab Samples: 60139568020, 60139568021, 60139568023, 60139568028, 60139568030, 60139568031, 60139568032, 60139568033, 60139568034, 60139568036, 60139568037, 60139568038, 60139568039, 60139568040, 60139568041, 60139568042

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1,2-Tetrachloroethane	ug/kg	ND	5.0	03/09/13 10:02	
1,1,1-Trichloroethane	ug/kg	ND	5.0	03/09/13 10:02	
1,1,2,2-Tetrachloroethane	ug/kg	ND	5.0	03/09/13 10:02	
1,1,2-Trichloroethane	ug/kg	ND	5.0	03/09/13 10:02	
1,1-Dichloroethane	ug/kg	ND	5.0	03/09/13 10:02	
1,1-Dichloroethene	ug/kg	ND	5.0	03/09/13 10:02	
1,1-Dichloropropene	ug/kg	ND	5.0	03/09/13 10:02	
1,2,3-Trichlorobenzene	ug/kg	ND	5.0	03/09/13 10:02	
1,2,3-Trichloropropane	ug/kg	ND	5.0	03/09/13 10:02	
1,2,4-Trichlorobenzene	ug/kg	ND	5.0	03/09/13 10:02	
1,2,4-Trimethylbenzene	ug/kg	ND	5.0	03/09/13 10:02	
1,2-Dibromo-3-chloropropane	ug/kg	ND	10.0	03/09/13 10:02	
1,2-Dibromoethane (EDB)	ug/kg	ND	5.0	03/09/13 10:02	
1,2-Dichlorobenzene	ug/kg	ND	5.0	03/09/13 10:02	
1,2-Dichloroethane	ug/kg	ND	5.0	03/09/13 10:02	
1,2-Dichloroethene (Total)	ug/kg	ND	5.0	03/09/13 10:02	
1,2-Dichloropropane	ug/kg	ND	5.0	03/09/13 10:02	
1,3,5-Trimethylbenzene	ug/kg	ND	5.0	03/09/13 10:02	
1,3-Dichlorobenzene	ug/kg	ND	5.0	03/09/13 10:02	
1,3-Dichloropropane	ug/kg	ND	5.0	03/09/13 10:02	
1,4-Dichlorobenzene	ug/kg	ND	5.0	03/09/13 10:02	
2,2-Dichloropropane	ug/kg	ND	5.0	03/09/13 10:02	
2-Butanone (MEK)	ug/kg	ND	10.0	03/09/13 10:02	
2-Chlorotoluene	ug/kg	ND	5.0	03/09/13 10:02	
2-Hexanone	ug/kg	ND	20.0	03/09/13 10:02	
4-Chlorotoluene	ug/kg	ND	5.0	03/09/13 10:02	
4-Methyl-2-pentanone (MIBK)	ug/kg	ND	10.0	03/09/13 10:02	
Acetone	ug/kg	ND	20.0	03/09/13 10:02	
Benzene	ug/kg	ND	5.0	03/09/13 10:02	
Bromobenzene	ug/kg	ND	5.0	03/09/13 10:02	
Bromochloromethane	ug/kg	ND	5.0	03/09/13 10:02	
Bromodichloromethane	ug/kg	ND	5.0	03/09/13 10:02	
Bromoform	ug/kg	ND	5.0	03/09/13 10:02	
Bromomethane	ug/kg	ND	5.0	03/09/13 10:02	
Carbon disulfide	ug/kg	ND	5.0	03/09/13 10:02	
Carbon tetrachloride	ug/kg	ND	5.0	03/09/13 10:02	
Chlorobenzene	ug/kg	ND	5.0	03/09/13 10:02	
Chloroethane	ug/kg	ND	5.0	03/09/13 10:02	
Chloroform	ug/kg	ND	5.0	03/09/13 10:02	

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QUALITY CONTROL DATA

Project: Big MO Soil Sampling

Pace Project No.: 60139568

METHOD BLANK: 1150487

Matrix: Solid

Associated Lab Samples: 60139568020, 60139568021, 60139568023, 60139568028, 60139568030, 60139568031, 60139568032, 60139568033, 60139568034, 60139568036, 60139568037, 60139568038, 60139568039, 60139568040, 60139568041, 60139568042

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chloromethane	ug/kg	ND	5.0	03/09/13 10:02	
cis-1,2-Dichloroethene	ug/kg	ND	5.0	03/09/13 10:02	
cis-1,3-Dichloropropene	ug/kg	ND	5.0	03/09/13 10:02	
Dibromochloromethane	ug/kg	ND	5.0	03/09/13 10:02	
Dibromomethane	ug/kg	ND	5.0	03/09/13 10:02	
Dichlorodifluoromethane	ug/kg	ND	5.0	03/09/13 10:02	
Ethylbenzene	ug/kg	ND	5.0	03/09/13 10:02	
Hexachloro-1,3-butadiene	ug/kg	ND	5.0	03/09/13 10:02	
Isopropylbenzene (Cumene)	ug/kg	ND	5.0	03/09/13 10:02	
Methyl-tert-butyl ether	ug/kg	ND	5.0	03/09/13 10:02	
Methylene chloride	ug/kg	ND	5.0	03/09/13 10:02	
n-Butylbenzene	ug/kg	ND	5.0	03/09/13 10:02	
n-Propylbenzene	ug/kg	ND	5.0	03/09/13 10:02	
Naphthalene	ug/kg	ND	10.0	03/09/13 10:02	
p-Isopropyltoluene	ug/kg	ND	5.0	03/09/13 10:02	
sec-Butylbenzene	ug/kg	ND	5.0	03/09/13 10:02	
Styrene	ug/kg	ND	5.0	03/09/13 10:02	
tert-Butylbenzene	ug/kg	ND	5.0	03/09/13 10:02	
Tetrachloroethene	ug/kg	ND	5.0	03/09/13 10:02	
Toluene	ug/kg	ND	5.0	03/09/13 10:02	
trans-1,2-Dichloroethene	ug/kg	ND	5.0	03/09/13 10:02	
trans-1,3-Dichloropropene	ug/kg	ND	5.0	03/09/13 10:02	
Trichloroethene	ug/kg	ND	5.0	03/09/13 10:02	
Trichlorofluoromethane	ug/kg	ND	5.0	03/09/13 10:02	
Vinyl chloride	ug/kg	ND	5.0	03/09/13 10:02	
Xylene (Total)	ug/kg	ND	5.0	03/09/13 10:02	
1,2-Dichloroethane-d4 (S)	%	98	76-132	03/09/13 10:02	
4-Bromofluorobenzene (S)	%	99	80-120	03/09/13 10:02	
Dibromofluoromethane (S)	%	98	76-125	03/09/13 10:02	
Toluene-d8 (S)	%	100	80-120	03/09/13 10:02	

LABORATORY CONTROL SAMPLE: 1150488

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1,2-Tetrachloroethane	ug/kg	100	97.0	97	80-120	
1,1,1-Trichloroethane	ug/kg	100	105	105	75-128	
1,1,2,2-Tetrachloroethane	ug/kg	100	88.4	88	68-120	
1,1,2-Trichloroethane	ug/kg	100	91.8	92	73-120	
1,1-Dichloroethane	ug/kg	100	93.4	93	73-120	
1,1-Dichloroethene	ug/kg	100	105	105	75-128	
1,1-Dichloropropene	ug/kg	100	110	110	78-128	
1,2,3-Trichlorobenzene	ug/kg	100	99.8	100	77-120	
1,2,3-Trichloropropane	ug/kg	100	84.1	84	72-120	
1,2,4-Trichlorobenzene	ug/kg	100	100	100	76-120	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: Big MO Soil Sampling

Pace Project No.: 60139568

LABORATORY CONTROL SAMPLE: 1150488

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2,4-Trimethylbenzene	ug/kg	100	95.9	96	77-120	
1,2-Dibromo-3-chloropropane	ug/kg	100	98.3	98	66-125	
1,2-Dibromoethane (EDB)	ug/kg	100	98.6	99	78-120	
1,2-Dichlorobenzene	ug/kg	100	95.5	96	80-120	
1,2-Dichloroethane	ug/kg	100	99.5	99	76-120	
1,2-Dichloroethene (Total)	ug/kg	200	197	99	77-120	
1,2-Dichloropropane	ug/kg	100	98.5	99	80-120	
1,3,5-Trimethylbenzene	ug/kg	100	99.7	100	76-120	
1,3-Dichlorobenzene	ug/kg	100	95.2	95	79-120	
1,3-Dichloropropane	ug/kg	100	92.5	93	73-120	
1,4-Dichlorobenzene	ug/kg	100	95.1	95	80-120	
2,2-Dichloropropane	ug/kg	100	104	104	66-131	
2-Butanone (MEK)	ug/kg	500	417	83	61-120	
2-Chlorotoluene	ug/kg	100	92.9	93	77-120	
2-Hexanone	ug/kg	500	434	87	66-120	
4-Chlorotoluene	ug/kg	100	95.3	95	76-120	
4-Methyl-2-pentanone (MIBK)	ug/kg	500	431	86	68-120	
Acetone	ug/kg	500	447	89	55-124	
Benzene	ug/kg	100	97.3	97	77-120	
Bromobenzene	ug/kg	100	100	100	80-120	
Bromochloromethane	ug/kg	100	96.0	96	77-120	
Bromodichloromethane	ug/kg	100	93.8	94	78-120	
Bromoform	ug/kg	100	85.8	86	68-123	
Bromomethane	ug/kg	100	92.7	93	60-140	
Carbon disulfide	ug/kg	100	87.1	87	68-123	
Carbon tetrachloride	ug/kg	100	109	109	74-136	
Chlorobenzene	ug/kg	100	94.5	95	80-120	
Chloroethane	ug/kg	100	87.4	87	60-149	
Chloroform	ug/kg	100	93.5	94	67-120	
Chloromethane	ug/kg	100	91.2	91	42-138	
cis-1,2-Dichloroethene	ug/kg	100	98.6	99	71-120	
cis-1,3-Dichloropropene	ug/kg	100	96.2	96	80-120	
Dibromochloromethane	ug/kg	100	95.9	96	80-120	
Dibromomethane	ug/kg	100	100	100	76-120	
Dichlorodifluoromethane	ug/kg	100	88.7	89	40-150	
Ethylbenzene	ug/kg	100	98.7	99	76-120	
Hexachloro-1,3-butadiene	ug/kg	100	107	107	68-131	
Isopropylbenzene (Cumene)	ug/kg	100	110	110	80-128	
Methyl-tert-butyl ether	ug/kg	100	99.0	99	71-124	
Methylene chloride	ug/kg	100	95.1	95	70-123	
n-Butylbenzene	ug/kg	100	111	111	73-131	
n-Propylbenzene	ug/kg	100	98.0	98	74-120	
Naphthalene	ug/kg	100	98.5	98	70-120	
p-Isopropyltoluene	ug/kg	100	104	104	76-121	
sec-Butylbenzene	ug/kg	100	104	104	75-123	
Styrene	ug/kg	100	101	101	78-120	
tert-Butylbenzene	ug/kg	100	103	103	77-120	
Tetrachloroethene	ug/kg	100	102	102	72-125	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: Big MO Soil Sampling

Pace Project No.: 60139568

LABORATORY CONTROL SAMPLE: 1150488

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Toluene	ug/kg	100	96.7	97	74-120	
trans-1,2-Dichloroethene	ug/kg	100	98.5	99	77-128	
trans-1,3-Dichloropropene	ug/kg	100	103	103	80-120	
Trichloroethene	ug/kg	100	99.0	99	76-120	
Trichlorofluoromethane	ug/kg	100	96.6	97	72-140	
Vinyl chloride	ug/kg	100	97.8	98	65-145	
Xylene (Total)	ug/kg	300	301	100	75-120	
1,2-Dichloroethane-d4 (S)	%			100	76-132	
4-Bromofluorobenzene (S)	%			102	80-120	
Dibromofluoromethane (S)	%			99	76-125	
Toluene-d8 (S)	%			100	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1150503 1150504

Parameter	Units	60139568021		MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		Result	Conc.	Conc.	Conc.	Result	Result	% Rec	% Rec				
1,1,1,2-Tetrachloroethane	ug/kg	ND	3030	3030	3080	3290	101	108	40-141	7	50		
1,1,1-Trichloroethane	ug/kg	ND	3030	3030	3300	3400	109	112	40-144	3	46		
1,1,2,2-Tetrachloroethane	ug/kg	ND	3030	3030	2790	3090	92	102	40-150	10	50		
1,1,2-Trichloroethane	ug/kg	ND	3030	3030	4190	4420	138	146	40-137	5	49	M1	
1,1-Dichloroethane	ug/kg	ND	3030	3030	2550	2760	84	91	40-131	8	46		
1,1-Dichloroethene	ug/kg	ND	3030	3030	2800	2770	92	91	40-142	1	42		
1,1-Dichloropropene	ug/kg	ND	3030	3030	3460	3600	114	119	40-144	4	48		
1,2,3-Trichlorobenzene	ug/kg	306	3030	3030	3050	3380	90	101	40-131	10	50		
1,2,3-Trichloropropane	ug/kg	ND	3030	3030	3820	4180	126	138	40-146	9	49		
1,2,4-Trichlorobenzene	ug/kg	1630	3030	3030	4420	4860	92	106	40-134	9	50		
1,2,4-Trimethylbenzene	ug/kg	134J	3030	3030	3160	3350	100	106	40-137	6	50		
1,2-Dibromo-3-chloropropane	ug/kg	ND	3030	3030	2960	3330	98	110	40-147	12	50		
1,2-Dibromoethane (EDB)	ug/kg	ND	3030	3030	3140	3480	104	115	40-146	10	50		
1,2-Dichlorobenzene	ug/kg	1790	3030	3030	4620	4830	93	100	40-136	5	50		
1,2-Dichloroethane	ug/kg	ND	3030	3030	11900	11800	393	390	40-143	1	46	M1	
1,2-Dichloroethene (Total)	ug/kg	ND	6070	6070	5420	5840	89	96	40-136	7	47		
1,2-Dichloropropane	ug/kg	ND	3030	3030	3070	3270	101	108	40-136	6	47		
1,3,5-Trimethylbenzene	ug/kg	ND	3030	3030	3210	3460	104	112	40-137	8	50		
1,3-Dichlorobenzene	ug/kg	244	3030	3030	3270	3440	100	105	40-131	5	50		
1,3-Dichloropropane	ug/kg	ND	3030	3030	2900	3160	96	104	40-131	9	49		
1,4-Dichlorobenzene	ug/kg	3450	3030	3030	6350	6500	96	101	40-134	2	50		
2,2-Dichloropropane	ug/kg	ND	3030	3030	3190	3260	105	107	40-140	2	47		
2-Butanone (MEK)	ug/kg	381	15200	15200	12300	13600	79	87	40-139	10	48		
2-Chlorotoluene	ug/kg	ND	3030	3030	2930	3160	96	104	40-139	8	50		
2-Hexanone	ug/kg	ND	15200	15200	12900	14400	85	95	40-135	11	50		
4-Chlorotoluene	ug/kg	ND	3030	3030	3000	3200	99	105	40-138	6	50		
4-Methyl-2-pentanone (MIBK)	ug/kg	ND	15200	15200	12500	14100	82	93	40-138	12	50		
Acetone	ug/kg	ND	15200	15200	12400	12300	82	81	40-142	1	50		
Benzene	ug/kg	128000 0	3030	3030	115000	117000	-1562	-1486	40-145	2	47	M1	
Bromobenzene	ug/kg	ND	3030	3030	3220	3490	106	115	40-137	8	50		

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QUALITY CONTROL DATA

Project: Big MO Soil Sampling

Pace Project No.: 60139568

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1150503 1150504											
Parameter	Units	60139568021		MS	MSD	MS	MSD	MS	MSD	% Rec	Max
		Result	Conc.	Spike	Spike						RPD
				Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD
Bromochloromethane	ug/kg	ND	3030	3030	3030	2720	2870	90	95	40-140	6 48
Bromodichloromethane	ug/kg	ND	3030	3030	3030	2950	3130	97	103	40-136	6 49
Bromoform	ug/kg	ND	3030	3030	3030	2830	3060	93	101	40-136	8 50
Bromomethane	ug/kg	96.6J	3030	3030	3030	1030	864	31	25	40-141	17 49 M1
Carbon disulfide	ug/kg	ND	3030	3030	3030	2460	2320	81	76	40-136	6 49
Carbon tetrachloride	ug/kg	ND	3030	3030	3030	3300	3430	109	113	40-149	4 50
Chlorobenzene	ug/kg	1610	3030	3030	3030	4480	4670	95	101	40-135	4 50
Chloroethane	ug/kg	ND	3030	3030	3030	2070	2220	68	73	40-153	7 44
Chloroform	ug/kg	ND	3030	3030	3030	2620	2770	86	91	40-131	6 47
Chloromethane	ug/kg	126J	3030	3030	3030	2720	2970	86	94	40-133	9 46
cis-1,2-Dichloroethene	ug/kg	ND	3030	3030	3030	2680	2890	88	95	40-132	8 48
cis-1,3-Dichloropropene	ug/kg	ND	3030	3030	3030	2980	3210	98	106	40-135	8 50
Dibromochloromethane	ug/kg	ND	3030	3030	3030	3060	3320	101	110	40-144	8 48
Dibromomethane	ug/kg	ND	3030	3030	3030	2840	3030	94	100	40-135	7 46
Dichlorodifluoromethane	ug/kg	ND	3030	3030	3030	2650	2630	87	87	40-134	1 44
Ethylbenzene	ug/kg	ND	3030	3030	3030	3100	3270	102	108	40-151	5 48
Hexachloro-1,3-butadiene	ug/kg	ND	3030	3030	3030	2730	3000	90	99	40-133	9 50
Isopropylbenzene (Cumene)	ug/kg	947	3030	3030	3030	4540	4710	118	124	40-149	4 50
Methyl-tert-butyl ether	ug/kg	ND	3030	3030	3030	3030	3280	100	108	40-144	8 48
Methylene chloride	ug/kg	ND	3030	3030	3030	2780	3040	92	100	40-140	9 47
n-Butylbenzene	ug/kg	254	3030	3030	3030	3680	3910	113	120	40-142	6 50
n-Propylbenzene	ug/kg	1100	3030	3030	3030	4240	4420	104	109	40-139	4 50
Naphthalene	ug/kg	608	3030	3030	3030	3430	3710	93	102	40-158	8 48
p-Isopropyltoluene	ug/kg	111J	3030	3030	3030	3460	3670	111	117	40-138	6 50
sec-Butylbenzene	ug/kg	889	3030	3030	3030	4270	4430	112	117	40-140	4 50
Styrene	ug/kg	ND	3030	3030	3030	3140	3360	103	111	40-133	7 50
tert-Butylbenzene	ug/kg	165	3030	3030	3030	3470	3710	109	117	40-142	7 50
Tetrachloroethene	ug/kg	ND	3030	3030	3030	3280	3520	108	116	40-139	7 50
Toluene	ug/kg	90.3J	3030	3030	3030	3010	3220	96	103	40-150	7 46
trans-1,2-Dichloroethene	ug/kg	ND	3030	3030	3030	2750	2950	91	97	40-142	7 50
trans-1,3-Dichloropropene	ug/kg	ND	3030	3030	3030	3200	3460	105	114	40-146	8 50
Trichloroethene	ug/kg	ND	3030	3030	3030	3240	3350	107	110	40-151	3 49
Trichlorofluoromethane	ug/kg	ND	3030	3030	3030	2420	2290	80	76	40-145	5 45
Vinyl chloride	ug/kg	ND	3030	3030	3030	2850	3000	94	99	40-149	5 49
Xylene (Total)	ug/kg	ND	9100	9100	9100	9380	9880	103	109	40-153	5 47
1,2-Dichloroethane-d4 (S)	%							94	97	76-132	
4-Bromofluorobenzene (S)	%							119	119	80-120	
Dibromofluoromethane (S)	%							90	92	76-125	
Toluene-d8 (S)	%							96	97	80-120	

QUALITY CONTROL DATA

Project: Big MO Soil Sampling

Pace Project No.: 60139568

QC Batch: MSV/52238

Analysis Method: EPA 8260

QC Batch Method: EPA 8260

Analysis Description: 8260 MSV 5035A Volatile Organics

Associated Lab Samples: 60139568026, 60139568045

METHOD BLANK: 1150734

Matrix: Solid

Associated Lab Samples: 60139568026, 60139568045

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1,2-Tetrachloroethane	ug/kg	ND	5.0	03/09/13 20:58	
1,1,1-Trichloroethane	ug/kg	ND	5.0	03/09/13 20:58	
1,1,2,2-Tetrachloroethane	ug/kg	ND	5.0	03/09/13 20:58	
1,1,2-Trichloroethane	ug/kg	ND	5.0	03/09/13 20:58	
1,1-Dichloroethane	ug/kg	ND	5.0	03/09/13 20:58	
1,1-Dichloroethene	ug/kg	ND	5.0	03/09/13 20:58	
1,1-Dichloropropene	ug/kg	ND	5.0	03/09/13 20:58	
1,2,3-Trichlorobenzene	ug/kg	ND	5.0	03/09/13 20:58	
1,2,3-Trichloropropane	ug/kg	ND	5.0	03/09/13 20:58	
1,2,4-Trichlorobenzene	ug/kg	ND	5.0	03/09/13 20:58	
1,2,4-Trimethylbenzene	ug/kg	ND	5.0	03/09/13 20:58	
1,2-Dibromo-3-chloropropane	ug/kg	ND	10.0	03/09/13 20:58	
1,2-Dibromoethane (EDB)	ug/kg	ND	5.0	03/09/13 20:58	
1,2-Dichlorobenzene	ug/kg	ND	5.0	03/09/13 20:58	
1,2-Dichloroethane	ug/kg	ND	5.0	03/09/13 20:58	
1,2-Dichloroethene (Total)	ug/kg	ND	5.0	03/09/13 20:58	
1,2-Dichloropropane	ug/kg	ND	5.0	03/09/13 20:58	
1,3,5-Trimethylbenzene	ug/kg	ND	5.0	03/09/13 20:58	
1,3-Dichlorobenzene	ug/kg	ND	5.0	03/09/13 20:58	
1,3-Dichloropropane	ug/kg	ND	5.0	03/09/13 20:58	
1,4-Dichlorobenzene	ug/kg	ND	5.0	03/09/13 20:58	
2,2-Dichloropropane	ug/kg	ND	5.0	03/09/13 20:58	
2-Butanone (MEK)	ug/kg	ND	10.0	03/09/13 20:58	
2-Chlorotoluene	ug/kg	ND	5.0	03/09/13 20:58	
2-Hexanone	ug/kg	ND	20.0	03/09/13 20:58	
4-Chlorotoluene	ug/kg	ND	5.0	03/09/13 20:58	
4-Methyl-2-pentanone (MIBK)	ug/kg	ND	10.0	03/09/13 20:58	
Acetone	ug/kg	ND	20.0	03/09/13 20:58	
Benzene	ug/kg	ND	5.0	03/09/13 20:58	
Bromobenzene	ug/kg	ND	5.0	03/09/13 20:58	
Bromochloromethane	ug/kg	ND	5.0	03/09/13 20:58	
Bromodichloromethane	ug/kg	ND	5.0	03/09/13 20:58	
Bromoform	ug/kg	ND	5.0	03/09/13 20:58	
Bromomethane	ug/kg	ND	5.0	03/09/13 20:58	
Carbon disulfide	ug/kg	ND	5.0	03/09/13 20:58	
Carbon tetrachloride	ug/kg	ND	5.0	03/09/13 20:58	
Chlorobenzene	ug/kg	ND	5.0	03/09/13 20:58	
Chloroethane	ug/kg	ND	5.0	03/09/13 20:58	
Chloroform	ug/kg	ND	5.0	03/09/13 20:58	
Chloromethane	ug/kg	ND	5.0	03/09/13 20:58	
cis-1,2-Dichloroethene	ug/kg	ND	5.0	03/09/13 20:58	
cis-1,3-Dichloropropene	ug/kg	ND	5.0	03/09/13 20:58	
Dibromochloromethane	ug/kg	ND	5.0	03/09/13 20:58	

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QUALITY CONTROL DATA

Project: Big MO Soil Sampling

Pace Project No.: 60139568

METHOD BLANK: 1150734

Matrix: Solid

Associated Lab Samples: 60139568026, 60139568045

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Dibromomethane	ug/kg	ND	5.0	03/09/13 20:58	
Dichlorodifluoromethane	ug/kg	ND	5.0	03/09/13 20:58	
Ethylbenzene	ug/kg	ND	5.0	03/09/13 20:58	
Hexachloro-1,3-butadiene	ug/kg	ND	5.0	03/09/13 20:58	
Isopropylbenzene (Cumene)	ug/kg	ND	5.0	03/09/13 20:58	
Methyl-tert-butyl ether	ug/kg	ND	5.0	03/09/13 20:58	
Methylene chloride	ug/kg	ND	5.0	03/09/13 20:58	
n-Butylbenzene	ug/kg	ND	5.0	03/09/13 20:58	
n-Propylbenzene	ug/kg	ND	5.0	03/09/13 20:58	
Naphthalene	ug/kg	ND	10.0	03/09/13 20:58	
p-Isopropyltoluene	ug/kg	ND	5.0	03/09/13 20:58	
sec-Butylbenzene	ug/kg	ND	5.0	03/09/13 20:58	
Styrene	ug/kg	ND	5.0	03/09/13 20:58	
tert-Butylbenzene	ug/kg	ND	5.0	03/09/13 20:58	
Tetrachloroethene	ug/kg	ND	5.0	03/09/13 20:58	
Toluene	ug/kg	ND	5.0	03/09/13 20:58	
trans-1,2-Dichloroethene	ug/kg	ND	5.0	03/09/13 20:58	
trans-1,3-Dichloropropene	ug/kg	ND	5.0	03/09/13 20:58	
Trichloroethene	ug/kg	ND	5.0	03/09/13 20:58	
Trichlorofluoromethane	ug/kg	ND	5.0	03/09/13 20:58	
Vinyl chloride	ug/kg	ND	5.0	03/09/13 20:58	
Xylene (Total)	ug/kg	ND	5.0	03/09/13 20:58	
1,2-Dichloroethane-d4 (S)	%	101	76-132	03/09/13 20:58	
4-Bromofluorobenzene (S)	%	100	80-120	03/09/13 20:58	
Dibromofluoromethane (S)	%	99	76-125	03/09/13 20:58	
Toluene-d8 (S)	%	101	80-120	03/09/13 20:58	

LABORATORY CONTROL SAMPLE: 1150735

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1,2-Tetrachloroethane	ug/kg	100	94.5	95	80-120	
1,1,1-Trichloroethane	ug/kg	100	98.2	98	75-128	
1,1,2,2-Tetrachloroethane	ug/kg	100	87.9	88	68-120	
1,1,2-Trichloroethane	ug/kg	100	90.9	91	73-120	
1,1-Dichloroethane	ug/kg	100	87.7	88	73-120	
1,1-Dichloroethene	ug/kg	100	90.2	90	75-128	
1,1-Dichloropropene	ug/kg	100	96.0	96	78-128	
1,2,3-Trichlorobenzene	ug/kg	100	100	100	77-120	
1,2,3-Trichloropropane	ug/kg	100	88.0	88	72-120	
1,2,4-Trichlorobenzene	ug/kg	100	94.5	95	76-120	
1,2,4-Trimethylbenzene	ug/kg	100	88.6	89	77-120	
1,2-Dibromo-3-chloropropane	ug/kg	100	102	102	66-125	
1,2-Dibromoethane (EDB)	ug/kg	100	98.1	98	78-120	
1,2-Dichlorobenzene	ug/kg	100	91.7	92	80-120	
1,2-Dichloroethane	ug/kg	100	95.5	95	76-120	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: Big MO Soil Sampling

Pace Project No.: 60139568

LABORATORY CONTROL SAMPLE: 1150735

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2-Dichloroethene (Total)	ug/kg	200	183	92	77-120	
1,2-Dichloropropane	ug/kg	100	94.7	95	80-120	
1,3,5-Trimethylbenzene	ug/kg	100	93.2	93	76-120	
1,3-Dichlorobenzene	ug/kg	100	89.2	89	79-120	
1,3-Dichloropropane	ug/kg	100	90.4	90	73-120	
1,4-Dichlorobenzene	ug/kg	100	88.8	89	80-120	
2,2-Dichloropropane	ug/kg	100	86.5	87	66-131	
2-Butanone (MEK)	ug/kg	500	428	86	61-120	
2-Chlorotoluene	ug/kg	100	88.3	88	77-120	
2-Hexanone	ug/kg	500	419	84	66-120	
4-Chlorotoluene	ug/kg	100	90.1	90	76-120	
4-Methyl-2-pentanone (MIBK)	ug/kg	500	431	86	68-120	
Acetone	ug/kg	500	415	83	55-124	
Benzene	ug/kg	100	92.0	92	77-120	
Bromobenzene	ug/kg	100	94.2	94	80-120	
Bromochloromethane	ug/kg	100	95.5	96	77-120	
Bromodichloromethane	ug/kg	100	90.6	91	78-120	
Bromoform	ug/kg	100	82.5	82	68-123	
Bromomethane	ug/kg	100	78.6	79	60-140	
Carbon disulfide	ug/kg	100	71.2	71	68-123	
Carbon tetrachloride	ug/kg	100	98.1	98	74-136	
Chlorobenzene	ug/kg	100	89.3	89	80-120	
Chloroethane	ug/kg	100	73.0	73	60-149	
Chloroform	ug/kg	100	90.1	90	67-120	
Chloromethane	ug/kg	100	73.4	73	42-138	
cis-1,2-Dichloroethene	ug/kg	100	93.7	94	71-120	
cis-1,3-Dichloropropene	ug/kg	100	91.2	91	80-120	
Dibromochloromethane	ug/kg	100	94.2	94	80-120	
Dibromomethane	ug/kg	100	98.1	98	76-120	
Dichlorodifluoromethane	ug/kg	100	58.1	58	40-150	
Ethylbenzene	ug/kg	100	90.5	90	76-120	
Hexachloro-1,3-butadiene	ug/kg	100	101	101	68-131	
Isopropylbenzene (Cumene)	ug/kg	100	99.7	100	80-128	
Methyl-tert-butyl ether	ug/kg	100	101	101	71-124	
Methylene chloride	ug/kg	100	92.3	92	70-123	
n-Butylbenzene	ug/kg	100	97.2	97	73-131	
n-Propylbenzene	ug/kg	100	90.8	91	74-120	
Naphthalene	ug/kg	100	106	106	70-120	
p-Isopropyltoluene	ug/kg	100	94.9	95	76-121	
sec-Butylbenzene	ug/kg	100	95.4	95	75-123	
Styrene	ug/kg	100	95.1	95	78-120	
tert-Butylbenzene	ug/kg	100	95.8	96	77-120	
Tetrachloroethene	ug/kg	100	91.0	91	72-125	
Toluene	ug/kg	100	90.5	90	74-120	
trans-1,2-Dichloroethene	ug/kg	100	89.7	90	77-128	
trans-1,3-Dichloropropene	ug/kg	100	95.3	95	80-120	
Trichloroethene	ug/kg	100	91.6	92	76-120	
Trichlorofluoromethane	ug/kg	100	77.5	78	72-140	

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QUALITY CONTROL DATA

Project: Big MO Soil Sampling

Pace Project No.: 60139568

LABORATORY CONTROL SAMPLE: 1150735

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Vinyl chloride	ug/kg	100	75.2	75	65-145	
Xylene (Total)	ug/kg	300	272	91	75-120	
1,2-Dichloroethane-d4 (S)	%			102	76-132	
4-Bromofluorobenzene (S)	%			101	80-120	
Dibromofluoromethane (S)	%			101	76-125	
Toluene-d8 (S)	%			100	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1150736 1150737

Parameter	Units	60139407005 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1,1,1,2-Tetrachloroethane	ug/kg	ND	26200	26200	30200	28700	115	109	40-141	5	50	
1,1,1-Trichloroethane	ug/kg	ND	26200	26200	29100	27000	111	103	40-144	7	46	
1,1,2,2-Tetrachloroethane	ug/kg	ND	26200	26200	26300	24100	100	92	40-150	9	50	
1,1,2-Trichloroethane	ug/kg	ND	26200	26200	25400	23700	97	90	40-137	7	49	
1,1-Dichloroethane	ug/kg	ND	26200	26200	25100	24000	96	92	40-131	5	46	
1,1-Dichloroethene	ug/kg	ND	26200	26200	26500	23700	101	90	40-142	11	42	
1,1-Dichloropropene	ug/kg	ND	26200	26200	28600	26800	109	102	40-144	6	48	
1,2,3-Trichlorobenzene	ug/kg	ND	26200	26200	26600	24900	98	91	40-131	7	50	
1,2,3-Trichloropropane	ug/kg	ND	26200	26200	30600	27800	117	106	40-146	10	49	
1,2,4-Trichlorobenzene	ug/kg	ND	26200	26200	26000	24300	99	92	40-134	7	50	
1,2,4-Trimethylbenzene	ug/kg	109000	26200	26200	109000	112000	88	99	40-137	3	50	
1,2-Dibromo-3-chloropropane	ug/kg	ND	26200	26200	39300	38500	150	147	40-147	2	50	M1
1,2-Dibromoethane (EDB)	ug/kg	ND	26200	26200	27600	26100	105	99	40-146	5	50	
1,2-Dichlorobenzene	ug/kg	ND	26200	26200	25800	24300	98	93	40-136	6	50	
1,2-Dichloroethane	ug/kg	ND	26200	26200	27500	25800	105	98	40-143	7	46	
1,2-Dichloroethene (Total)	ug/kg	ND	52400	52400	53800	50000	102	95	40-136	7	47	
1,2-Dichloropropane	ug/kg	ND	26200	26200	27500	25700	105	98	40-136	7	47	
1,3,5-Trimethylbenzene	ug/kg	24000	26200	26200	51000	51100	103	103	40-137	0	50	
1,3-Dichlorobenzene	ug/kg	ND	26200	26200	25800	24200	98	92	40-131	6	50	
1,3-Dichloropropane	ug/kg	ND	26200	26200	25000	23900	95	91	40-131	4	49	
1,4-Dichlorobenzene	ug/kg	ND	26200	26200	25000	23800	95	91	40-134	5	50	
2,2-Dichloropropane	ug/kg	ND	26200	26200	25300	23500	97	90	40-140	7	47	
2-Butanone (MEK)	ug/kg	ND	131000	131000	125000	118000	94	88	40-139	6	48	
2-Chlorotoluene	ug/kg	ND	26200	26200	25300	23700	97	91	40-139	6	50	
2-Hexanone	ug/kg	ND	131000	131000	122000	115000	93	88	40-135	6	50	
4-Chlorotoluene	ug/kg	ND	26200	26200	28200	27000	107	103	40-138	4	50	
4-Methyl-2-pentanone (MIBK)	ug/kg	ND	131000	131000	125000	119000	96	91	40-138	5	50	
Acetone	ug/kg	ND	131000	131000	146000	132000	111	101	40-142	10	50	
Benzene	ug/kg	ND	26200	26200	26300	25200	100	96	40-145	5	47	
Bromobenzene	ug/kg	ND	26200	26200	27800	26400	106	101	40-137	5	50	
Bromochloromethane	ug/kg	ND	26200	26200	28300	26000	108	99	40-140	8	48	
Bromodichloromethane	ug/kg	ND	26200	26200	26600	25100	101	96	40-136	6	49	
Bromoform	ug/kg	ND	26200	26200	25600	24700	97	94	40-136	4	50	
Bromomethane	ug/kg	ND	26200	26200	18600	16400	71	62	40-141	13	49	
Carbon disulfide	ug/kg	ND	26200	26200	21100	19600	80	75	40-136	7	49	
Carbon tetrachloride	ug/kg	ND	26200	26200	28700	26900	110	103	40-149	6	50	

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QUALITY CONTROL DATA

Project: Big MO Soil Sampling

Pace Project No.: 60139568

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1150736 1150737											
Parameter	Units	60139407005		MS	MSD	MS	MSD	% Rec	% Rec	% Rec	Max
		Result	Conc.	Spike	Spike						RPD
				Conc.	Conc.	Result	Result				Qual
Chlorobenzene	ug/kg	ND	26200	26200	26200	24500	23500	93	90	40-135	4 50
Chloroethane	ug/kg	ND	26200	26200	26200	21000	19600	80	75	40-153	7 44
Chloroform	ug/kg	ND	26200	26200	26200	26400	24600	101	94	40-131	7 47
Chloromethane	ug/kg	ND	26200	26200	26200	23000	22600	86	84	40-133	2 46
cis-1,2-Dichloroethene	ug/kg	ND	26200	26200	26200	27500	25600	105	97	40-132	7 48
cis-1,3-Dichloropropene	ug/kg	ND	26200	26200	26200	26000	24200	99	92	40-135	7 50
Dibromochloromethane	ug/kg	ND	26200	26200	26200	26700	25100	102	96	40-144	6 48
Dibromomethane	ug/kg	ND	26200	26200	26200	29000	27200	111	104	40-135	7 46
Dichlorodifluoromethane	ug/kg	ND	26200	26200	26200	20100	18000	77	69	40-134	11 44
Ethylbenzene	ug/kg	4030	26200	26200	26200	29700	28400	98	93	40-151	5 48
Hexachloro-1,3-butadiene	ug/kg	ND	26200	26200	26200	21200	19100	81	73	40-133	10 50
Isopropylbenzene (Cumene)	ug/kg	2940	26200	26200	26200	32500	30900	113	107	40-149	5 50
Methyl-tert-butyl ether	ug/kg	ND	26200	26200	26200	29000	27500	111	105	40-144	5 48
Methylene chloride	ug/kg	ND	26200	26200	26200	27400	25800	104	98	40-140	6 47
n-Butylbenzene	ug/kg	26300	26200	26200	26200	52500	52900	100	101	40-142	1 50
n-Propylbenzene	ug/kg	8940	26200	26200	26200	35100	34400	100	97	40-139	2 50
Naphthalene	ug/kg	11600	26200	26200	26200	39800	39300	108	106	40-158	1 48
p-Isopropyltoluene	ug/kg	8930	26200	26200	26200	35900	34900	103	99	40-138	3 50
sec-Butylbenzene	ug/kg	9940	26200	26200	26200	37200	36800	104	102	40-140	1 50
Styrene	ug/kg	ND	26200	26200	26200	27500	26000	104	98	40-133	6 50
tert-Butylbenzene	ug/kg	ND	26200	26200	26200	27900	26600	106	101	40-142	5 50
Tetrachloroethene	ug/kg	ND	26200	26200	26200	25600	24600	98	94	40-139	4 50
Toluene	ug/kg	1870	26200	26200	26200	27900	26600	99	94	40-150	5 46
trans-1,2-Dichloroethene	ug/kg	ND	26200	26200	26200	26300	24500	100	93	40-142	7 50
trans-1,3-Dichloropropene	ug/kg	ND	26200	26200	26200	26500	25100	101	96	40-146	5 50
Trichloroethene	ug/kg	ND	26200	26200	26200	26600	25400	100	96	40-151	5 49
Trichlorofluoromethane	ug/kg	ND	26200	26200	26200	22200	19900	85	76	40-145	11 45
Vinyl chloride	ug/kg	ND	26200	26200	26200	23800	22200	91	85	40-149	7 49
Xylene (Total)	ug/kg	31500	78700	78700	78700	109000	107000	99	96	40-153	2 47
1,2-Dichloroethane-d4 (S)	%							107	105	76-132	
4-Bromofluorobenzene (S)	%							107	107	80-120	
Dibromofluoromethane (S)	%							104	103	76-125	
Toluene-d8 (S)	%							101	99	80-120	

QUALITY CONTROL DATA

Project: Big MO Soil Sampling

Pace Project No.: 60139568

QC Batch:	MSV/52244	Analysis Method:	EPA 8260
QC Batch Method:	EPA 8260	Analysis Description:	8260 MSV 5035A Volatile Organics
Associated Lab Samples:	60139568022, 60139568027, 60139568029, 60139568044, 60139568045, 60139568046, 60139568047, 60139568048, 60139568077		

METHOD BLANK: 1150897 Matrix: Solid

Associated Lab Samples: 60139568022, 60139568027, 60139568029, 60139568044, 60139568045, 60139568046, 60139568047, 60139568048, 60139568077

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1,2-Tetrachloroethane	ug/kg	ND	5.0	03/10/13 10:50	
1,1,1-Trichloroethane	ug/kg	ND	5.0	03/10/13 10:50	
1,1,2,2-Tetrachloroethane	ug/kg	ND	5.0	03/10/13 10:50	
1,1,2-Trichloroethane	ug/kg	ND	5.0	03/10/13 10:50	
1,1-Dichloroethane	ug/kg	ND	5.0	03/10/13 10:50	
1,1-Dichloroethene	ug/kg	ND	5.0	03/10/13 10:50	
1,1-Dichloropropene	ug/kg	ND	5.0	03/10/13 10:50	
1,2,3-Trichlorobenzene	ug/kg	ND	5.0	03/10/13 10:50	
1,2,3-Trichloropropane	ug/kg	ND	5.0	03/10/13 10:50	
1,2,4-Trichlorobenzene	ug/kg	ND	5.0	03/10/13 10:50	
1,2,4-Trimethylbenzene	ug/kg	ND	5.0	03/10/13 10:50	
1,2-Dibromo-3-chloropropane	ug/kg	ND	10.0	03/10/13 10:50	
1,2-Dibromoethane (EDB)	ug/kg	ND	5.0	03/10/13 10:50	
1,2-Dichlorobenzene	ug/kg	ND	5.0	03/10/13 10:50	
1,2-Dichloroethane	ug/kg	ND	5.0	03/10/13 10:50	
1,2-Dichloroethene (Total)	ug/kg	ND	5.0	03/10/13 10:50	
1,2-Dichloropropane	ug/kg	ND	5.0	03/10/13 10:50	
1,3,5-Trimethylbenzene	ug/kg	ND	5.0	03/10/13 10:50	
1,3-Dichlorobenzene	ug/kg	ND	5.0	03/10/13 10:50	
1,3-Dichloropropane	ug/kg	ND	5.0	03/10/13 10:50	
1,4-Dichlorobenzene	ug/kg	ND	5.0	03/10/13 10:50	
2,2-Dichloropropane	ug/kg	ND	5.0	03/10/13 10:50	
2-Butanone (MEK)	ug/kg	ND	10.0	03/10/13 10:50	
2-Chlorotoluene	ug/kg	ND	5.0	03/10/13 10:50	
2-Hexanone	ug/kg	ND	20.0	03/10/13 10:50	
4-Chlorotoluene	ug/kg	ND	5.0	03/10/13 10:50	
4-Methyl-2-pentanone (MIBK)	ug/kg	ND	10.0	03/10/13 10:50	
Acetone	ug/kg	ND	20.0	03/10/13 10:50	
Benzene	ug/kg	ND	5.0	03/10/13 10:50	
Bromobenzene	ug/kg	ND	5.0	03/10/13 10:50	
Bromochloromethane	ug/kg	ND	5.0	03/10/13 10:50	
Bromodichloromethane	ug/kg	ND	5.0	03/10/13 10:50	
Bromoform	ug/kg	ND	5.0	03/10/13 10:50	
Bromomethane	ug/kg	ND	5.0	03/10/13 10:50	
Carbon disulfide	ug/kg	ND	5.0	03/10/13 10:50	
Carbon tetrachloride	ug/kg	ND	5.0	03/10/13 10:50	
Chlorobenzene	ug/kg	ND	5.0	03/10/13 10:50	
Chloroethane	ug/kg	ND	5.0	03/10/13 10:50	
Chloroform	ug/kg	ND	5.0	03/10/13 10:50	
Chloromethane	ug/kg	ND	5.0	03/10/13 10:50	
cis-1,2-Dichloroethene	ug/kg	ND	5.0	03/10/13 10:50	

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QUALITY CONTROL DATA

Project: Big MO Soil Sampling

Pace Project No.: 60139568

METHOD BLANK: 1150897

Matrix: Solid

Associated Lab Samples: 60139568022, 60139568027, 60139568029, 60139568044, 60139568045, 60139568046, 60139568047, 60139568048, 60139568077

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
cis-1,3-Dichloropropene	ug/kg	ND	5.0	03/10/13 10:50	
Dibromochloromethane	ug/kg	ND	5.0	03/10/13 10:50	
Dibromomethane	ug/kg	ND	5.0	03/10/13 10:50	
Dichlorodifluoromethane	ug/kg	ND	5.0	03/10/13 10:50	
Ethylbenzene	ug/kg	ND	5.0	03/10/13 10:50	
Hexachloro-1,3-butadiene	ug/kg	ND	5.0	03/10/13 10:50	
Isopropylbenzene (Cumene)	ug/kg	ND	5.0	03/10/13 10:50	
Methyl-tert-butyl ether	ug/kg	ND	5.0	03/10/13 10:50	
Methylene chloride	ug/kg	ND	5.0	03/10/13 10:50	
n-Butylbenzene	ug/kg	ND	5.0	03/10/13 10:50	
n-Propylbenzene	ug/kg	ND	5.0	03/10/13 10:50	
Naphthalene	ug/kg	ND	10.0	03/10/13 10:50	
p-Isopropyltoluene	ug/kg	ND	5.0	03/10/13 10:50	
sec-Butylbenzene	ug/kg	ND	5.0	03/10/13 10:50	
Styrene	ug/kg	ND	5.0	03/10/13 10:50	
tert-Butylbenzene	ug/kg	ND	5.0	03/10/13 10:50	
Tetrachloroethene	ug/kg	ND	5.0	03/10/13 10:50	
Toluene	ug/kg	ND	5.0	03/10/13 10:50	
trans-1,2-Dichloroethene	ug/kg	ND	5.0	03/10/13 10:50	
trans-1,3-Dichloropropene	ug/kg	ND	5.0	03/10/13 10:50	
Trichloroethene	ug/kg	ND	5.0	03/10/13 10:50	
Trichlorofluoromethane	ug/kg	ND	5.0	03/10/13 10:50	
Vinyl chloride	ug/kg	ND	5.0	03/10/13 10:50	
Xylene (Total)	ug/kg	ND	5.0	03/10/13 10:50	
1,2-Dichloroethane-d4 (S)	%	102	76-132	03/10/13 10:50	
4-Bromofluorobenzene (S)	%	101	80-120	03/10/13 10:50	
Dibromofluoromethane (S)	%	101	76-125	03/10/13 10:50	
Toluene-d8 (S)	%	101	80-120	03/10/13 10:50	

LABORATORY CONTROL SAMPLE: 1150898

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1,2-Tetrachloroethane	ug/kg	100	98.7	99	80-120	
1,1,1-Trichloroethane	ug/kg	100	108	108	75-128	
1,1,2,2-Tetrachloroethane	ug/kg	100	89.1	89	68-120	
1,1,2-Trichloroethane	ug/kg	100	91.1	91	73-120	
1,1-Dichloroethane	ug/kg	100	91.8	92	73-120	
1,1-Dichloroethene	ug/kg	100	93.3	93	75-128	
1,1-Dichloropropene	ug/kg	100	108	108	78-128	
1,2,3-Trichlorobenzene	ug/kg	100	106	106	77-120	
1,2,3-Trichloropropane	ug/kg	100	90.7	91	72-120	
1,2,4-Trichlorobenzene	ug/kg	100	105	105	76-120	
1,2,4-Trimethylbenzene	ug/kg	100	94.7	95	77-120	
1,2-Dibromo-3-chloropropane	ug/kg	100	99.8	100	66-125	

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QUALITY CONTROL DATA

Project: Big MO Soil Sampling

Pace Project No.: 60139568

LABORATORY CONTROL SAMPLE: 1150898

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2-Dibromoethane (EDB)	ug/kg	100	100	100	78-120	
1,2-Dichlorobenzene	ug/kg	100	94.4	94	80-120	
1,2-Dichloroethane	ug/kg	100	98.5	98	76-120	
1,2-Dichloroethene (Total)	ug/kg	200	193	96	77-120	
1,2-Dichloropropane	ug/kg	100	100	100	80-120	
1,3,5-Trimethylbenzene	ug/kg	100	98.6	99	76-120	
1,3-Dichlorobenzene	ug/kg	100	95.0	95	79-120	
1,3-Dichloropropane	ug/kg	100	92.8	93	73-120	
1,4-Dichlorobenzene	ug/kg	100	95.3	95	80-120	
2,2-Dichloropropane	ug/kg	100	104	104	66-131	
2-Butanone (MEK)	ug/kg	500	419	84	61-120	
2-Chlorotoluene	ug/kg	100	92.4	92	77-120	
2-Hexanone	ug/kg	500	426	85	66-120	
4-Chlorotoluene	ug/kg	100	94.6	95	76-120	
4-Methyl-2-pentanone (MIBK)	ug/kg	500	435	87	68-120	
Acetone	ug/kg	500	429	86	55-124	
Benzene	ug/kg	100	97.2	97	77-120	
Bromobenzene	ug/kg	100	101	101	80-120	
Bromochloromethane	ug/kg	100	97.5	97	77-120	
Bromodichloromethane	ug/kg	100	96.6	97	78-120	
Bromoform	ug/kg	100	87.3	87	68-123	
Bromomethane	ug/kg	100	80.0	80	60-140	
Carbon disulfide	ug/kg	100	72.5	72	68-123	
Carbon tetrachloride	ug/kg	100	109	109	74-136	
Chlorobenzene	ug/kg	100	94.0	94	80-120	
Chloroethane	ug/kg	100	74.0	74	60-149	
Chloroform	ug/kg	100	95.0	95	67-120	
Chloromethane	ug/kg	100	71.2	71	42-138	
cis-1,2-Dichloroethene	ug/kg	100	98.0	98	71-120	
cis-1,3-Dichloropropene	ug/kg	100	98.4	98	80-120	
Dibromochloromethane	ug/kg	100	96.5	96	80-120	
Dibromomethane	ug/kg	100	102	102	76-120	
Dichlorodifluoromethane	ug/kg	100	56.6	57	40-150	
Ethylbenzene	ug/kg	100	97.9	98	76-120	
Hexachloro-1,3-butadiene	ug/kg	100	114	114	68-131	
Isopropylbenzene (Cumene)	ug/kg	100	109	109	80-128	
Methyl-tert-butyl ether	ug/kg	100	101	101	71-124	
Methylene chloride	ug/kg	100	94.9	95	70-123	
n-Butylbenzene	ug/kg	100	108	108	73-131	
n-Propylbenzene	ug/kg	100	97.0	97	74-120	
Naphthalene	ug/kg	100	103	103	70-120	
p-Isopropyltoluene	ug/kg	100	104	104	76-121	
sec-Butylbenzene	ug/kg	100	103	103	75-123	
Styrene	ug/kg	100	99.4	99	78-120	
tert-Butylbenzene	ug/kg	100	101	101	77-120	
Tetrachloroethene	ug/kg	100	102	102	72-125	
Toluene	ug/kg	100	96.8	97	74-120	
trans-1,2-Dichloroethene	ug/kg	100	94.7	95	77-128	

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QUALITY CONTROL DATA

Project: Big MO Soil Sampling

Pace Project No.: 60139568

LABORATORY CONTROL SAMPLE: 1150898

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
trans-1,3-Dichloropropene	ug/kg	100	103	103	80-120	
Trichloroethene	ug/kg	100	99.9	100	76-120	
Trichlorofluoromethane	ug/kg	100	80.6	81	72-140	
Vinyl chloride	ug/kg	100	76.8	77	65-145	
Xylene (Total)	ug/kg	300	293	98	75-120	
1,2-Dichloroethane-d4 (S)	%			103	76-132	
4-Bromofluorobenzene (S)	%			103	80-120	
Dibromofluoromethane (S)	%			99	76-125	
Toluene-d8 (S)	%			101	80-120	

QUALITY CONTROL DATA

Project: Big MO Soil Sampling

Pace Project No.: 60139568

QC Batch: MSV/52245

Analysis Method: EPA 8260

QC Batch Method: EPA 8260

Analysis Description: 8260 MSV 5035A Volatile Organics

Associated Lab Samples: 60139568050, 60139568051, 60139568052, 60139568053, 60139568054

METHOD BLANK: 1150899

Matrix: Solid

Associated Lab Samples: 60139568050, 60139568051, 60139568052, 60139568053, 60139568054

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1,2-Tetrachloroethane	ug/kg	ND	5.0	03/10/13 17:10	
1,1,1-Trichloroethane	ug/kg	ND	5.0	03/10/13 17:10	
1,1,2,2-Tetrachloroethane	ug/kg	ND	5.0	03/10/13 17:10	
1,1,2-Trichloroethane	ug/kg	ND	5.0	03/10/13 17:10	
1,1-Dichloroethane	ug/kg	ND	5.0	03/10/13 17:10	
1,1-Dichloroethene	ug/kg	ND	5.0	03/10/13 17:10	
1,1-Dichloropropene	ug/kg	ND	5.0	03/10/13 17:10	
1,2,3-Trichlorobenzene	ug/kg	ND	5.0	03/10/13 17:10	
1,2,3-Trichloropropane	ug/kg	ND	5.0	03/10/13 17:10	
1,2,4-Trichlorobenzene	ug/kg	ND	5.0	03/10/13 17:10	
1,2,4-Trimethylbenzene	ug/kg	ND	5.0	03/10/13 17:10	
1,2-Dibromo-3-chloropropane	ug/kg	ND	10.0	03/10/13 17:10	
1,2-Dibromoethane (EDB)	ug/kg	ND	5.0	03/10/13 17:10	
1,2-Dichlorobenzene	ug/kg	ND	5.0	03/10/13 17:10	
1,2-Dichloroethane	ug/kg	ND	5.0	03/10/13 17:10	
1,2-Dichloroethene (Total)	ug/kg	ND	5.0	03/10/13 17:10	
1,2-Dichloropropane	ug/kg	ND	5.0	03/10/13 17:10	
1,3,5-Trimethylbenzene	ug/kg	ND	5.0	03/10/13 17:10	
1,3-Dichlorobenzene	ug/kg	ND	5.0	03/10/13 17:10	
1,3-Dichloropropane	ug/kg	ND	5.0	03/10/13 17:10	
1,4-Dichlorobenzene	ug/kg	ND	5.0	03/10/13 17:10	
2,2-Dichloropropane	ug/kg	ND	5.0	03/10/13 17:10	
2-Butanone (MEK)	ug/kg	ND	10.0	03/10/13 17:10	
2-Chlorotoluene	ug/kg	ND	5.0	03/10/13 17:10	
2-Hexanone	ug/kg	ND	20.0	03/10/13 17:10	
4-Chlorotoluene	ug/kg	ND	5.0	03/10/13 17:10	
4-Methyl-2-pentanone (MIBK)	ug/kg	ND	10.0	03/10/13 17:10	
Acetone	ug/kg	ND	20.0	03/10/13 17:10	
Benzene	ug/kg	ND	5.0	03/10/13 17:10	
Bromobenzene	ug/kg	ND	5.0	03/10/13 17:10	
Bromochloromethane	ug/kg	ND	5.0	03/10/13 17:10	
Bromodichloromethane	ug/kg	ND	5.0	03/10/13 17:10	
Bromoform	ug/kg	ND	5.0	03/10/13 17:10	
Bromomethane	ug/kg	ND	5.0	03/10/13 17:10	
Carbon disulfide	ug/kg	ND	5.0	03/10/13 17:10	
Carbon tetrachloride	ug/kg	ND	5.0	03/10/13 17:10	
Chlorobenzene	ug/kg	ND	5.0	03/10/13 17:10	
Chloroethane	ug/kg	ND	5.0	03/10/13 17:10	
Chloroform	ug/kg	ND	5.0	03/10/13 17:10	
Chloromethane	ug/kg	ND	5.0	03/10/13 17:10	
cis-1,2-Dichloroethene	ug/kg	ND	5.0	03/10/13 17:10	
cis-1,3-Dichloropropene	ug/kg	ND	5.0	03/10/13 17:10	
Dibromochloromethane	ug/kg	ND	5.0	03/10/13 17:10	

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QUALITY CONTROL DATA

Project: Big MO Soil Sampling

Pace Project No.: 60139568

METHOD BLANK: 1150899

Matrix: Solid

Associated Lab Samples: 60139568050, 60139568051, 60139568052, 60139568053, 60139568054

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Dibromomethane	ug/kg	ND	5.0	03/10/13 17:10	
Dichlorodifluoromethane	ug/kg	ND	5.0	03/10/13 17:10	
Ethylbenzene	ug/kg	ND	5.0	03/10/13 17:10	
Hexachloro-1,3-butadiene	ug/kg	ND	5.0	03/10/13 17:10	
Isopropylbenzene (Cumene)	ug/kg	ND	5.0	03/10/13 17:10	
Methyl-tert-butyl ether	ug/kg	ND	5.0	03/10/13 17:10	
Methylene chloride	ug/kg	ND	5.0	03/10/13 17:10	
n-Butylbenzene	ug/kg	ND	5.0	03/10/13 17:10	
n-Propylbenzene	ug/kg	ND	5.0	03/10/13 17:10	
Naphthalene	ug/kg	ND	10.0	03/10/13 17:10	
p-Isopropyltoluene	ug/kg	ND	5.0	03/10/13 17:10	
sec-Butylbenzene	ug/kg	ND	5.0	03/10/13 17:10	
Styrene	ug/kg	ND	5.0	03/10/13 17:10	
tert-Butylbenzene	ug/kg	ND	5.0	03/10/13 17:10	
Tetrachloroethene	ug/kg	ND	5.0	03/10/13 17:10	
Toluene	ug/kg	ND	5.0	03/10/13 17:10	
trans-1,2-Dichloroethene	ug/kg	ND	5.0	03/10/13 17:10	
trans-1,3-Dichloropropene	ug/kg	ND	5.0	03/10/13 17:10	
Trichloroethene	ug/kg	ND	5.0	03/10/13 17:10	
Trichlorofluoromethane	ug/kg	ND	5.0	03/10/13 17:10	
Vinyl chloride	ug/kg	ND	5.0	03/10/13 17:10	
Xylene (Total)	ug/kg	ND	5.0	03/10/13 17:10	
1,2-Dichloroethane-d4 (S)	%	103	76-132	03/10/13 17:10	
4-Bromofluorobenzene (S)	%	100	80-120	03/10/13 17:10	
Dibromofluoromethane (S)	%	102	76-125	03/10/13 17:10	
Toluene-d8 (S)	%	103	80-120	03/10/13 17:10	

LABORATORY CONTROL SAMPLE: 1150900

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1,2-Tetrachloroethane	ug/kg	100	101	101	80-120	
1,1,1-Trichloroethane	ug/kg	100	107	107	75-128	
1,1,2,2-Tetrachloroethane	ug/kg	100	95.0	95	68-120	
1,1,2-Trichloroethane	ug/kg	100	97.5	98	73-120	
1,1-Dichloroethane	ug/kg	100	93.4	93	73-120	
1,1-Dichloroethene	ug/kg	100	91.7	92	75-128	
1,1-Dichloropropene	ug/kg	100	107	107	78-128	
1,2,3-Trichlorobenzene	ug/kg	100	101	101	77-120	
1,2,3-Trichloropropane	ug/kg	100	93.5	94	72-120	
1,2,4-Trichlorobenzene	ug/kg	100	96.4	96	76-120	
1,2,4-Trimethylbenzene	ug/kg	100	93.7	94	77-120	
1,2-Dibromo-3-chloropropane	ug/kg	100	104	104	66-125	
1,2-Dibromoethane (EDB)	ug/kg	100	105	105	78-120	
1,2-Dichlorobenzene	ug/kg	100	97.1	97	80-120	
1,2-Dichloroethane	ug/kg	100	103	103	76-120	

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QUALITY CONTROL DATA

Project: Big MO Soil Sampling

Pace Project No.: 60139568

LABORATORY CONTROL SAMPLE: 1150900

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2-Dichloroethene (Total)	ug/kg	200	198	99	77-120	
1,2-Dichloropropane	ug/kg	100	102	102	80-120	
1,3,5-Trimethylbenzene	ug/kg	100	98.2	98	76-120	
1,3-Dichlorobenzene	ug/kg	100	93.4	93	79-120	
1,3-Dichloropropane	ug/kg	100	95.7	96	73-120	
1,4-Dichlorobenzene	ug/kg	100	93.9	94	80-120	
2,2-Dichloropropane	ug/kg	100	96.9	97	66-131	
2-Butanone (MEK)	ug/kg	500	447	89	61-120	
2-Chlorotoluene	ug/kg	100	92.9	93	77-120	
2-Hexanone	ug/kg	500	436	87	66-120	
4-Chlorotoluene	ug/kg	100	94.8	95	76-120	
4-Methyl-2-pentanone (MIBK)	ug/kg	500	465	93	68-120	
Acetone	ug/kg	500	422	84	55-124	
Benzene	ug/kg	100	99.5	99	77-120	
Bromobenzene	ug/kg	100	104	104	80-120	
Bromochloromethane	ug/kg	100	102	102	77-120	
Bromodichloromethane	ug/kg	100	98.8	99	78-120	
Bromoform	ug/kg	100	89.0	89	68-123	
Bromomethane	ug/kg	100	78.3	78	60-140	
Carbon disulfide	ug/kg	100	70.2	70	68-123	
Carbon tetrachloride	ug/kg	100	106	106	74-136	
Chlorobenzene	ug/kg	100	95.8	96	80-120	
Chloroethane	ug/kg	100	73.2	73	60-149	
Chloroform	ug/kg	100	99.5	99	67-120	
Chloromethane	ug/kg	100	67.9	68	42-138	
cis-1,2-Dichloroethene	ug/kg	100	103	103	71-120	
cis-1,3-Dichloropropene	ug/kg	100	101	101	80-120	
Dibromochloromethane	ug/kg	100	101	101	80-120	
Dibromomethane	ug/kg	100	107	107	76-120	
Dichlorodifluoromethane	ug/kg	100	46.1	46	40-150	
Ethylbenzene	ug/kg	100	97.2	97	76-120	
Hexachloro-1,3-butadiene	ug/kg	100	106	106	68-131	
Isopropylbenzene (Cumene)	ug/kg	100	108	108	80-128	
Methyl-tert-butyl ether	ug/kg	100	107	107	71-124	
Methylene chloride	ug/kg	100	98.4	98	70-123	
n-Butylbenzene	ug/kg	100	99.9	100	73-131	
n-Propylbenzene	ug/kg	100	94.5	95	74-120	
Naphthalene	ug/kg	100	104	104	70-120	
p-Isopropyltoluene	ug/kg	100	98.6	99	76-121	
sec-Butylbenzene	ug/kg	100	99.7	100	75-123	
Styrene	ug/kg	100	101	101	78-120	
tert-Butylbenzene	ug/kg	100	101	101	77-120	
Tetrachloroethene	ug/kg	100	99.7	100	72-125	
Toluene	ug/kg	100	98.8	99	74-120	
trans-1,2-Dichloroethene	ug/kg	100	95.2	95	77-128	
trans-1,3-Dichloropropene	ug/kg	100	103	103	80-120	
Trichloroethene	ug/kg	100	99.6	100	76-120	
Trichlorofluoromethane	ug/kg	100	78.2	78	72-140	

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QUALITY CONTROL DATA

Project: Big MO Soil Sampling

Pace Project No.: 60139568

LABORATORY CONTROL SAMPLE: 1150900

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Vinyl chloride	ug/kg	100	70.6	71	65-145	
Xylene (Total)	ug/kg	300	295	98	75-120	
1,2-Dichloroethane-d4 (S)	%			101	76-132	
4-Bromofluorobenzene (S)	%			103	80-120	
Dibromofluoromethane (S)	%			102	76-125	
Toluene-d8 (S)	%			100	80-120	

QUALITY CONTROL DATA

Project: Big MO Soil Sampling

Pace Project No.: 60139568

QC Batch:	MSV/52248	Analysis Method:	EPA 8260
QC Batch Method:	EPA 8260	Analysis Description:	8260 MSV 5035A Volatile Organics
Associated Lab Samples:	60139568055, 60139568056, 60139568057, 60139568058, 60139568059, 60139568060, 60139568061, 60139568062, 60139568063, 60139568064, 60139568065		

METHOD BLANK: 1150905 Matrix: Solid

Associated Lab Samples: 60139568055, 60139568056, 60139568057, 60139568058, 60139568059, 60139568060, 60139568061, 60139568062, 60139568063, 60139568064, 60139568065

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1,2-Tetrachloroethane	ug/kg	ND	5.0	03/12/13 15:17	
1,1,1-Trichloroethane	ug/kg	ND	5.0	03/12/13 15:17	
1,1,2,2-Tetrachloroethane	ug/kg	ND	5.0	03/12/13 15:17	
1,1,2-Trichloroethane	ug/kg	ND	5.0	03/12/13 15:17	
1,1-Dichloroethane	ug/kg	ND	5.0	03/12/13 15:17	
1,1-Dichloroethene	ug/kg	ND	5.0	03/12/13 15:17	
1,1-Dichloropropene	ug/kg	ND	5.0	03/12/13 15:17	
1,2,3-Trichlorobenzene	ug/kg	ND	5.0	03/12/13 15:17	
1,2,3-Trichloropropane	ug/kg	ND	5.0	03/12/13 15:17	
1,2,4-Trichlorobenzene	ug/kg	ND	5.0	03/12/13 15:17	
1,2,4-Trimethylbenzene	ug/kg	ND	5.0	03/12/13 15:17	
1,2-Dibromo-3-chloropropane	ug/kg	ND	10.0	03/12/13 15:17	
1,2-Dibromoethane (EDB)	ug/kg	ND	5.0	03/12/13 15:17	
1,2-Dichlorobenzene	ug/kg	ND	5.0	03/12/13 15:17	
1,2-Dichloroethane	ug/kg	ND	5.0	03/12/13 15:17	
1,2-Dichloroethene (Total)	ug/kg	ND	5.0	03/12/13 15:17	
1,2-Dichloropropane	ug/kg	ND	5.0	03/12/13 15:17	
1,3,5-Trimethylbenzene	ug/kg	ND	5.0	03/12/13 15:17	
1,3-Dichlorobenzene	ug/kg	ND	5.0	03/12/13 15:17	
1,3-Dichloropropane	ug/kg	ND	5.0	03/12/13 15:17	
1,4-Dichlorobenzene	ug/kg	ND	5.0	03/12/13 15:17	
2,2-Dichloropropane	ug/kg	ND	5.0	03/12/13 15:17	
2-Butanone (MEK)	ug/kg	ND	10.0	03/12/13 15:17	
2-Chlorotoluene	ug/kg	ND	5.0	03/12/13 15:17	
2-Hexanone	ug/kg	ND	20.0	03/12/13 15:17	
4-Chlorotoluene	ug/kg	ND	5.0	03/12/13 15:17	
4-Methyl-2-pentanone (MIBK)	ug/kg	ND	10.0	03/12/13 15:17	
Acetone	ug/kg	ND	20.0	03/12/13 15:17	
Benzene	ug/kg	ND	5.0	03/12/13 15:17	
Bromobenzene	ug/kg	ND	5.0	03/12/13 15:17	
Bromochloromethane	ug/kg	ND	5.0	03/12/13 15:17	
Bromodichloromethane	ug/kg	ND	5.0	03/12/13 15:17	
Bromoform	ug/kg	ND	5.0	03/12/13 15:17	
Bromomethane	ug/kg	ND	5.0	03/12/13 15:17	
Carbon disulfide	ug/kg	ND	5.0	03/12/13 15:17	
Carbon tetrachloride	ug/kg	ND	5.0	03/12/13 15:17	
Chlorobenzene	ug/kg	ND	5.0	03/12/13 15:17	
Chloroethane	ug/kg	ND	5.0	03/12/13 15:17	
Chloroform	ug/kg	ND	5.0	03/12/13 15:17	
Chloromethane	ug/kg	ND	5.0	03/12/13 15:17	
cis-1,2-Dichloroethene	ug/kg	ND	5.0	03/12/13 15:17	

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QUALITY CONTROL DATA

Project: Big MO Soil Sampling

Pace Project No.: 60139568

METHOD BLANK: 1150905

Matrix: Solid

Associated Lab Samples: 60139568055, 60139568056, 60139568057, 60139568058, 60139568059, 60139568060, 60139568061, 60139568062, 60139568063, 60139568064, 60139568065

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
cis-1,3-Dichloropropene	ug/kg	ND	5.0	03/12/13 15:17	
Dibromochloromethane	ug/kg	ND	5.0	03/12/13 15:17	
Dibromomethane	ug/kg	ND	5.0	03/12/13 15:17	
Dichlorodifluoromethane	ug/kg	ND	5.0	03/12/13 15:17	
Ethylbenzene	ug/kg	ND	5.0	03/12/13 15:17	
Hexachloro-1,3-butadiene	ug/kg	ND	5.0	03/12/13 15:17	
Isopropylbenzene (Cumene)	ug/kg	ND	5.0	03/12/13 15:17	
Methyl-tert-butyl ether	ug/kg	ND	5.0	03/12/13 15:17	
Methylene chloride	ug/kg	ND	5.0	03/12/13 15:17	
n-Butylbenzene	ug/kg	ND	5.0	03/12/13 15:17	
n-Propylbenzene	ug/kg	ND	5.0	03/12/13 15:17	
Naphthalene	ug/kg	ND	10.0	03/12/13 15:17	
p-Isopropyltoluene	ug/kg	ND	5.0	03/12/13 15:17	
sec-Butylbenzene	ug/kg	ND	5.0	03/12/13 15:17	
Styrene	ug/kg	ND	5.0	03/12/13 15:17	
tert-Butylbenzene	ug/kg	ND	5.0	03/12/13 15:17	
Tetrachloroethene	ug/kg	ND	5.0	03/12/13 15:17	
Toluene	ug/kg	ND	5.0	03/12/13 15:17	
trans-1,2-Dichloroethene	ug/kg	ND	5.0	03/12/13 15:17	
trans-1,3-Dichloropropene	ug/kg	ND	5.0	03/12/13 15:17	
Trichloroethene	ug/kg	ND	5.0	03/12/13 15:17	
Trichlorofluoromethane	ug/kg	ND	5.0	03/12/13 15:17	
Vinyl chloride	ug/kg	ND	5.0	03/12/13 15:17	
Xylene (Total)	ug/kg	ND	5.0	03/12/13 15:17	
1,2-Dichloroethane-d4 (S)	%	101	76-132	03/12/13 15:17	
4-Bromofluorobenzene (S)	%	101	80-120	03/12/13 15:17	
Dibromofluoromethane (S)	%	103	76-125	03/12/13 15:17	
Toluene-d8 (S)	%	107	80-120	03/12/13 15:17	

LABORATORY CONTROL SAMPLE: 1150906

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1,2-Tetrachloroethane	ug/kg	100	102	102	80-120	
1,1,1-Trichloroethane	ug/kg	100	122	122	75-128	
1,1,2,2-Tetrachloroethane	ug/kg	100	90.3	90	68-120	
1,1,2-Trichloroethane	ug/kg	100	92.7	93	73-120	
1,1-Dichloroethane	ug/kg	100	102	102	73-120	
1,1-Dichloroethene	ug/kg	100	115	115	75-128	
1,1-Dichloropropene	ug/kg	100	123	123	78-128	
1,2,3-Trichlorobenzene	ug/kg	100	108	108	77-120	
1,2,3-Trichloropropane	ug/kg	100	87.8	88	72-120	
1,2,4-Trichlorobenzene	ug/kg	100	108	108	76-120	
1,2,4-Trimethylbenzene	ug/kg	100	99.4	99	77-120	
1,2-Dibromo-3-chloropropane	ug/kg	100	99.3	99	66-125	

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QUALITY CONTROL DATA

Project: Big MO Soil Sampling

Pace Project No.: 60139568

LABORATORY CONTROL SAMPLE: 1150906

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2-Dibromoethane (EDB)	ug/kg	100	102	102	78-120	
1,2-Dichlorobenzene	ug/kg	100	98.5	99	80-120	
1,2-Dichloroethane	ug/kg	100	107	107	76-120	
1,2-Dichloroethene (Total)	ug/kg	200	222	111	77-120	
1,2-Dichloropropane	ug/kg	100	106	106	80-120	
1,3,5-Trimethylbenzene	ug/kg	100	105	105	76-120	
1,3-Dichlorobenzene	ug/kg	100	99.9	100	79-120	
1,3-Dichloropropane	ug/kg	100	93.9	94	73-120	
1,4-Dichlorobenzene	ug/kg	100	98.7	99	80-120	
2,2-Dichloropropane	ug/kg	100	119	119	66-131	
2-Butanone (MEK)	ug/kg	500	446	89	61-120	
2-Chlorotoluene	ug/kg	100	97.6	98	77-120	
2-Hexanone	ug/kg	500	418	84	66-120	
4-Chlorotoluene	ug/kg	100	101	101	76-120	
4-Methyl-2-pentanone (MIBK)	ug/kg	500	462	92	68-120	
Acetone	ug/kg	500	481	96	55-124	
Benzene	ug/kg	100	108	108	77-120	
Bromobenzene	ug/kg	100	102	102	80-120	
Bromochloromethane	ug/kg	100	111	111	77-120	
Bromodichloromethane	ug/kg	100	107	107	78-120	
Bromoform	ug/kg	100	88.1	88	68-123	
Bromomethane	ug/kg	100	102	102	60-140	
Carbon disulfide	ug/kg	100	93.4	93	68-123	
Carbon tetrachloride	ug/kg	100	125	125	74-136	
Chlorobenzene	ug/kg	100	97.8	98	80-120	
Chloroethane	ug/kg	100	92.9	93	60-149	
Chloroform	ug/kg	100	106	106	67-120	
Chloromethane	ug/kg	100	101	101	42-138	
cis-1,2-Dichloroethene	ug/kg	100	109	109	71-120	
cis-1,3-Dichloropropene	ug/kg	100	108	108	80-120	
Dibromochloromethane	ug/kg	100	101	101	80-120	
Dibromomethane	ug/kg	100	110	110	76-120	
Dichlorodifluoromethane	ug/kg	100	103	103	40-150	
Ethylbenzene	ug/kg	100	101	101	76-120	
Hexachloro-1,3-butadiene	ug/kg	100	122	122	68-131	
Isopropylbenzene (Cumene)	ug/kg	100	115	115	80-128	
Methyl-tert-butyl ether	ug/kg	100	112	112	71-124	
Methylene chloride	ug/kg	100	112	112	70-123	
n-Butylbenzene	ug/kg	100	115	115	73-131	
n-Propylbenzene	ug/kg	100	103	103	74-120	
Naphthalene	ug/kg	100	103	103	70-120	
p-Isopropyltoluene	ug/kg	100	110	110	76-121	
sec-Butylbenzene	ug/kg	100	110	110	75-123	
Styrene	ug/kg	100	104	104	78-120	
tert-Butylbenzene	ug/kg	100	108	108	77-120	
Tetrachloroethene	ug/kg	100	110	110	72-125	
Toluene	ug/kg	100	109	109	74-120	
trans-1,2-Dichloroethene	ug/kg	100	113	113	77-128	

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QUALITY CONTROL DATA

Project: Big MO Soil Sampling

Pace Project No.: 60139568

LABORATORY CONTROL SAMPLE: 1150906

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
trans-1,3-Dichloropropene	ug/kg	100	103	103	80-120	
Trichloroethene	ug/kg	100	112	112	76-120	
Trichlorofluoromethane	ug/kg	100	103	103	72-140	
Vinyl chloride	ug/kg	100	106	106	65-145	
Xylene (Total)	ug/kg	300	308	103	75-120	
1,2-Dichloroethane-d4 (S)	%			104	76-132	
4-Bromofluorobenzene (S)	%			102	80-120	
Dibromofluoromethane (S)	%			105	76-125	
Toluene-d8 (S)	%			104	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1150907 1150908

Parameter	Units	60139568055 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	Max RPD	Qual
1,1,1,2-Tetrachloroethane	ug/kg	ND	6510	6510	5970	6180	92	95	40-141	3	50
1,1,1-Trichloroethane	ug/kg	ND	6510	6510	7120	7480	109	115	40-144	5	46
1,1,2,2-Tetrachloroethane	ug/kg	ND	6510	6510	5320	5900	82	91	40-150	10	50
1,1,2-Trichloroethane	ug/kg	ND	6510	6510	5570	5790	85	89	40-137	4	49
1,1-Dichloroethane	ug/kg	ND	6510	6510	6200	6520	95	100	40-131	5	46
1,1-Dichloroethene	ug/kg	ND	6510	6510	6310	6410	97	98	40-142	2	42
1,1-Dichloropropene	ug/kg	ND	6510	6510	7210	7570	111	116	40-144	5	48
1,2,3-Trichlorobenzene	ug/kg	ND	6510	6510	6450	6630	99	102	40-131	3	50
1,2,3-Trichloropropane	ug/kg	ND	6510	6510	5350	5590	82	86	40-146	4	49
1,2,4-Trichlorobenzene	ug/kg	ND	6510	6510	6580	6740	100	102	40-134	2	50
1,2,4-Trimethylbenzene	ug/kg	ND	6510	6510	6030	6180	92	94	40-137	2	50
1,2-Dibromo-3-chloropropane	ug/kg	ND	6510	6510	6260	6380	96	98	40-147	2	50
1,2-Dibromoethane (EDB)	ug/kg	ND	6510	6510	6050	6270	93	96	40-146	4	50
1,2-Dichlorobenzene	ug/kg	ND	6510	6510	6010	6190	91	94	40-136	3	50
1,2-Dichloroethane	ug/kg	ND	6510	6510	6670	6960	102	107	40-143	4	46
1,2-Dichloroethene (Total)	ug/kg	ND	13000	13000	13300	13700	102	105	40-136	3	47
1,2-Dichloropropane	ug/kg	ND	6510	6510	6620	6860	102	105	40-136	4	47
1,3,5-Trimethylbenzene	ug/kg	ND	6510	6510	6250	6430	96	99	40-137	3	50
1,3-Dichlorobenzene	ug/kg	ND	6510	6510	5960	6120	91	94	40-131	3	50
1,3-Dichloropropane	ug/kg	ND	6510	6510	5660	5870	87	90	40-131	4	49
1,4-Dichlorobenzene	ug/kg	392	6510	6510	6220	6470	90	93	40-134	4	50
2,2-Dichloropropane	ug/kg	ND	6510	6510	6830	7110	105	109	40-140	4	47
2-Butanone (MEK)	ug/kg	ND	32600	32600	27500	29100	84	89	40-139	6	48
2-Chlorotoluene	ug/kg	ND	6510	6510	5730	5890	88	91	40-139	3	50
2-Hexanone	ug/kg	ND	32600	32600	25700	26800	79	82	40-135	4	50
4-Chlorotoluene	ug/kg	ND	6510	6510	5910	6070	91	93	40-138	3	50
4-Methyl-2-pentanone (MIBK)	ug/kg	ND	32600	32600	28200	30300	87	93	40-138	7	50
Acetone	ug/kg	ND	32600	32600	28300	29300	87	90	40-142	4	50
Benzene	ug/kg	11400	6510	6510	17600	18000	95	101	40-145	2	47
Bromobenzene	ug/kg	ND	6510	6510	6230	6280	96	96	40-137	1	50
Bromochloromethane	ug/kg	ND	6510	6510	6550	6940	101	107	40-140	6	48
Bromodichloromethane	ug/kg	ND	6510	6510	6190	6590	95	101	40-136	6	49
Bromoform	ug/kg	ND	6510	6510	5280	5550	81	85	40-136	5	50

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QUALITY CONTROL DATA

Project: Big MO Soil Sampling

Pace Project No.: 60139568

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1150907 1150908											
Parameter	Units	60139568055		MS	MSD	MS	MSD	MS	MSD	% Rec	Max
		Result	Conc.	Spike	Spike						RPD
				Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD
Bromomethane	ug/kg	ND	6510	6510	6510	4470	4440	67	66	40-141	1 49
Carbon disulfide	ug/kg	ND	6510	6510	6510	5340	5410	82	83	40-136	1 49
Carbon tetrachloride	ug/kg	ND	6510	6510	6510	6990	7310	107	112	40-149	4 50
Chlorobenzene	ug/kg	887	6510	6510	6510	6620	6810	88	91	40-135	3 50
Chloroethane	ug/kg	ND	6510	6510	6510	4940	4800	76	74	40-153	3 44
Chloroform	ug/kg	ND	6510	6510	6510	6320	6560	97	101	40-131	4 47
Chloromethane	ug/kg	ND	6510	6510	6510	6630	6750	100	102	40-133	2 46
cis-1,2-Dichloroethene	ug/kg	ND	6510	6510	6510	6650	6920	102	106	40-132	4 48
cis-1,3-Dichloropropene	ug/kg	ND	6510	6510	6510	6480	6720	99	103	40-135	4 50
Dibromochloromethane	ug/kg	ND	6510	6510	6510	5720	6000	88	92	40-144	5 48
Dibromomethane	ug/kg	ND	6510	6510	6510	6540	6920	100	106	40-135	6 46
Dichlorodifluoromethane	ug/kg	ND	6510	6510	6510	6520	6340	100	97	40-134	3 44
Ethylbenzene	ug/kg	ND	6510	6510	6510	6000	6350	92	97	40-151	6 48
Hexachloro-1,3-butadiene	ug/kg	ND	6510	6510	6510	7250	7280	111	112	40-133	0 50
Isopropylbenzene (Cumene)	ug/kg	ND	6510	6510	6510	6680	6890	103	106	40-149	3 50
Methyl-tert-butyl ether	ug/kg	ND	6510	6510	6510	6920	7230	106	111	40-144	5 48
Methylene chloride	ug/kg	ND	6510	6510	6510	6850	7090	105	109	40-140	3 47
n-Butylbenzene	ug/kg	ND	6510	6510	6510	6920	7160	106	110	40-142	3 50
n-Propylbenzene	ug/kg	ND	6510	6510	6510	6010	6290	92	97	40-139	4 50
Naphthalene	ug/kg	ND	6510	6510	6510	6330	6660	97	102	40-158	5 48
p-Isopropyltoluene	ug/kg	ND	6510	6510	6510	6500	6640	100	102	40-138	2 50
sec-Butylbenzene	ug/kg	ND	6510	6510	6510	6500	6600	100	101	40-140	2 50
Styrene	ug/kg	ND	6510	6510	6510	6190	6420	95	99	40-133	4 50
tert-Butylbenzene	ug/kg	ND	6510	6510	6510	6350	6490	98	100	40-142	2 50
Tetrachloroethene	ug/kg	ND	6510	6510	6510	6180	6430	95	99	40-139	4 50
Toluene	ug/kg	ND	6510	6510	6510	6590	6750	100	103	40-150	2 46
trans-1,2-Dichloroethene	ug/kg	ND	6510	6510	6510	6620	6790	102	104	40-142	3 50
trans-1,3-Dichloropropene	ug/kg	ND	6510	6510	6510	6250	6500	96	100	40-146	4 50
Trichloroethene	ug/kg	ND	6510	6510	6510	6600	6940	101	106	40-151	5 49
Trichlorofluoromethane	ug/kg	ND	6510	6510	6510	5290	5250	81	81	40-145	1 45
Vinyl chloride	ug/kg	ND	6510	6510	6510	6590	6460	101	99	40-149	2 49
Xylene (Total)	ug/kg	ND	19500	19500	19500	18300	18800	94	96	40-153	3 47
1,2-Dichloroethane-d4 (S)	%							99	102	76-132	
4-Bromofluorobenzene (S)	%							104	105	80-120	
Dibromofluoromethane (S)	%							102	103	76-125	
Toluene-d8 (S)	%							103	105	80-120	

QUALITY CONTROL DATA

Project: Big MO Soil Sampling

Pace Project No.: 60139568

QC Batch:	MSV/52272	Analysis Method:	EPA 8260
QC Batch Method:	EPA 8260	Analysis Description:	8260 MSV 5035A Volatile Organics
Associated Lab Samples:	60139568021, 60139568022, 60139568023, 60139568027, 60139568028, 60139568029, 60139568049		

METHOD BLANK: 1151392 Matrix: Solid

Associated Lab Samples: 60139568021, 60139568022, 60139568023, 60139568027, 60139568028, 60139568029, 60139568049

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1,2-Tetrachloroethane	ug/kg	ND	5.0	03/11/13 15:56	
1,1,1-Trichloroethane	ug/kg	ND	5.0	03/11/13 15:56	
1,1,2,2-Tetrachloroethane	ug/kg	ND	5.0	03/11/13 15:56	
1,1,2-Trichloroethane	ug/kg	ND	5.0	03/11/13 15:56	
1,1-Dichloroethane	ug/kg	ND	5.0	03/11/13 15:56	
1,1-Dichloroethene	ug/kg	ND	5.0	03/11/13 15:56	
1,1-Dichloropropene	ug/kg	ND	5.0	03/11/13 15:56	
1,2,3-Trichlorobenzene	ug/kg	ND	5.0	03/11/13 15:56	
1,2,3-Trichloropropane	ug/kg	ND	5.0	03/11/13 15:56	
1,2,4-Trichlorobenzene	ug/kg	ND	5.0	03/11/13 15:56	
1,2,4-Trimethylbenzene	ug/kg	ND	5.0	03/11/13 15:56	
1,2-Dibromo-3-chloropropane	ug/kg	ND	10.0	03/11/13 15:56	
1,2-Dibromoethane (EDB)	ug/kg	ND	5.0	03/11/13 15:56	
1,2-Dichlorobenzene	ug/kg	ND	5.0	03/11/13 15:56	
1,2-Dichloroethane	ug/kg	ND	5.0	03/11/13 15:56	
1,2-Dichloroethene (Total)	ug/kg	ND	5.0	03/11/13 15:56	
1,2-Dichloropropane	ug/kg	ND	5.0	03/11/13 15:56	
1,3,5-Trimethylbenzene	ug/kg	ND	5.0	03/11/13 15:56	
1,3-Dichlorobenzene	ug/kg	ND	5.0	03/11/13 15:56	
1,3-Dichloropropane	ug/kg	ND	5.0	03/11/13 15:56	
1,4-Dichlorobenzene	ug/kg	ND	5.0	03/11/13 15:56	
2,2-Dichloropropane	ug/kg	ND	5.0	03/11/13 15:56	
2-Butanone (MEK)	ug/kg	ND	10.0	03/11/13 15:56	
2-Chlorotoluene	ug/kg	ND	5.0	03/11/13 15:56	
2-Hexanone	ug/kg	ND	20.0	03/11/13 15:56	
4-Chlorotoluene	ug/kg	ND	5.0	03/11/13 15:56	
4-Methyl-2-pentanone (MIBK)	ug/kg	ND	10.0	03/11/13 15:56	
Acetone	ug/kg	ND	20.0	03/11/13 15:56	
Benzene	ug/kg	ND	5.0	03/11/13 15:56	
Bromobenzene	ug/kg	ND	5.0	03/11/13 15:56	
Bromochloromethane	ug/kg	ND	5.0	03/11/13 15:56	
Bromodichloromethane	ug/kg	ND	5.0	03/11/13 15:56	
Bromoform	ug/kg	ND	5.0	03/11/13 15:56	
Bromomethane	ug/kg	ND	5.0	03/11/13 15:56	
Carbon disulfide	ug/kg	ND	5.0	03/11/13 15:56	
Carbon tetrachloride	ug/kg	ND	5.0	03/11/13 15:56	
Chlorobenzene	ug/kg	ND	5.0	03/11/13 15:56	
Chloroethane	ug/kg	ND	5.0	03/11/13 15:56	
Chloroform	ug/kg	ND	5.0	03/11/13 15:56	
Chloromethane	ug/kg	ND	5.0	03/11/13 15:56	
cis-1,2-Dichloroethene	ug/kg	ND	5.0	03/11/13 15:56	
cis-1,3-Dichloropropene	ug/kg	ND	5.0	03/11/13 15:56	
Dibromochloromethane	ug/kg	ND	5.0	03/11/13 15:56	

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QUALITY CONTROL DATA

Project: Big MO Soil Sampling

Pace Project No.: 60139568

METHOD BLANK: 1151392

Matrix: Solid

Associated Lab Samples: 60139568021, 60139568022, 60139568023, 60139568027, 60139568028, 60139568029, 60139568049

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Dibromomethane	ug/kg	ND	5.0	03/11/13 15:56	
Dichlorodifluoromethane	ug/kg	ND	5.0	03/11/13 15:56	
Ethylbenzene	ug/kg	ND	5.0	03/11/13 15:56	
Hexachloro-1,3-butadiene	ug/kg	ND	5.0	03/11/13 15:56	
Isopropylbenzene (Cumene)	ug/kg	ND	5.0	03/11/13 15:56	
Methyl-tert-butyl ether	ug/kg	ND	5.0	03/11/13 15:56	
Methylene chloride	ug/kg	ND	5.0	03/11/13 15:56	
n-Butylbenzene	ug/kg	ND	5.0	03/11/13 15:56	
n-Propylbenzene	ug/kg	ND	5.0	03/11/13 15:56	
Naphthalene	ug/kg	ND	10.0	03/11/13 15:56	
p-Isopropyltoluene	ug/kg	ND	5.0	03/11/13 15:56	
sec-Butylbenzene	ug/kg	ND	5.0	03/11/13 15:56	
Styrene	ug/kg	ND	5.0	03/11/13 15:56	
tert-Butylbenzene	ug/kg	ND	5.0	03/11/13 15:56	
Tetrachloroethene	ug/kg	ND	5.0	03/11/13 15:56	
Toluene	ug/kg	ND	5.0	03/11/13 15:56	
trans-1,2-Dichloroethene	ug/kg	ND	5.0	03/11/13 15:56	
trans-1,3-Dichloropropene	ug/kg	ND	5.0	03/11/13 15:56	
Trichloroethene	ug/kg	ND	5.0	03/11/13 15:56	
Trichlorofluoromethane	ug/kg	ND	5.0	03/11/13 15:56	
Vinyl chloride	ug/kg	ND	5.0	03/11/13 15:56	
Xylene (Total)	ug/kg	ND	5.0	03/11/13 15:56	
1,2-Dichloroethane-d4 (S)	%	103	76-132	03/11/13 15:56	
4-Bromofluorobenzene (S)	%	100	80-120	03/11/13 15:56	
Dibromofluoromethane (S)	%	103	76-125	03/11/13 15:56	
Toluene-d8 (S)	%	104	80-120	03/11/13 15:56	

LABORATORY CONTROL SAMPLE: 1151393

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1,2-Tetrachloroethane	ug/kg	100	94.0	94	80-120	
1,1,1-Trichloroethane	ug/kg	100	110	110	75-128	
1,1,2,2-Tetrachloroethane	ug/kg	100	83.7	84	68-120	
1,1,2-Trichloroethane	ug/kg	100	89.2	89	73-120	
1,1-Dichloroethane	ug/kg	100	94.0	94	73-120	
1,1-Dichloroethene	ug/kg	100	103	103	75-128	
1,1-Dichloropropene	ug/kg	100	112	112	78-128	
1,2,3-Trichlorobenzene	ug/kg	100	99.7	100	77-120	
1,2,3-Trichloropropane	ug/kg	100	80.8	81	72-120	
1,2,4-Trichlorobenzene	ug/kg	100	102	102	76-120	
1,2,4-Trimethylbenzene	ug/kg	100	92.6	93	77-120	
1,2-Dibromo-3-chloropropane	ug/kg	100	92.4	92	66-125	
1,2-Dibromoethane (EDB)	ug/kg	100	95.7	96	78-120	
1,2-Dichlorobenzene	ug/kg	100	92.7	93	80-120	
1,2-Dichloroethane	ug/kg	100	98.1	98	76-120	

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QUALITY CONTROL DATA

Project: Big MO Soil Sampling

Pace Project No.: 60139568

LABORATORY CONTROL SAMPLE: 1151393

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2-Dichloroethene (Total)	ug/kg	200	201	100	77-120	
1,2-Dichloropropane	ug/kg	100	98.6	99	80-120	
1,3,5-Trimethylbenzene	ug/kg	100	97.0	97	76-120	
1,3-Dichlorobenzene	ug/kg	100	92.9	93	79-120	
1,3-Dichloropropane	ug/kg	100	86.5	87	73-120	
1,4-Dichlorobenzene	ug/kg	100	93.2	93	80-120	
2,2-Dichloropropane	ug/kg	100	107	107	66-131	
2-Butanone (MEK)	ug/kg	500	419	84	61-120	
2-Chlorotoluene	ug/kg	100	90.9	91	77-120	
2-Hexanone	ug/kg	500	400	80	66-120	
4-Chlorotoluene	ug/kg	100	93.5	94	76-120	
4-Methyl-2-pentanone (MIBK)	ug/kg	500	426	85	68-120	
Acetone	ug/kg	500	429	86	55-124	
Benzene	ug/kg	100	99.2	99	77-120	
Bromobenzene	ug/kg	100	97.6	98	80-120	
Bromochloromethane	ug/kg	100	101	101	77-120	
Bromodichloromethane	ug/kg	100	96.1	96	78-120	
Bromoform	ug/kg	100	82.5	82	68-123	
Bromomethane	ug/kg	100	92.0	92	60-140	
Carbon disulfide	ug/kg	100	84.7	85	68-123	
Carbon tetrachloride	ug/kg	100	113	113	74-136	
Chlorobenzene	ug/kg	100	93.0	93	80-120	
Chloroethane	ug/kg	100	86.4	86	60-149	
Chloroform	ug/kg	100	96.2	96	67-120	
Chloromethane	ug/kg	100	97.2	97	42-138	
cis-1,2-Dichloroethene	ug/kg	100	99.3	99	71-120	
cis-1,3-Dichloropropene	ug/kg	100	97.9	98	80-120	
Dibromochloromethane	ug/kg	100	93.4	93	80-120	
Dibromomethane	ug/kg	100	101	101	76-120	
Dichlorodifluoromethane	ug/kg	100	103	103	40-150	
Ethylbenzene	ug/kg	100	96.1	96	76-120	
Hexachloro-1,3-butadiene	ug/kg	100	110	110	68-131	
Isopropylbenzene (Cumene)	ug/kg	100	106	106	80-128	
Methyl-tert-butyl ether	ug/kg	100	103	103	71-124	
Methylene chloride	ug/kg	100	98.9	99	70-123	
n-Butylbenzene	ug/kg	100	106	106	73-131	
n-Propylbenzene	ug/kg	100	96.2	96	74-120	
Naphthalene	ug/kg	100	96.9	97	70-120	
p-Isopropyltoluene	ug/kg	100	101	101	76-121	
sec-Butylbenzene	ug/kg	100	101	101	75-123	
Styrene	ug/kg	100	96.7	97	78-120	
tert-Butylbenzene	ug/kg	100	98.6	99	77-120	
Tetrachloroethene	ug/kg	100	102	102	72-125	
Toluene	ug/kg	100	99.3	99	74-120	
trans-1,2-Dichloroethene	ug/kg	100	101	101	77-128	
trans-1,3-Dichloropropene	ug/kg	100	99.1	99	80-120	
Trichloroethene	ug/kg	100	100	100	76-120	
Trichlorofluoromethane	ug/kg	100	94.1	94	72-140	

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QUALITY CONTROL DATA

Project: Big MO Soil Sampling

Pace Project No.: 60139568

LABORATORY CONTROL SAMPLE: 1151393

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Vinyl chloride	ug/kg	100	102	102	65-145	
Xylene (Total)	ug/kg	300	289	96	75-120	
1,2-Dichloroethane-d4 (S)	%			101	76-132	
4-Bromofluorobenzene (S)	%			102	80-120	
Dibromofluoromethane (S)	%			102	76-125	
Toluene-d8 (S)	%			101	80-120	

QUALITY CONTROL DATA

Project: Big MO Soil Sampling

Pace Project No.: 60139568

QC Batch: MSV/52296

Analysis Method: EPA 8260

QC Batch Method: EPA 8260

Analysis Description: 8260 MSV 5035A Volatile Organics

Associated Lab Samples: 60139568035, 60139568043

METHOD BLANK: 1152002

Matrix: Solid

Associated Lab Samples: 60139568035, 60139568043

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1,2-Tetrachloroethane	ug/kg	ND	5.0	03/12/13 15:17	
1,1,1-Trichloroethane	ug/kg	ND	5.0	03/12/13 15:17	
1,1,2,2-Tetrachloroethane	ug/kg	ND	5.0	03/12/13 15:17	
1,1,2-Trichloroethane	ug/kg	ND	5.0	03/12/13 15:17	
1,1-Dichloroethane	ug/kg	ND	5.0	03/12/13 15:17	
1,1-Dichloroethene	ug/kg	ND	5.0	03/12/13 15:17	
1,1-Dichloropropene	ug/kg	ND	5.0	03/12/13 15:17	
1,2,3-Trichlorobenzene	ug/kg	ND	5.0	03/12/13 15:17	
1,2,3-Trichloropropane	ug/kg	ND	5.0	03/12/13 15:17	
1,2,4-Trichlorobenzene	ug/kg	ND	5.0	03/12/13 15:17	
1,2,4-Trimethylbenzene	ug/kg	ND	5.0	03/12/13 15:17	
1,2-Dibromo-3-chloropropane	ug/kg	ND	10.0	03/12/13 15:17	
1,2-Dibromoethane (EDB)	ug/kg	ND	5.0	03/12/13 15:17	
1,2-Dichlorobenzene	ug/kg	ND	5.0	03/12/13 15:17	
1,2-Dichloroethane	ug/kg	ND	5.0	03/12/13 15:17	
1,2-Dichloroethene (Total)	ug/kg	ND	5.0	03/12/13 15:17	
1,2-Dichloropropane	ug/kg	ND	5.0	03/12/13 15:17	
1,3,5-Trimethylbenzene	ug/kg	ND	5.0	03/12/13 15:17	
1,3-Dichlorobenzene	ug/kg	ND	5.0	03/12/13 15:17	
1,3-Dichloropropane	ug/kg	ND	5.0	03/12/13 15:17	
1,4-Dichlorobenzene	ug/kg	ND	5.0	03/12/13 15:17	
2,2-Dichloropropane	ug/kg	ND	5.0	03/12/13 15:17	
2-Butanone (MEK)	ug/kg	ND	10.0	03/12/13 15:17	
2-Chlorotoluene	ug/kg	ND	5.0	03/12/13 15:17	
2-Hexanone	ug/kg	ND	20.0	03/12/13 15:17	
4-Chlorotoluene	ug/kg	ND	5.0	03/12/13 15:17	
4-Methyl-2-pentanone (MIBK)	ug/kg	ND	10.0	03/12/13 15:17	
Acetone	ug/kg	ND	20.0	03/12/13 15:17	
Benzene	ug/kg	ND	5.0	03/12/13 15:17	
Bromobenzene	ug/kg	ND	5.0	03/12/13 15:17	
Bromochloromethane	ug/kg	ND	5.0	03/12/13 15:17	
Bromodichloromethane	ug/kg	ND	5.0	03/12/13 15:17	
Bromoform	ug/kg	ND	5.0	03/12/13 15:17	
Bromomethane	ug/kg	ND	5.0	03/12/13 15:17	
Carbon disulfide	ug/kg	ND	5.0	03/12/13 15:17	
Carbon tetrachloride	ug/kg	ND	5.0	03/12/13 15:17	
Chlorobenzene	ug/kg	ND	5.0	03/12/13 15:17	
Chloroethane	ug/kg	ND	5.0	03/12/13 15:17	
Chloroform	ug/kg	ND	5.0	03/12/13 15:17	
Chloromethane	ug/kg	ND	5.0	03/12/13 15:17	
cis-1,2-Dichloroethene	ug/kg	ND	5.0	03/12/13 15:17	
cis-1,3-Dichloropropene	ug/kg	ND	5.0	03/12/13 15:17	
Dibromochloromethane	ug/kg	ND	5.0	03/12/13 15:17	

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QUALITY CONTROL DATA

Project: Big MO Soil Sampling

Pace Project No.: 60139568

METHOD BLANK: 1152002

Matrix: Solid

Associated Lab Samples: 60139568035, 60139568043

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Dibromomethane	ug/kg	ND	5.0	03/12/13 15:17	
Dichlorodifluoromethane	ug/kg	ND	5.0	03/12/13 15:17	
Ethylbenzene	ug/kg	ND	5.0	03/12/13 15:17	
Hexachloro-1,3-butadiene	ug/kg	ND	5.0	03/12/13 15:17	
Isopropylbenzene (Cumene)	ug/kg	ND	5.0	03/12/13 15:17	
Methyl-tert-butyl ether	ug/kg	ND	5.0	03/12/13 15:17	
Methylene chloride	ug/kg	ND	5.0	03/12/13 15:17	
n-Butylbenzene	ug/kg	ND	5.0	03/12/13 15:17	
n-Propylbenzene	ug/kg	ND	5.0	03/12/13 15:17	
Naphthalene	ug/kg	ND	10.0	03/12/13 15:17	
p-Isopropyltoluene	ug/kg	ND	5.0	03/12/13 15:17	
sec-Butylbenzene	ug/kg	ND	5.0	03/12/13 15:17	
Styrene	ug/kg	ND	5.0	03/12/13 15:17	
tert-Butylbenzene	ug/kg	ND	5.0	03/12/13 15:17	
Tetrachloroethene	ug/kg	ND	5.0	03/12/13 15:17	
Toluene	ug/kg	ND	5.0	03/12/13 15:17	
trans-1,2-Dichloroethene	ug/kg	ND	5.0	03/12/13 15:17	
trans-1,3-Dichloropropene	ug/kg	ND	5.0	03/12/13 15:17	
Trichloroethene	ug/kg	ND	5.0	03/12/13 15:17	
Trichlorofluoromethane	ug/kg	ND	5.0	03/12/13 15:17	
Vinyl chloride	ug/kg	ND	5.0	03/12/13 15:17	
Xylene (Total)	ug/kg	ND	5.0	03/12/13 15:17	
1,2-Dichloroethane-d4 (S)	%	101	76-132	03/12/13 15:17	
4-Bromofluorobenzene (S)	%	101	80-120	03/12/13 15:17	
Dibromofluoromethane (S)	%	103	76-125	03/12/13 15:17	
Toluene-d8 (S)	%	107	80-120	03/12/13 15:17	

LABORATORY CONTROL SAMPLE: 1152003

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1,2-Tetrachloroethane	ug/kg	100	102	102	80-120	
1,1,1-Trichloroethane	ug/kg	100	122	122	75-128	
1,1,2,2-Tetrachloroethane	ug/kg	100	90.3	90	68-120	
1,1,2-Trichloroethane	ug/kg	100	92.7	93	73-120	
1,1-Dichloroethane	ug/kg	100	102	102	73-120	
1,1-Dichloroethene	ug/kg	100	115	115	75-128	
1,1-Dichloropropene	ug/kg	100	123	123	78-128	
1,2,3-Trichlorobenzene	ug/kg	100	108	108	77-120	
1,2,3-Trichloropropane	ug/kg	100	87.8	88	72-120	
1,2,4-Trichlorobenzene	ug/kg	100	108	108	76-120	
1,2,4-Trimethylbenzene	ug/kg	100	99.4	99	77-120	
1,2-Dibromo-3-chloropropane	ug/kg	100	99.3	99	66-125	
1,2-Dibromoethane (EDB)	ug/kg	100	102	102	78-120	
1,2-Dichlorobenzene	ug/kg	100	98.5	99	80-120	
1,2-Dichloroethane	ug/kg	100	107	107	76-120	

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QUALITY CONTROL DATA

Project: Big MO Soil Sampling

Pace Project No.: 60139568

LABORATORY CONTROL SAMPLE: 1152003

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2-Dichloroethene (Total)	ug/kg	200	222	111	77-120	
1,2-Dichloropropane	ug/kg	100	106	106	80-120	
1,3,5-Trimethylbenzene	ug/kg	100	105	105	76-120	
1,3-Dichlorobenzene	ug/kg	100	99.9	100	79-120	
1,3-Dichloropropane	ug/kg	100	93.9	94	73-120	
1,4-Dichlorobenzene	ug/kg	100	98.7	99	80-120	
2,2-Dichloropropane	ug/kg	100	119	119	66-131	
2-Butanone (MEK)	ug/kg	500	446	89	61-120	
2-Chlorotoluene	ug/kg	100	97.6	98	77-120	
2-Hexanone	ug/kg	500	418	84	66-120	
4-Chlorotoluene	ug/kg	100	101	101	76-120	
4-Methyl-2-pentanone (MIBK)	ug/kg	500	462	92	68-120	
Acetone	ug/kg	500	481	96	55-124	
Benzene	ug/kg	100	108	108	77-120	
Bromobenzene	ug/kg	100	102	102	80-120	
Bromochloromethane	ug/kg	100	111	111	77-120	
Bromodichloromethane	ug/kg	100	107	107	78-120	
Bromoform	ug/kg	100	88.1	88	68-123	
Bromomethane	ug/kg	100	102	102	60-140	
Carbon disulfide	ug/kg	100	93.4	93	68-123	
Carbon tetrachloride	ug/kg	100	125	125	74-136	
Chlorobenzene	ug/kg	100	97.8	98	80-120	
Chloroethane	ug/kg	100	92.9	93	60-149	
Chloroform	ug/kg	100	106	106	67-120	
Chloromethane	ug/kg	100	101	101	42-138	
cis-1,2-Dichloroethene	ug/kg	100	109	109	71-120	
cis-1,3-Dichloropropene	ug/kg	100	108	108	80-120	
Dibromochloromethane	ug/kg	100	101	101	80-120	
Dibromomethane	ug/kg	100	110	110	76-120	
Dichlorodifluoromethane	ug/kg	100	103	103	40-150	
Ethylbenzene	ug/kg	100	101	101	76-120	
Hexachloro-1,3-butadiene	ug/kg	100	122	122	68-131	
Isopropylbenzene (Cumene)	ug/kg	100	115	115	80-128	
Methyl-tert-butyl ether	ug/kg	100	112	112	71-124	
Methylene chloride	ug/kg	100	112	112	70-123	
n-Butylbenzene	ug/kg	100	115	115	73-131	
n-Propylbenzene	ug/kg	100	103	103	74-120	
Naphthalene	ug/kg	100	103	103	70-120	
p-Isopropyltoluene	ug/kg	100	110	110	76-121	
sec-Butylbenzene	ug/kg	100	110	110	75-123	
Styrene	ug/kg	100	104	104	78-120	
tert-Butylbenzene	ug/kg	100	108	108	77-120	
Tetrachloroethene	ug/kg	100	110	110	72-125	
Toluene	ug/kg	100	109	109	74-120	
trans-1,2-Dichloroethene	ug/kg	100	113	113	77-128	
trans-1,3-Dichloropropene	ug/kg	100	103	103	80-120	
Trichloroethene	ug/kg	100	112	112	76-120	
Trichlorofluoromethane	ug/kg	100	103	103	72-140	

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QUALITY CONTROL DATA

Project: Big MO Soil Sampling

Pace Project No.: 60139568

LABORATORY CONTROL SAMPLE: 1152003

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Vinyl chloride	ug/kg	100	106	106	65-145	
Xylene (Total)	ug/kg	300	308	103	75-120	
1,2-Dichloroethane-d4 (S)	%			104	76-132	
4-Bromofluorobenzene (S)	%			102	80-120	
Dibromofluoromethane (S)	%			105	76-125	
Toluene-d8 (S)	%			104	80-120	

QUALITY CONTROL DATA

Project: Big MO Soil Sampling

Pace Project No.: 60139568

QC Batch:	MSV/52297	Analysis Method:	EPA 8260
QC Batch Method:	EPA 8260	Analysis Description:	8260 MSV 5035A Volatile Organics
Associated Lab Samples:	60139568066, 60139568068, 60139568070, 60139568071, 60139568072, 60139568073, 60139568074		

METHOD BLANK: 1152012 Matrix: Solid

Associated Lab Samples: 60139568066, 60139568068, 60139568070, 60139568071, 60139568072, 60139568073, 60139568074

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1,2-Tetrachloroethane	ug/kg	ND	5.0	03/12/13 22:39	
1,1,1-Trichloroethane	ug/kg	ND	5.0	03/12/13 22:39	
1,1,2,2-Tetrachloroethane	ug/kg	ND	5.0	03/12/13 22:39	
1,1,2-Trichloroethane	ug/kg	ND	5.0	03/12/13 22:39	
1,1-Dichloroethane	ug/kg	ND	5.0	03/12/13 22:39	
1,1-Dichloroethene	ug/kg	ND	5.0	03/12/13 22:39	
1,1-Dichloropropene	ug/kg	ND	5.0	03/12/13 22:39	
1,2,3-Trichlorobenzene	ug/kg	ND	5.0	03/12/13 22:39	
1,2,3-Trichloropropane	ug/kg	ND	5.0	03/12/13 22:39	
1,2,4-Trichlorobenzene	ug/kg	ND	5.0	03/12/13 22:39	
1,2,4-Trimethylbenzene	ug/kg	ND	5.0	03/12/13 22:39	
1,2-Dibromo-3-chloropropane	ug/kg	ND	10.0	03/12/13 22:39	
1,2-Dibromoethane (EDB)	ug/kg	ND	5.0	03/12/13 22:39	
1,2-Dichlorobenzene	ug/kg	ND	5.0	03/12/13 22:39	
1,2-Dichloroethane	ug/kg	ND	5.0	03/12/13 22:39	
1,2-Dichloroethene (Total)	ug/kg	ND	5.0	03/12/13 22:39	
1,2-Dichloropropane	ug/kg	ND	5.0	03/12/13 22:39	
1,3,5-Trimethylbenzene	ug/kg	ND	5.0	03/12/13 22:39	
1,3-Dichlorobenzene	ug/kg	ND	5.0	03/12/13 22:39	
1,3-Dichloropropane	ug/kg	ND	5.0	03/12/13 22:39	
1,4-Dichlorobenzene	ug/kg	ND	5.0	03/12/13 22:39	
2,2-Dichloropropane	ug/kg	ND	5.0	03/12/13 22:39	
2-Butanone (MEK)	ug/kg	ND	10.0	03/12/13 22:39	
2-Chlorotoluene	ug/kg	ND	5.0	03/12/13 22:39	
2-Hexanone	ug/kg	ND	20.0	03/12/13 22:39	
4-Chlorotoluene	ug/kg	ND	5.0	03/12/13 22:39	
4-Methyl-2-pentanone (MIBK)	ug/kg	ND	10.0	03/12/13 22:39	
Acetone	ug/kg	ND	20.0	03/12/13 22:39	
Benzene	ug/kg	ND	5.0	03/12/13 22:39	
Bromobenzene	ug/kg	ND	5.0	03/12/13 22:39	
Bromochloromethane	ug/kg	ND	5.0	03/12/13 22:39	
Bromodichloromethane	ug/kg	ND	5.0	03/12/13 22:39	
Bromoform	ug/kg	ND	5.0	03/12/13 22:39	
Bromomethane	ug/kg	ND	5.0	03/12/13 22:39	
Carbon disulfide	ug/kg	ND	5.0	03/12/13 22:39	
Carbon tetrachloride	ug/kg	ND	5.0	03/12/13 22:39	
Chlorobenzene	ug/kg	ND	5.0	03/12/13 22:39	
Chloroethane	ug/kg	ND	5.0	03/12/13 22:39	
Chloroform	ug/kg	ND	5.0	03/12/13 22:39	
Chloromethane	ug/kg	ND	5.0	03/12/13 22:39	
cis-1,2-Dichloroethene	ug/kg	ND	5.0	03/12/13 22:39	
cis-1,3-Dichloropropene	ug/kg	ND	5.0	03/12/13 22:39	
Dibromochloromethane	ug/kg	ND	5.0	03/12/13 22:39	

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QUALITY CONTROL DATA

Project: Big MO Soil Sampling

Pace Project No.: 60139568

METHOD BLANK: 1152012

Matrix: Solid

Associated Lab Samples: 60139568066, 60139568068, 60139568070, 60139568071, 60139568072, 60139568073, 60139568074

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Dibromomethane	ug/kg	ND	5.0	03/12/13 22:39	
Dichlorodifluoromethane	ug/kg	ND	5.0	03/12/13 22:39	
Ethylbenzene	ug/kg	ND	5.0	03/12/13 22:39	
Hexachloro-1,3-butadiene	ug/kg	ND	5.0	03/12/13 22:39	
Isopropylbenzene (Cumene)	ug/kg	ND	5.0	03/12/13 22:39	
Methyl-tert-butyl ether	ug/kg	ND	5.0	03/12/13 22:39	
Methylene chloride	ug/kg	ND	5.0	03/12/13 22:39	
n-Butylbenzene	ug/kg	ND	5.0	03/12/13 22:39	
n-Propylbenzene	ug/kg	ND	5.0	03/12/13 22:39	
Naphthalene	ug/kg	ND	10.0	03/12/13 22:39	
p-Isopropyltoluene	ug/kg	ND	5.0	03/12/13 22:39	
sec-Butylbenzene	ug/kg	ND	5.0	03/12/13 22:39	
Styrene	ug/kg	ND	5.0	03/12/13 22:39	
tert-Butylbenzene	ug/kg	ND	5.0	03/12/13 22:39	
Tetrachloroethene	ug/kg	ND	5.0	03/12/13 22:39	
Toluene	ug/kg	ND	5.0	03/12/13 22:39	
trans-1,2-Dichloroethene	ug/kg	ND	5.0	03/12/13 22:39	
trans-1,3-Dichloropropene	ug/kg	ND	5.0	03/12/13 22:39	
Trichloroethene	ug/kg	ND	5.0	03/12/13 22:39	
Trichlorofluoromethane	ug/kg	ND	5.0	03/12/13 22:39	
Vinyl chloride	ug/kg	ND	5.0	03/12/13 22:39	
Xylene (Total)	ug/kg	ND	5.0	03/12/13 22:39	
1,2-Dichloroethane-d4 (S)	%	104	76-132	03/12/13 22:39	
4-Bromofluorobenzene (S)	%	101	80-120	03/12/13 22:39	
Dibromofluoromethane (S)	%	106	76-125	03/12/13 22:39	
Toluene-d8 (S)	%	105	80-120	03/12/13 22:39	

LABORATORY CONTROL SAMPLE: 1152013

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1,2-Tetrachloroethane	ug/kg	100	99.2	99	80-120	
1,1,1-Trichloroethane	ug/kg	100	115	115	75-128	
1,1,2,2-Tetrachloroethane	ug/kg	100	87.6	88	68-120	
1,1,2-Trichloroethane	ug/kg	100	91.0	91	73-120	
1,1-Dichloroethane	ug/kg	100	99.2	99	73-120	
1,1-Dichloroethene	ug/kg	100	107	107	75-128	
1,1-Dichloropropene	ug/kg	100	113	113	78-128	
1,2,3-Trichlorobenzene	ug/kg	100	99.8	100	77-120	
1,2,3-Trichloropropane	ug/kg	100	84.4	84	72-120	
1,2,4-Trichlorobenzene	ug/kg	100	97.3	97	76-120	
1,2,4-Trimethylbenzene	ug/kg	100	92.3	92	77-120	
1,2-Dibromo-3-chloropropane	ug/kg	100	94.6	95	66-125	
1,2-Dibromoethane (EDB)	ug/kg	100	97.6	98	78-120	
1,2-Dichlorobenzene	ug/kg	100	93.2	93	80-120	
1,2-Dichloroethane	ug/kg	100	107	107	76-120	

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QUALITY CONTROL DATA

Project: Big MO Soil Sampling

Pace Project No.: 60139568

LABORATORY CONTROL SAMPLE: 1152013

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2-Dichloroethene (Total)	ug/kg	200	213	107	77-120	
1,2-Dichloropropane	ug/kg	100	106	106	80-120	
1,3,5-Trimethylbenzene	ug/kg	100	97.3	97	76-120	
1,3-Dichlorobenzene	ug/kg	100	93.0	93	79-120	
1,3-Dichloropropane	ug/kg	100	91.9	92	73-120	
1,4-Dichlorobenzene	ug/kg	100	92.0	92	80-120	
2,2-Dichloropropane	ug/kg	100	105	105	66-131	
2-Butanone (MEK)	ug/kg	500	433	87	61-120	
2-Chlorotoluene	ug/kg	100	89.7	90	77-120	
2-Hexanone	ug/kg	500	407	81	66-120	
4-Chlorotoluene	ug/kg	100	92.9	93	76-120	
4-Methyl-2-pentanone (MIBK)	ug/kg	500	459	92	68-120	
Acetone	ug/kg	500	507	101	55-124	
Benzene	ug/kg	100	105	105	77-120	
Bromobenzene	ug/kg	100	102	102	80-120	
Bromochloromethane	ug/kg	100	110	110	77-120	
Bromodichloromethane	ug/kg	100	103	103	78-120	
Bromoform	ug/kg	100	86.2	86	68-123	
Bromomethane	ug/kg	100	94.3	94	60-140	
Carbon disulfide	ug/kg	100	86.3	86	68-123	
Carbon tetrachloride	ug/kg	100	115	115	74-136	
Chlorobenzene	ug/kg	100	94.5	94	80-120	
Chloroethane	ug/kg	100	87.2	87	60-149	
Chloroform	ug/kg	100	105	105	67-120	
Chloromethane	ug/kg	100	96.5	96	42-138	
cis-1,2-Dichloroethene	ug/kg	100	109	109	71-120	
cis-1,3-Dichloropropene	ug/kg	100	105	105	80-120	
Dibromochloromethane	ug/kg	100	99.1	99	80-120	
Dibromomethane	ug/kg	100	109	109	76-120	
Dichlorodifluoromethane	ug/kg	100	89.7	90	40-150	
Ethylbenzene	ug/kg	100	96.3	96	76-120	
Hexachloro-1,3-butadiene	ug/kg	100	108	108	68-131	
Isopropylbenzene (Cumene)	ug/kg	100	109	109	80-128	
Methyl-tert-butyl ether	ug/kg	100	111	111	71-124	
Methylene chloride	ug/kg	100	114	114	70-123	
n-Butylbenzene	ug/kg	100	99.4	99	73-131	
n-Propylbenzene	ug/kg	100	93.8	94	74-120	
Naphthalene	ug/kg	100	98.8	99	70-120	
p-Isopropyltoluene	ug/kg	100	97.6	98	76-121	
sec-Butylbenzene	ug/kg	100	99.3	99	75-123	
Styrene	ug/kg	100	101	101	78-120	
tert-Butylbenzene	ug/kg	100	99.0	99	77-120	
Tetrachloroethene	ug/kg	100	99.9	100	72-125	
Toluene	ug/kg	100	107	107	74-120	
trans-1,2-Dichloroethene	ug/kg	100	104	104	77-128	
trans-1,3-Dichloropropene	ug/kg	100	100	100	80-120	
Trichloroethene	ug/kg	100	104	104	76-120	
Trichlorofluoromethane	ug/kg	100	94.4	94	72-140	

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QUALITY CONTROL DATA

Project: Big MO Soil Sampling

Pace Project No.: 60139568

LABORATORY CONTROL SAMPLE: 1152013

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Vinyl chloride	ug/kg	100	99.1	99	65-145	
Xylene (Total)	ug/kg	300	295	98	75-120	
1,2-Dichloroethane-d4 (S)	%			105	76-132	
4-Bromofluorobenzene (S)	%			107	80-120	
Dibromofluoromethane (S)	%			106	76-125	
Toluene-d8 (S)	%			105	80-120	

QUALITY CONTROL DATA

Project: Big MO Soil Sampling

Pace Project No.: 60139568

QC Batch: MSV/52313

Analysis Method: EPA 8260

QC Batch Method: EPA 8260

Analysis Description: 8260 MSV 5035A Volatile Organics

Associated Lab Samples: 60139568075, 60139568076

METHOD BLANK: 1152394

Matrix: Solid

Associated Lab Samples: 60139568075, 60139568076

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1,2-Tetrachloroethane	ug/kg	ND	5.0	03/13/13 12:16	
1,1,1-Trichloroethane	ug/kg	ND	5.0	03/13/13 12:16	
1,1,2,2-Tetrachloroethane	ug/kg	ND	5.0	03/13/13 12:16	
1,1,2-Trichloroethane	ug/kg	ND	5.0	03/13/13 12:16	
1,1-Dichloroethane	ug/kg	ND	5.0	03/13/13 12:16	
1,1-Dichloroethene	ug/kg	ND	5.0	03/13/13 12:16	
1,1-Dichloropropene	ug/kg	ND	5.0	03/13/13 12:16	
1,2,3-Trichlorobenzene	ug/kg	ND	5.0	03/13/13 12:16	
1,2,3-Trichloropropane	ug/kg	ND	5.0	03/13/13 12:16	
1,2,4-Trichlorobenzene	ug/kg	ND	5.0	03/13/13 12:16	
1,2,4-Trimethylbenzene	ug/kg	ND	5.0	03/13/13 12:16	
1,2-Dibromo-3-chloropropane	ug/kg	ND	10.0	03/13/13 12:16	
1,2-Dibromoethane (EDB)	ug/kg	ND	5.0	03/13/13 12:16	
1,2-Dichlorobenzene	ug/kg	ND	5.0	03/13/13 12:16	
1,2-Dichloroethane	ug/kg	ND	5.0	03/13/13 12:16	
1,2-Dichloroethene (Total)	ug/kg	ND	5.0	03/13/13 12:16	
1,2-Dichloropropane	ug/kg	ND	5.0	03/13/13 12:16	
1,3,5-Trimethylbenzene	ug/kg	ND	5.0	03/13/13 12:16	
1,3-Dichlorobenzene	ug/kg	ND	5.0	03/13/13 12:16	
1,3-Dichloropropane	ug/kg	ND	5.0	03/13/13 12:16	
1,4-Dichlorobenzene	ug/kg	ND	5.0	03/13/13 12:16	
2,2-Dichloropropane	ug/kg	ND	5.0	03/13/13 12:16	
2-Butanone (MEK)	ug/kg	ND	10.0	03/13/13 12:16	
2-Chlorotoluene	ug/kg	ND	5.0	03/13/13 12:16	
2-Hexanone	ug/kg	ND	20.0	03/13/13 12:16	
4-Chlorotoluene	ug/kg	ND	5.0	03/13/13 12:16	
4-Methyl-2-pentanone (MIBK)	ug/kg	ND	10.0	03/13/13 12:16	
Acetone	ug/kg	ND	20.0	03/13/13 12:16	
Benzene	ug/kg	ND	5.0	03/13/13 12:16	
Bromobenzene	ug/kg	ND	5.0	03/13/13 12:16	
Bromochloromethane	ug/kg	ND	5.0	03/13/13 12:16	
Bromodichloromethane	ug/kg	ND	5.0	03/13/13 12:16	
Bromoform	ug/kg	ND	5.0	03/13/13 12:16	
Bromomethane	ug/kg	ND	5.0	03/13/13 12:16	
Carbon disulfide	ug/kg	ND	5.0	03/13/13 12:16	
Carbon tetrachloride	ug/kg	ND	5.0	03/13/13 12:16	
Chlorobenzene	ug/kg	ND	5.0	03/13/13 12:16	
Chloroethane	ug/kg	ND	5.0	03/13/13 12:16	
Chloroform	ug/kg	ND	5.0	03/13/13 12:16	
Chloromethane	ug/kg	ND	5.0	03/13/13 12:16	
cis-1,2-Dichloroethene	ug/kg	ND	5.0	03/13/13 12:16	
cis-1,3-Dichloropropene	ug/kg	ND	5.0	03/13/13 12:16	
Dibromochloromethane	ug/kg	ND	5.0	03/13/13 12:16	

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QUALITY CONTROL DATA

Project: Big MO Soil Sampling

Pace Project No.: 60139568

METHOD BLANK: 1152394

Matrix: Solid

Associated Lab Samples: 60139568075, 60139568076

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Dibromomethane	ug/kg	ND	5.0	03/13/13 12:16	
Dichlorodifluoromethane	ug/kg	ND	5.0	03/13/13 12:16	
Ethylbenzene	ug/kg	ND	5.0	03/13/13 12:16	
Hexachloro-1,3-butadiene	ug/kg	ND	5.0	03/13/13 12:16	
Isopropylbenzene (Cumene)	ug/kg	ND	5.0	03/13/13 12:16	
Methyl-tert-butyl ether	ug/kg	ND	5.0	03/13/13 12:16	
Methylene chloride	ug/kg	3.5J	5.0	03/13/13 12:16	
n-Butylbenzene	ug/kg	ND	5.0	03/13/13 12:16	
n-Propylbenzene	ug/kg	ND	5.0	03/13/13 12:16	
Naphthalene	ug/kg	ND	10.0	03/13/13 12:16	
p-Isopropyltoluene	ug/kg	ND	5.0	03/13/13 12:16	
sec-Butylbenzene	ug/kg	ND	5.0	03/13/13 12:16	
Styrene	ug/kg	ND	5.0	03/13/13 12:16	
tert-Butylbenzene	ug/kg	ND	5.0	03/13/13 12:16	
Tetrachloroethene	ug/kg	ND	5.0	03/13/13 12:16	
Toluene	ug/kg	ND	5.0	03/13/13 12:16	
trans-1,2-Dichloroethene	ug/kg	ND	5.0	03/13/13 12:16	
trans-1,3-Dichloropropene	ug/kg	ND	5.0	03/13/13 12:16	
Trichloroethene	ug/kg	ND	5.0	03/13/13 12:16	
Trichlorofluoromethane	ug/kg	ND	5.0	03/13/13 12:16	
Vinyl chloride	ug/kg	ND	5.0	03/13/13 12:16	
Xylene (Total)	ug/kg	ND	5.0	03/13/13 12:16	
1,2-Dichloroethane-d4 (S)	%	101	76-132	03/13/13 12:16	
4-Bromofluorobenzene (S)	%	99	80-120	03/13/13 12:16	
Dibromofluoromethane (S)	%	96	76-125	03/13/13 12:16	
Toluene-d8 (S)	%	99	80-120	03/13/13 12:16	

LABORATORY CONTROL SAMPLE: 1152395

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1,2-Tetrachloroethane	ug/kg	100	107	107	80-120	
1,1,1-Trichloroethane	ug/kg	100	94.5	94	75-128	
1,1,2,2-Tetrachloroethane	ug/kg	100	96.1	96	68-120	
1,1,2-Trichloroethane	ug/kg	100	93.5	93	73-120	
1,1-Dichloroethane	ug/kg	100	94.2	94	73-120	
1,1-Dichloroethene	ug/kg	100	101	101	75-128	
1,1-Dichloropropene	ug/kg	100	92.1	92	78-128	
1,2,3-Trichlorobenzene	ug/kg	100	102	102	77-120	
1,2,3-Trichloropropane	ug/kg	100	99.3	99	72-120	
1,2,4-Trichlorobenzene	ug/kg	100	104	104	76-120	
1,2,4-Trimethylbenzene	ug/kg	100	99.1	99	77-120	
1,2-Dibromo-3-chloropropane	ug/kg	100	105	105	66-125	
1,2-Dibromoethane (EDB)	ug/kg	100	108	108	78-120	
1,2-Dichlorobenzene	ug/kg	100	106	106	80-120	
1,2-Dichloroethane	ug/kg	100	98.3	98	76-120	

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QUALITY CONTROL DATA

Project: Big MO Soil Sampling

Pace Project No.: 60139568

LABORATORY CONTROL SAMPLE: 1152395

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2-Dichloroethene (Total)	ug/kg	200	198	99	77-120	
1,2-Dichloropropane	ug/kg	100	95.1	95	80-120	
1,3,5-Trimethylbenzene	ug/kg	100	100	100	76-120	
1,3-Dichlorobenzene	ug/kg	100	103	103	79-120	
1,3-Dichloropropane	ug/kg	100	91.9	92	73-120	
1,4-Dichlorobenzene	ug/kg	100	102	102	80-120	
2,2-Dichloropropane	ug/kg	100	91.6	92	66-131	
2-Butanone (MEK)	ug/kg	500	409	82	61-120	
2-Chlorotoluene	ug/kg	100	96.4	96	77-120	
2-Hexanone	ug/kg	500	436	87	66-120	
4-Chlorotoluene	ug/kg	100	99.2	99	76-120	
4-Methyl-2-pentanone (MIBK)	ug/kg	500	473	95	68-120	
Acetone	ug/kg	500	477	95	55-124	
Benzene	ug/kg	100	95.9	96	77-120	
Bromobenzene	ug/kg	100	106	106	80-120	
Bromochloromethane	ug/kg	100	91.3	91	77-120	
Bromodichloromethane	ug/kg	100	102	102	78-120	
Bromoform	ug/kg	100	98.5	98	68-123	
Bromomethane	ug/kg	100	84.7	85	60-140	
Carbon disulfide	ug/kg	100	87.1	87	68-123	
Carbon tetrachloride	ug/kg	100	99.4	99	74-136	
Chlorobenzene	ug/kg	100	101	101	80-120	
Chloroethane	ug/kg	100	93.1	93	60-149	
Chloroform	ug/kg	100	90.7	91	67-120	
Chloromethane	ug/kg	100	86.2	86	42-138	
cis-1,2-Dichloroethene	ug/kg	100	98.4	98	71-120	
cis-1,3-Dichloropropene	ug/kg	100	98.9	99	80-120	
Dibromochloromethane	ug/kg	100	104	104	80-120	
Dibromomethane	ug/kg	100	102	102	76-120	
Dichlorodifluoromethane	ug/kg	100	74.9	75	40-150	
Ethylbenzene	ug/kg	100	97.5	98	76-120	
Hexachloro-1,3-butadiene	ug/kg	100	97.9	98	68-131	
Isopropylbenzene (Cumene)	ug/kg	100	107	107	80-128	
Methyl-tert-butyl ether	ug/kg	100	101	101	71-124	
Methylene chloride	ug/kg	100	91.1	91	70-123	
n-Butylbenzene	ug/kg	100	99.1	99	73-131	
n-Propylbenzene	ug/kg	100	94.0	94	74-120	
Naphthalene	ug/kg	100	107	107	70-120	
p-Isopropyltoluene	ug/kg	100	101	101	76-121	
sec-Butylbenzene	ug/kg	100	101	101	75-123	
Styrene	ug/kg	100	99.7	100	78-120	
tert-Butylbenzene	ug/kg	100	103	103	77-120	
Tetrachloroethene	ug/kg	100	103	103	72-125	
Toluene	ug/kg	100	97.4	97	74-120	
trans-1,2-Dichloroethene	ug/kg	100	99.5	100	77-128	
trans-1,3-Dichloropropene	ug/kg	100	106	106	80-120	
Trichloroethene	ug/kg	100	94.3	94	76-120	
Trichlorofluoromethane	ug/kg	100	93.5	94	72-140	

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QUALITY CONTROL DATA

Project: Big MO Soil Sampling

Pace Project No.: 60139568

LABORATORY CONTROL SAMPLE: 1152395

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Vinyl chloride	ug/kg	100	87.8	88	65-145	
Xylene (Total)	ug/kg	300	296	99	75-120	
1,2-Dichloroethane-d4 (S)	%			100	76-132	
4-Bromofluorobenzene (S)	%			105	80-120	
Dibromofluoromethane (S)	%			100	76-125	
Toluene-d8 (S)	%			97	80-120	

QUALITY CONTROL DATA

Project: Big MO Soil Sampling

Pace Project No.: 60139568

QC Batch: MSV/52329

Analysis Method: EPA 8260

QC Batch Method: EPA 8260

Analysis Description: 8260 MSV 5035A Volatile Organics

Associated Lab Samples: 60139568067, 60139568069, 60139568073

METHOD BLANK: 1152606

Matrix: Solid

Associated Lab Samples: 60139568067, 60139568069, 60139568073

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1,2-Tetrachloroethane	ug/kg	ND	5.0	03/13/13 12:16	
1,1,1-Trichloroethane	ug/kg	ND	5.0	03/13/13 12:16	
1,1,2,2-Tetrachloroethane	ug/kg	ND	5.0	03/13/13 12:16	
1,1,2-Trichloroethane	ug/kg	ND	5.0	03/13/13 12:16	
1,1-Dichloroethane	ug/kg	ND	5.0	03/13/13 12:16	
1,1-Dichloroethene	ug/kg	ND	5.0	03/13/13 12:16	
1,1-Dichloropropene	ug/kg	ND	5.0	03/13/13 12:16	
1,2,3-Trichlorobenzene	ug/kg	ND	5.0	03/13/13 12:16	
1,2,3-Trichloropropane	ug/kg	ND	5.0	03/13/13 12:16	
1,2,4-Trichlorobenzene	ug/kg	ND	5.0	03/13/13 12:16	
1,2,4-Trimethylbenzene	ug/kg	ND	5.0	03/13/13 12:16	
1,2-Dibromo-3-chloropropane	ug/kg	ND	10.0	03/13/13 12:16	
1,2-Dibromoethane (EDB)	ug/kg	ND	5.0	03/13/13 12:16	
1,2-Dichlorobenzene	ug/kg	ND	5.0	03/13/13 12:16	
1,2-Dichloroethane	ug/kg	ND	5.0	03/13/13 12:16	
1,2-Dichloroethene (Total)	ug/kg	ND	5.0	03/13/13 12:16	
1,2-Dichloropropane	ug/kg	ND	5.0	03/13/13 12:16	
1,3,5-Trimethylbenzene	ug/kg	ND	5.0	03/13/13 12:16	
1,3-Dichlorobenzene	ug/kg	ND	5.0	03/13/13 12:16	
1,3-Dichloropropane	ug/kg	ND	5.0	03/13/13 12:16	
1,4-Dichlorobenzene	ug/kg	ND	5.0	03/13/13 12:16	
2,2-Dichloropropane	ug/kg	ND	5.0	03/13/13 12:16	
2-Butanone (MEK)	ug/kg	ND	10.0	03/13/13 12:16	
2-Chlorotoluene	ug/kg	ND	5.0	03/13/13 12:16	
2-Hexanone	ug/kg	ND	20.0	03/13/13 12:16	
4-Chlorotoluene	ug/kg	ND	5.0	03/13/13 12:16	
4-Methyl-2-pentanone (MIBK)	ug/kg	ND	10.0	03/13/13 12:16	
Acetone	ug/kg	ND	20.0	03/13/13 12:16	
Benzene	ug/kg	ND	5.0	03/13/13 12:16	
Bromobenzene	ug/kg	ND	5.0	03/13/13 12:16	
Bromochloromethane	ug/kg	ND	5.0	03/13/13 12:16	
Bromodichloromethane	ug/kg	ND	5.0	03/13/13 12:16	
Bromoform	ug/kg	ND	5.0	03/13/13 12:16	
Bromomethane	ug/kg	ND	5.0	03/13/13 12:16	
Carbon disulfide	ug/kg	ND	5.0	03/13/13 12:16	
Carbon tetrachloride	ug/kg	ND	5.0	03/13/13 12:16	
Chlorobenzene	ug/kg	ND	5.0	03/13/13 12:16	
Chloroethane	ug/kg	ND	5.0	03/13/13 12:16	
Chloroform	ug/kg	ND	5.0	03/13/13 12:16	
Chloromethane	ug/kg	ND	5.0	03/13/13 12:16	
cis-1,2-Dichloroethene	ug/kg	ND	5.0	03/13/13 12:16	
cis-1,3-Dichloropropene	ug/kg	ND	5.0	03/13/13 12:16	
Dibromochloromethane	ug/kg	ND	5.0	03/13/13 12:16	

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QUALITY CONTROL DATA

Project: Big MO Soil Sampling

Pace Project No.: 60139568

METHOD BLANK: 1152606

Matrix: Solid

Associated Lab Samples: 60139568067, 60139568069, 60139568073

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Dibromomethane	ug/kg	ND	5.0	03/13/13 12:16	
Dichlorodifluoromethane	ug/kg	ND	5.0	03/13/13 12:16	
Ethylbenzene	ug/kg	ND	5.0	03/13/13 12:16	
Hexachloro-1,3-butadiene	ug/kg	ND	5.0	03/13/13 12:16	
Isopropylbenzene (Cumene)	ug/kg	ND	5.0	03/13/13 12:16	
Methyl-tert-butyl ether	ug/kg	ND	5.0	03/13/13 12:16	
Methylene chloride	ug/kg	3.5J	5.0	03/13/13 12:16	
n-Butylbenzene	ug/kg	ND	5.0	03/13/13 12:16	
n-Propylbenzene	ug/kg	ND	5.0	03/13/13 12:16	
Naphthalene	ug/kg	ND	10.0	03/13/13 12:16	
p-Isopropyltoluene	ug/kg	ND	5.0	03/13/13 12:16	
sec-Butylbenzene	ug/kg	ND	5.0	03/13/13 12:16	
Styrene	ug/kg	ND	5.0	03/13/13 12:16	
tert-Butylbenzene	ug/kg	ND	5.0	03/13/13 12:16	
Tetrachloroethene	ug/kg	ND	5.0	03/13/13 12:16	
Toluene	ug/kg	ND	5.0	03/13/13 12:16	
trans-1,2-Dichloroethene	ug/kg	ND	5.0	03/13/13 12:16	
trans-1,3-Dichloropropene	ug/kg	ND	5.0	03/13/13 12:16	
Trichloroethene	ug/kg	ND	5.0	03/13/13 12:16	
Trichlorofluoromethane	ug/kg	ND	5.0	03/13/13 12:16	
Vinyl chloride	ug/kg	ND	5.0	03/13/13 12:16	
Xylene (Total)	ug/kg	ND	5.0	03/13/13 12:16	
1,2-Dichloroethane-d4 (S)	%	101	76-132	03/13/13 12:16	
4-Bromofluorobenzene (S)	%	99	80-120	03/13/13 12:16	
Dibromofluoromethane (S)	%	96	76-125	03/13/13 12:16	
Toluene-d8 (S)	%	99	80-120	03/13/13 12:16	

LABORATORY CONTROL SAMPLE: 1152607

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1,2-Tetrachloroethane	ug/kg	100	107	107	80-120	
1,1,1-Trichloroethane	ug/kg	100	94.5	94	75-128	
1,1,2,2-Tetrachloroethane	ug/kg	100	96.1	96	68-120	
1,1,2-Trichloroethane	ug/kg	100	93.5	93	73-120	
1,1-Dichloroethane	ug/kg	100	94.2	94	73-120	
1,1-Dichloroethene	ug/kg	100	101	101	75-128	
1,1-Dichloropropene	ug/kg	100	92.1	92	78-128	
1,2,3-Trichlorobenzene	ug/kg	100	102	102	77-120	
1,2,3-Trichloropropane	ug/kg	100	99.3	99	72-120	
1,2,4-Trichlorobenzene	ug/kg	100	104	104	76-120	
1,2,4-Trimethylbenzene	ug/kg	100	99.1	99	77-120	
1,2-Dibromo-3-chloropropane	ug/kg	100	105	105	66-125	
1,2-Dibromoethane (EDB)	ug/kg	100	108	108	78-120	
1,2-Dichlorobenzene	ug/kg	100	106	106	80-120	
1,2-Dichloroethane	ug/kg	100	98.3	98	76-120	

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QUALITY CONTROL DATA

Project: Big MO Soil Sampling

Pace Project No.: 60139568

LABORATORY CONTROL SAMPLE: 1152607

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2-Dichloroethene (Total)	ug/kg	200	198	99	77-120	
1,2-Dichloropropane	ug/kg	100	95.1	95	80-120	
1,3,5-Trimethylbenzene	ug/kg	100	100	100	76-120	
1,3-Dichlorobenzene	ug/kg	100	103	103	79-120	
1,3-Dichloropropane	ug/kg	100	91.9	92	73-120	
1,4-Dichlorobenzene	ug/kg	100	102	102	80-120	
2,2-Dichloropropane	ug/kg	100	91.6	92	66-131	
2-Butanone (MEK)	ug/kg	500	409	82	61-120	
2-Chlorotoluene	ug/kg	100	96.4	96	77-120	
2-Hexanone	ug/kg	500	436	87	66-120	
4-Chlorotoluene	ug/kg	100	99.2	99	76-120	
4-Methyl-2-pentanone (MIBK)	ug/kg	500	473	95	68-120	
Acetone	ug/kg	500	477	95	55-124	
Benzene	ug/kg	100	95.9	96	77-120	
Bromobenzene	ug/kg	100	106	106	80-120	
Bromochloromethane	ug/kg	100	91.3	91	77-120	
Bromodichloromethane	ug/kg	100	102	102	78-120	
Bromoform	ug/kg	100	98.5	98	68-123	
Bromomethane	ug/kg	100	84.7	85	60-140	
Carbon disulfide	ug/kg	100	87.1	87	68-123	
Carbon tetrachloride	ug/kg	100	99.4	99	74-136	
Chlorobenzene	ug/kg	100	101	101	80-120	
Chloroethane	ug/kg	100	93.1	93	60-149	
Chloroform	ug/kg	100	90.7	91	67-120	
Chloromethane	ug/kg	100	86.2	86	42-138	
cis-1,2-Dichloroethene	ug/kg	100	98.4	98	71-120	
cis-1,3-Dichloropropene	ug/kg	100	98.9	99	80-120	
Dibromochloromethane	ug/kg	100	104	104	80-120	
Dibromomethane	ug/kg	100	102	102	76-120	
Dichlorodifluoromethane	ug/kg	100	74.9	75	40-150	
Ethylbenzene	ug/kg	100	97.5	98	76-120	
Hexachloro-1,3-butadiene	ug/kg	100	97.9	98	68-131	
Isopropylbenzene (Cumene)	ug/kg	100	107	107	80-128	
Methyl-tert-butyl ether	ug/kg	100	101	101	71-124	
Methylene chloride	ug/kg	100	91.1	91	70-123	
n-Butylbenzene	ug/kg	100	99.1	99	73-131	
n-Propylbenzene	ug/kg	100	94.0	94	74-120	
Naphthalene	ug/kg	100	107	107	70-120	
p-Isopropyltoluene	ug/kg	100	101	101	76-121	
sec-Butylbenzene	ug/kg	100	101	101	75-123	
Styrene	ug/kg	100	99.7	100	78-120	
tert-Butylbenzene	ug/kg	100	103	103	77-120	
Tetrachloroethene	ug/kg	100	103	103	72-125	
Toluene	ug/kg	100	97.4	97	74-120	
trans-1,2-Dichloroethene	ug/kg	100	99.5	100	77-128	
trans-1,3-Dichloropropene	ug/kg	100	106	106	80-120	
Trichloroethene	ug/kg	100	94.3	94	76-120	
Trichlorofluoromethane	ug/kg	100	93.5	94	72-140	

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QUALITY CONTROL DATA

Project: Big MO Soil Sampling

Pace Project No.: 60139568

LABORATORY CONTROL SAMPLE: 1152607

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Vinyl chloride	ug/kg	100	87.8	88	65-145	
Xylene (Total)	ug/kg	300	296	99	75-120	
1,2-Dichloroethane-d4 (S)	%			100	76-132	
4-Bromofluorobenzene (S)	%			105	80-120	
Dibromofluoromethane (S)	%			100	76-125	
Toluene-d8 (S)	%			97	80-120	

QUALITY CONTROL DATA

Project: Big MO Soil Sampling

Pace Project No.: 60139568

QC Batch:	PMST/8335	Analysis Method:	ASTM D2974
QC Batch Method:	ASTM D2974	Analysis Description:	Dry Weight/Percent Moisture
Associated Lab Samples:	60139568005, 60139568006, 60139568007, 60139568008, 60139568009, 60139568010, 60139568011, 60139568012, 60139568013, 60139568014, 60139568015, 60139568016, 60139568017, 60139568018, 60139568019, 60139568020, 60139568021, 60139568022, 60139568023, 60139568026		

METHOD BLANK: 1148457 Matrix: Solid

Associated Lab Samples: 60139568005, 60139568006, 60139568007, 60139568008, 60139568009, 60139568010, 60139568011, 60139568012, 60139568013, 60139568014, 60139568015, 60139568016, 60139568017, 60139568018, 60139568019, 60139568020, 60139568021, 60139568022, 60139568023, 60139568026

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Percent Moisture	%	ND	0.50	03/06/13 00:00	

SAMPLE DUPLICATE: 1148458

Parameter	Units	60139568005 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	10.0	9.9	1	20	

QUALITY CONTROL DATA

Project: Big MO Soil Sampling

Pace Project No.: 60139568

QC Batch:	PMST/8336	Analysis Method:	ASTM D2974
QC Batch Method:	ASTM D2974	Analysis Description:	Dry Weight/Percent Moisture
Associated Lab Samples:	60139568027, 60139568028, 60139568029, 60139568030, 60139568031, 60139568032, 60139568033, 60139568034, 60139568035, 60139568036, 60139568037, 60139568038, 60139568039, 60139568040, 60139568041, 60139568042, 60139568043, 60139568044, 60139568045, 60139568046		

METHOD BLANK: 1148459 Matrix: Solid

Associated Lab Samples: 60139568027, 60139568028, 60139568029, 60139568030, 60139568031, 60139568032, 60139568033, 60139568034, 60139568035, 60139568036, 60139568037, 60139568038, 60139568039, 60139568040, 60139568041, 60139568042, 60139568043, 60139568044, 60139568045, 60139568046

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Percent Moisture	%	ND	0.50	03/06/13 00:00	

SAMPLE DUPLICATE: 1148460

Parameter	Units	60139568027 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	7.8	7.7	1	20	

QUALITY CONTROL DATA

Project: Big MO Soil Sampling

Pace Project No.: 60139568

QC Batch:	PMST/8339	Analysis Method:	ASTM D2974
QC Batch Method:	ASTM D2974	Analysis Description:	Dry Weight/Percent Moisture
Associated Lab Samples:	60139568047, 60139568048, 60139568049, 60139568050, 60139568051, 60139568052, 60139568053, 60139568054, 60139568055, 60139568056, 60139568057, 60139568058, 60139568059, 60139568060, 60139568061, 60139568062, 60139568063, 60139568064, 60139568065		

METHOD BLANK: 1149020

Matrix: Solid

Associated Lab Samples: 60139568047, 60139568048, 60139568049, 60139568050, 60139568051, 60139568052, 60139568053, 60139568054, 60139568055, 60139568056, 60139568057, 60139568058, 60139568059, 60139568060, 60139568061, 60139568062, 60139568063, 60139568064, 60139568065

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Percent Moisture	%	ND	0.50	03/07/13 00:00	

SAMPLE DUPLICATE: 1149021

Parameter	Units	60139565006 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	ND	ND		20	

QUALITY CONTROL DATA

Project: Big MO Soil Sampling

Pace Project No.: 60139568

QC Batch:	PMST/8340	Analysis Method:	ASTM D2974
QC Batch Method:	ASTM D2974	Analysis Description:	Dry Weight/Percent Moisture
Associated Lab Samples:	60139568066, 60139568067, 60139568068, 60139568069, 60139568070, 60139568071, 60139568072, 60139568073, 60139568074, 60139568075, 60139568076, 60139568077		

METHOD BLANK:	1149022	Matrix:	Solid
Associated Lab Samples:	60139568066, 60139568067, 60139568068, 60139568069, 60139568070, 60139568071, 60139568072, 60139568073, 60139568074, 60139568075, 60139568076, 60139568077		

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Percent Moisture	%	ND	0.50	03/07/13 00:00	

SAMPLE DUPLICATE: 1149023

Parameter	Units	60139568066 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	2.7	2.7	1	20	

QUALIFIERS

Project: Big MO Soil Sampling
Pace Project No.: 60139568

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.
ND - Not Detected at or above adjusted reporting limit.
J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.
MDL - Adjusted Method Detection Limit.
PRL - Pace Reporting Limit.
RL - Reporting Limit.
S - Surrogate
1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.
Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.
LCS(D) - Laboratory Control Sample (Duplicate)
MS(D) - Matrix Spike (Duplicate)
DUP - Sample Duplicate
RPD - Relative Percent Difference
NC - Not Calculable.
SG - Silica Gel - Clean-Up
U - Indicates the compound was analyzed for, but not detected.
N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.
Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.
TNI - The NELAC Institute.

LABORATORIES

PASI-K Pace Analytical Services - Kansas City

BATCH QUALIFIERS

Batch: MSV/52244
[M5] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.
Batch: MSV/52245
[M5] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.
Batch: MSV/52272
[M5] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.
Batch: MSV/52296
[M5] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.
Batch: MSV/52313
[M5] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

ANALYTE QUALIFIERS

1e The internal standard recoveries were outside control limits due to matrix interferences (confirmed by re-analysis).
B Analyte was detected in the associated method blank.
IO The internal standard response was outside the laboratory acceptance limits confirmed by reanalysis. The results reported are from the most QC compliant analysis.
M1 Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Big MO Soil Sampling

Pace Project No.: 60139568

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60139568001	TB-01	EPA 8260	MSV/52234		
60139568002	TB-02	EPA 8260	MSV/52234		
60139568003	TB-03	EPA 8260	MSV/52234		
60139568004	TB-04	EPA 8260	MSV/52234		
60139568005	BM-022513-SB63-8.8-9.4	EPA 8260	MSV/52197		
60139568006	BM-022513-SB63-10-10.4	EPA 8260	MSV/52197		
60139568007	BM-022513-SB63-12-12.6	EPA 8260	MSV/52197		
60139568008	BM-022513-SB63-13.2-13.8	EPA 8260	MSV/52197		
60139568009	BM-022513-SB38-9.9-10.4	EPA 8260	MSV/52197		
60139568010	BM-022513-SB38-13-13.5	EPA 8260	MSV/52197		
60139568011	BM-022513-SB38-13.5-14	EPA 8260	MSV/52197		
60139568012	BM-022513-SB65-10.5	EPA 8260	MSV/52197		
60139568013	BM-022513-SB65-12.5	EPA 8260	MSV/52197		
60139568014	BM-022513-SB65-11.2-11.5	EPA 8260	MSV/52197		
60139568015	BM-022513-SB39-12-12.2	EPA 8260	MSV/52197		
60139568016	BM-022513-SB39-13.5-13.7	EPA 8260	MSV/52197		
60139568017	BM-022513-SB39-13-13.5	EPA 8260	MSV/52197		
60139568018	BM-022513-SB64-10.3-10.5	EPA 8260	MSV/52197		
60139568019	BM-022513-SB64-12.3-12.5	EPA 8260	MSV/52197		
60139568020	BM-022513-SB64-11.5-12	EPA 8260	MSV/52235		
60139568021	BM-022513-SB36-10-10.2	EPA 8260	MSV/52235		
60139568021	BM-022513-SB36-10-10.2	EPA 8260	MSV/52272		
60139568022	BM-022513-SB36-11.9-12.1	EPA 8260	MSV/52244		
60139568022	BM-022513-SB36-11.9-12.1	EPA 8260	MSV/52272		
60139568023	BM-022513-SB36-13-13.5	EPA 8260	MSV/52235		
60139568023	BM-022513-SB36-13-13.5	EPA 8260	MSV/52272		
60139568024	TB-05	EPA 8260	MSV/52234		
60139568025	TB-06	EPA 8260	MSV/52234		
60139568026	BM-022613-SB69-10.7-10.9	EPA 8260	MSV/52238		
60139568027	BM-022613-SB69-13.2-13.4	EPA 8260	MSV/52244		
60139568027	BM-022613-SB69-13.2-13.4	EPA 8260	MSV/52272		
60139568028	BM-022613-SB69-12-12.4	EPA 8260	MSV/52235		
60139568028	BM-022613-SB69-12-12.4	EPA 8260	MSV/52272		
60139568029	BM-022613-SB69-16-16.4	EPA 8260	MSV/52244		
60139568029	BM-022613-SB69-16-16.4	EPA 8260	MSV/52272		
60139568030	BM-022613-SB66-8.5-8.7	EPA 8260	MSV/52235		
60139568031	BM-022613-SB66-11-11.2	EPA 8260	MSV/52235		
60139568032	BM-022613-SB66-12.9-13.1	EPA 8260	MSV/52235		
60139568033	BM-022613-SB66-10-10.5	EPA 8260	MSV/52235		
60139568034	BM-022613-SB83-6.8-7	EPA 8260	MSV/52235		

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Big MO Soil Sampling

Pace Project No.: 60139568

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60139568035	BM-022613-SB83-10.9-11.1	EPA 8260	MSV/52296		
60139568036	BM-022613-SB83-12.9-13.1	EPA 8260	MSV/52235		
60139568037	BM-022613-SB83-11-11.5	EPA 8260	MSV/52235		
60139568038	BM-022613-SB83-16.8-17	EPA 8260	MSV/52235		
60139568039	BM-022613-SB71-8-8.2	EPA 8260	MSV/52235		
60139568040	BM-022613-SB71-11.5-11.7	EPA 8260	MSV/52235		
60139568041	BM-022613-SB71-13.1-13.3	EPA 8260	MSV/52235		
60139568042	BM-022613-SB71-12-12.5	EPA 8260	MSV/52235		
60139568043	BM-022613-SB33-7.8-8	EPA 8260	MSV/52296		
60139568044	BM-022613-SB33-11.3-11.5	EPA 8260	MSV/52244		
60139568045	BM-022613-SB33-13.3-13.5	EPA 8260	MSV/52238		
60139568045	BM-022613-SB33-13.3-13.5	EPA 8260	MSV/52244		
60139568046	BM-022613-SB33-12.5-13	EPA 8260	MSV/52244		
60139568047	BM-022613-SB34-10.9-11.1	EPA 8260	MSV/52244		
60139568048	BM-022613-SB34-13.3-13.5	EPA 8260	MSV/52244		
60139568049	BM-022613-SB34-7.3-7.5	EPA 8260	MSV/52272		
60139568050	BM-022613-SB34-13-13.3	EPA 8260	MSV/52245		
60139568051	BM-022613-SB37-10-10.2	EPA 8260	MSV/52245		
60139568052	BM-022613-SB37-11.8-12	EPA 8260	MSV/52245		
60139568053	BM-022613-SB37-14-14.2	EPA 8260	MSV/52245		
60139568054	BM-022613-SB37-16.2-16.4	EPA 8260	MSV/52245		
60139568055	BM-022713-SB68-8.6-8.8	EPA 8260	MSV/52248		
60139568056	BM-022713-SB68-11.6-11.8	EPA 8260	MSV/52248		
60139568057	BM-022713-SB68-13.4-13.6	EPA 8260	MSV/52248		
60139568058	BM-022713-SB68-11-11.5	EPA 8260	MSV/52248		
60139568059	BM-022713-SB68-16-16.5	EPA 8260	MSV/52248		
60139568060	BM-022713-SB79-7.6-7.8	EPA 8260	MSV/52248		
60139568061	BM-022713-SB79-11.2-11.4	EPA 8260	MSV/52248		
60139568062	BM-022713-SB79-13.2-13.4	EPA 8260	MSV/52248		
60139568063	BM-022713-SB79-13.0-13.5	EPA 8260	MSV/52248		
60139568064	BM-022713-SB79-16-16.4	EPA 8260	MSV/52248		
60139568065	BM-022713-SB80-7.5-7.7	EPA 8260	MSV/52248		
60139568066	BM-022713-SB80-11.3-11.5	EPA 8260	MSV/52297		
60139568067	BM-022713-SB80-13-13.2	EPA 8260	MSV/52329		
60139568068	BM-022713-SB80-10.5-11	EPA 8260	MSV/52297		
60139568069	BM-022713-SB80-16.5-17	EPA 8260	MSV/52329		
60139568070	BM-022713-SB27-8.4-8.6	EPA 8260	MSV/52297		
60139568071	BM-022713-SB27-11.5-11.7	EPA 8260	MSV/52297		
60139568072	BM-022713-SB27-10-10.5	EPA 8260	MSV/52297		
60139568073	BM-022713-SB28-8.6-8.8	EPA 8260	MSV/52297		
60139568073	BM-022713-SB28-8.6-8.8	EPA 8260	MSV/52329		

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Big MO Soil Sampling

Pace Project No.: 60139568

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60139568074	BM-022713-SB28-11.1-11.3	EPA 8260	MSV/52297		
60139568075	BM-022713-SB28-13-13.2	EPA 8260	MSV/52313		
60139568076	BM-022713-SB28-12.5-13	EPA 8260	MSV/52313		
60139568077	BM-022613-SB37-14.2-14.4	EPA 8260	MSV/52244		
60139568005	BM-022513-SB63-8.8-9.4	ASTM D2974	PMST/8335		
60139568006	BM-022513-SB63-10-10.4	ASTM D2974	PMST/8335		
60139568007	BM-022513-SB63-12-12.6	ASTM D2974	PMST/8335		
60139568008	BM-022513-SB63-13.2-13.8	ASTM D2974	PMST/8335		
60139568009	BM-022513-SB38-9.9-10.4	ASTM D2974	PMST/8335		
60139568010	BM-022513-SB38-13-13.5	ASTM D2974	PMST/8335		
60139568011	BM-022513-SB38-13.5-14	ASTM D2974	PMST/8335		
60139568012	BM-022513-SB65-10.5	ASTM D2974	PMST/8335		
60139568013	BM-022513-SB65-12.5	ASTM D2974	PMST/8335		
60139568014	BM-022513-SB65-11.2-11.5	ASTM D2974	PMST/8335		
60139568015	BM-022513-SB39-12-12.2	ASTM D2974	PMST/8335		
60139568016	BM-022513-SB39-13.5-13.7	ASTM D2974	PMST/8335		
60139568017	BM-022513-SB39-13-13.5	ASTM D2974	PMST/8335		
60139568018	BM-022513-SB64-10.3-10.5	ASTM D2974	PMST/8335		
60139568019	BM-022513-SB64-12.3-12.5	ASTM D2974	PMST/8335		
60139568020	BM-022513-SB64-11.5-12	ASTM D2974	PMST/8335		
60139568021	BM-022513-SB36-10-10.2	ASTM D2974	PMST/8335		
60139568022	BM-022513-SB36-11.9-12.1	ASTM D2974	PMST/8335		
60139568023	BM-022513-SB36-13-13.5	ASTM D2974	PMST/8335		
60139568026	BM-022613-SB69-10.7-10.9	ASTM D2974	PMST/8335		
60139568027	BM-022613-SB69-13.2-13.4	ASTM D2974	PMST/8336		
60139568028	BM-022613-SB69-12-12.4	ASTM D2974	PMST/8336		
60139568029	BM-022613-SB69-16-16.4	ASTM D2974	PMST/8336		
60139568030	BM-022613-SB66-8.5-8.7	ASTM D2974	PMST/8336		
60139568031	BM-022613-SB66-11-11.2	ASTM D2974	PMST/8336		
60139568032	BM-022613-SB66-12.9-13.1	ASTM D2974	PMST/8336		
60139568033	BM-022613-SB66-10-10.5	ASTM D2974	PMST/8336		
60139568034	BM-022613-SB83-6.8-7	ASTM D2974	PMST/8336		
60139568035	BM-022613-SB83-10.9-11.1	ASTM D2974	PMST/8336		
60139568036	BM-022613-SB83-12.9-13.1	ASTM D2974	PMST/8336		
60139568037	BM-022613-SB83-11-11.5	ASTM D2974	PMST/8336		
60139568038	BM-022613-SB83-16.8-17	ASTM D2974	PMST/8336		
60139568039	BM-022613-SB71-8-8.2	ASTM D2974	PMST/8336		
60139568040	BM-022613-SB71-11.5-11.7	ASTM D2974	PMST/8336		
60139568041	BM-022613-SB71-13.1-13.3	ASTM D2974	PMST/8336		
60139568042	BM-022613-SB71-12-12.5	ASTM D2974	PMST/8336		
60139568043	BM-022613-SB33-7.8-8	ASTM D2974	PMST/8336		
60139568044	BM-022613-SB33-11.3-11.5	ASTM D2974	PMST/8336		
60139568045	BM-022613-SB33-13.3-13.5	ASTM D2974	PMST/8336		
60139568046	BM-022613-SB33-12.5-13	ASTM D2974	PMST/8336		
60139568047	BM-022613-SB34-10.9-11.1	ASTM D2974	PMST/8339		
60139568048	BM-022613-SB34-13.3-13.5	ASTM D2974	PMST/8339		

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Big MO Soil Sampling

Pace Project No.: 60139568

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60139568049	BM-022613-SB34-7.3-7.5	ASTM D2974	PMST/8339		
60139568050	BM-022613-SB34-13-13.3	ASTM D2974	PMST/8339		
60139568051	BM-022613-SB37-10-10.2	ASTM D2974	PMST/8339		
60139568052	BM-022613-SB37-11.8-12	ASTM D2974	PMST/8339		
60139568053	BM-022613-SB37-14-14.2	ASTM D2974	PMST/8339		
60139568054	BM-022613-SB37-16.2-16.4	ASTM D2974	PMST/8339		
60139568055	BM-022713-SB68-8.6-8.8	ASTM D2974	PMST/8339		
60139568056	BM-022713-SB68-11.6-11.8	ASTM D2974	PMST/8339		
60139568057	BM-022713-SB68-13.4-13.6	ASTM D2974	PMST/8339		
60139568058	BM-022713-SB68-11-11.5	ASTM D2974	PMST/8339		
60139568059	BM-022713-SB68-16-16.5	ASTM D2974	PMST/8339		
60139568060	BM-022713-SB79-7.6-7.8	ASTM D2974	PMST/8339		
60139568061	BM-022713-SB79-11.2-11.4	ASTM D2974	PMST/8339		
60139568062	BM-022713-SB79-13.2-13.4	ASTM D2974	PMST/8339		
60139568063	BM-022713-SB79-13.0-13.5	ASTM D2974	PMST/8339		
60139568064	BM-022713-SB79-16-16.4	ASTM D2974	PMST/8339		
60139568065	BM-022713-SB80-7.5-7.7	ASTM D2974	PMST/8339		
60139568066	BM-022713-SB80-11.3-11.5	ASTM D2974	PMST/8340		
60139568067	BM-022713-SB80-13-13.2	ASTM D2974	PMST/8340		
60139568068	BM-022713-SB80-10.5-11	ASTM D2974	PMST/8340		
60139568069	BM-022713-SB80-16.5-17	ASTM D2974	PMST/8340		
60139568070	BM-022713-SB27-8.4-8.6	ASTM D2974	PMST/8340		
60139568071	BM-022713-SB27-11.5-11.7	ASTM D2974	PMST/8340		
60139568072	BM-022713-SB27-10-10.5	ASTM D2974	PMST/8340		
60139568073	BM-022713-SB28-8.6-8.8	ASTM D2974	PMST/8340		
60139568074	BM-022713-SB28-11.1-11.3	ASTM D2974	PMST/8340		
60139568075	BM-022713-SB28-13-13.2	ASTM D2974	PMST/8340		
60139568076	BM-022713-SB28-12.5-13	ASTM D2974	PMST/8340		
60139568077	BM-022613-SB37-14.2-14.4	ASTM D2974	PMST/8340		

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Section A Required Client Information: Company: <u>KDD, LLC</u> Address: _____ Email: <u>Stanislawski@kdd-llc.com</u> Phone: _____ Fax: _____		Section B Required Project Information: Report To: _____ Copy To: _____ Purchase Order No.: _____ Project Name: _____ Project Number: <u>11002-004</u>		Section C Invoice Information: Attention: <u>Bill Johnson</u> Company Name: _____ Address: _____ Pace Quote Reference: _____ Pace Project Manager: _____ Pace Profile #: _____	
Page: <u>2</u> of <u>7</u> <u>1689745</u>		REGULATORY AGENCY ☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER ☐ UST ☐ RCRA ☐ OTHER _____			
Site Location STATE: _____					

[illegible]

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:	
Company:	XDR, LLC	Report To:		Attention:	Bill Johnson
Address:		Copy To:		Company Name:	Solutia Inc.
Email To:		Purchase Order No.:		Address:	
Phone:		Project Name:	big Mo Soil Sampling	Pace Quote Reference:	
Fax:		Project Number:	11002.004	Pace Project Manager:	
Requested Due Date/TAT:		Pace Profile #:			

Page: 5 of 7
1689748

REGULATORY AGENCY			
☐ NPDES	☐ GROUND WATER	☐ DRINKING WATER	
☐ UST	☐ RCRA	☐ OTHER	
Site Location		STATE:	

ITEM #	Section D Required Client Information	Matrix Codes MATRIX / CODE Drinking Water DW Water WT Waste Water WW Product P Soil/Solid SL Oil OL Wipe WP Air AR Tissue TS Other OT	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED			# OF CONTAINERS	Preservatives	Y/N	Requested Analysis Filtered (Y/N)	Pace Project No./ Lab I.D.
					COMPOSITE START	COMPOSITE END/GRAB	SAMPLE TEMP AT COLLECTION					
1	6M - 022613 - SB34-7.3-7.5		S G	✓	—	2/26/13	1400	✓	X			20592 10am 1w6gm 049
2	6M - 022613 - SB34-13-13.3		S G	✓	—	2/26/13	1405	✓	X			20592 10am 1w6gm 050
3	6M - 022613 - SB37-10-10.2		S G	✓	—	2/26/13	1150	✓	X			20592 10am 1w6gm 051
4	6M - 022613 - SB37-11.8-12		S G	✓	—	2/26/13	1155	✓	X			20592 10am 1w6gm 052
5	6M - 022613 - SB37-14-14.2		S G	✓	—	2/26/13	1200	✓	X			20592 10am 1w6gm 053
6	6M - 022613 - SB37-16.2-16.4		S G	✓	—	2/26/13	1315	✓	X			20592 10am 1w6gm 054
7	6M - 022713 - SB68-8.6-8.8		S G	✓	—	2/27/13	1345	✓	X			20592 10am 1w6gm 055
8	6M - 022713 - SB68-11.6-11.8		S G	✓	—	2/27/13	1350	✓	X			20592 10am 1w6gm 056
9	6M - 022713 - SB68-13.4-13.6		S G	✓	—	2/27/13	1355	✓	X			20592 10am 1w6gm 057
10	6M - 022713 - SB68-11-11.5		S G	✓	—	2/27/13	1430	✓	X			20592 10am 1w6gm 058
11	6M - 022713 - SB68-16-16.5		S G	✓	—	2/27/13	1530	✓	X			20592 10am 1w6gm 059
12	6M - 022713 - SB79-7.6-7.8		S G	✓	—	2/27/13	145	✓	X			20592 10am 1w6gm 060
ADDITIONAL COMMENTS												
S - RELINQUISHED BY / AFFILIATION												
DATE												
TIME												
ACCEPTED BY / AFFILIATION												
DATE												
TIME												
SAMPLE CONDITIONS												
Ice (Y/N)												
Sealed Cooler (Y/N)												
Samples Intact (Y/N)												

Section D
Required Client Information

Matrix Codes
MATRIX / CODE
Drinking Water DW
Water WT
Waste Water WW
Product P
Soil/Solid SL
Oil OL
Wipe WP
Air AR
Tissue TS
Other OT

SAMPLE ID
(A-Z, 0-9 / -)
Sample IDs MUST BE UNIQUE

Matrix Codes
MATRIX / CODE
Drinking Water DW
Water WT
Waste Water WW
Product P
Soil/Solid SL
Oil OL
Wipe WP
Air AR
Tissue TS
Other OT

MATRIX CODE
(see valid codes to left)

SAMPLE TYPE (G=GRAB C=COMP)

COLLECTED

COMPOSITE
START

COMPOSITE
END/GRAB

SAMPLE TEMP AT COLLECTION

OF CONTAINERS

Preservatives

Y/N

Requested Analysis Filtered (Y/N)

Pace Project No./ Lab I.D.

Section D
Required Client Information

Matrix Codes
MATRIX / CODE
Drinking Water DW
Water WT
Waste Water WW
Product P
Soil/Solid SL
Oil OL
Wipe WP
Air AR
Tissue TS
Other OT

SAMPLE ID
(A-Z, 0-9 / -)
Sample IDs MUST BE UNIQUE

Matrix Codes
MATRIX / CODE
Drinking Water DW
Water WT
Waste Water WW
Product P
Soil/Solid SL
Oil OL
Wipe WP
Air AR
Tissue TS
Other OT

MATRIX CODE
(see valid codes to left)

SAMPLE TYPE (G=GRAB C=COMP)

COLLECTED

COMPOSITE
START

COMPOSITE
END/GRAB

SAMPLE TEMP AT COLLECTION

OF CONTAINERS

Preservatives

Y/N

Requested Analysis Filtered (Y/N)

Pace Project No./ Lab I.D.

Section D
Required Client Information

Matrix Codes
MATRIX / CODE
Drinking Water DW
Water WT
Waste Water WW
Product P
Soil/Solid SL
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Other OT

SAMPLE ID
(A-Z, 0-9 / -)
Sample IDs MUST BE UNIQUE

Matrix Codes
MATRIX / CODE
Drinking Water DW
Water WT
Waste Water WW
Product P
Soil/Solid SL
Oil OL
Wipe WP
Air AR
Tissue TS
Other OT

MATRIX CODE
(see valid codes to left)

SAMPLE TYPE (G=GRAB C=COMP)

COLLECTED

COMPOSITE
START

COMPOSITE
END/GRAB

SAMPLE TEMP AT COLLECTION

OF CONTAINERS

Preservatives

Y/N

Requested Analysis Filtered (Y/N)

Pace Project No./ Lab I.D.

Section D
Required Client Information

Matrix Codes
MATRIX / CODE
Drinking Water DW
Water WT
Waste Water WW
Product P
Soil/Solid SL
Oil OL
Wipe WP
Air AR
Tissue TS
Other OT

SAMPLE ID
(A-Z, 0-9 / -)
Sample IDs MUST BE UNIQUE

Matrix Codes
MATRIX / CODE
Drinking Water DW
Water WT
Waste Water WW
Product P
Soil/Solid SL
Oil OL
Wipe WP
Air AR
Tissue TS
Other OT

MATRIX CODE
(see valid codes to left)

SAMPLE TYPE (G=GRAB C=COMP)

COLLECTED

COMPOSITE
START

COMPOSITE
END/GRAB

SAMPLE TEMP AT COLLECTION

OF CONTAINERS

Preservatives

Y/N

Requested Analysis Filtered (Y/N)

Pace Project No./ Lab I.D.

Section D
Required Client Information

Matrix Codes
MATRIX / CODE
Drinking Water DW
Water WT
Waste Water WW
Product P
Soil/Solid SL
Oil OL
Wipe WP
Air AR
Tissue TS
Other OT

SAMPLE ID
(A-Z, 0-9 / -)
Sample IDs MUST BE UNIQUE

Matrix Codes
MATRIX / CODE
Drinking Water DW
Water WT
Waste Water WW
Product P
Soil/Solid SL
Oil OL
Wipe WP
Air AR
Tissue TS
Other OT

MATRIX CODE
(see valid codes to left)

SAMPLE TYPE (G=GRAB C=COMP)

COLLECTED

COMPOSITE
START

COMPOSITE
END/GRAB

SAMPLE TEMP AT COLLECTION

OF CONTAINERS

Preservatives

Y/N

Requested Analysis Filtered (Y/N)

Pace Project No./ Lab I.D.

Section D
Required Client Information

Matrix Codes
MATRIX / CODE
Drinking Water DW
Water WT
Waste Water WW
Product P
Soil/Solid SL
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Other OT

SAMPLE ID
(A-Z, 0-9 / -)
Sample IDs MUST BE UNIQUE

Matrix Codes
MATRIX / CODE
Drinking Water DW
Water WT
Waste Water WW
Product P
Soil/Solid SL
Oil OL
Wipe WP
Air AR
Tissue TS
Other OT

MATRIX CODE
(see valid codes to left)

SAMPLE TYPE (G=GRAB C=COMP)

COLLECTED

COMPOSITE
START

COMPOSITE
END/GRAB

SAMPLE TEMP AT COLLECTION

OF CONTAINERS

Preservatives

Y/N

Requested Analysis Filtered (Y/N)

Pace Project No./ Lab I.D.

Section D
Required Client Information

Matrix Codes
MATRIX / CODE
Drinking Water DW
Water WT
Waste Water WW
Product P
Soil/Solid SL
Oil OL
Wipe WP
Air AR
Tissue TS
Other OT

SAMPLE ID
(A-Z, 0-9 / -)
Sample IDs MUST BE UNIQUE

Matrix Codes
MATRIX / CODE
Drinking Water DW
Water WT
Waste Water WW
Product P
Soil/Solid SL
Oil OL
Wipe WP
Air AR
Tissue TS
Other OT

MATRIX CODE
(see valid codes to left)

SAMPLE TYPE (G=GRAB C=COMP)

COLLECTED

COMPOSITE
START

COMPOSITE
END/GRAB

SAMPLE TEMP AT COLLECTION

OF CONTAINERS

Preservatives

Y/N

Requested Analysis Filtered (Y/N)

Pace Project No./ Lab I.D.

Section D
Required Client Information

Matrix Codes
MATRIX / CODE
Drinking Water DW
Water WT
Waste Water WW
Product P
Soil/Solid SL
Oil OL
Wipe WP
Air AR
Tissue TS
Other OT

SAMPLE ID
(A-Z, 0-9 / -)
Sample IDs MUST BE UNIQUE

Matrix Codes
MATRIX / CODE
Drinking Water DW
Water WT
Waste Water WW
Product P
Soil/Solid SL
Oil OL
Wipe WP
Air AR
Tissue TS
Other OT

MATRIX CODE
(see valid

Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.

F-ALL-Q-020rev.07. 15-May-2007



CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

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Section A

Required Client Information:

Company: **XPO, LLC**

Address:

Email To:

Phone:

Fax:

Requested Due Date/TAT:

Section B

Required Project Information:

Report To:

Copy To:

Purchase Order No.:

Project Name:

Project Number:

Section C

Invoice Information:

Attention:

Company Name:

Address:

Pace Quote Reference:

Pace Project Manager:

Pace Profile #:

Page: **6** of **7**

1689749

REGULATORY AGENCY

☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER

☐ UST ☐ RCRA ☐ OTHER

Site Location

STATE:

Requested Analysis Filtered (Y/N)

Preservatives

Analysis Test

OF CONTAINERS

SAMPLE TEMP AT COLLECTION

COLLECTED

COMPOSITE START

COMPOSITE END/GRAB

DATE

TIME

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Matrix Codes

MATRIX / CODE

Drinking Water

Water

Waste Water

Product

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Section D

Required Client Information

Matrix Codes

MATRIX / CODE

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Waste Water

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Residual Chlorine (Y/N)

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Pace Project No./ Lab I.D.

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Sealed Cooler (Y/N)

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Refrigerated (Y/N)

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CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.



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Section A Required Client Information: Company: <u>XND LLC</u> Address: _____ Email To: _____ Phone: _____ Requested Due Date/TAT: _____		Section B Required Project Information: Report To: <u>Sergeant 107</u> Copy To: _____ Purchase Order No.: _____ Project Name: <u>Big Mo Soil Sampling</u> Project Number: <u>11002004</u>		Section C Invoice Information: Attention: <u>Bill Johnson</u> Company Name: <u>Solutia Inc</u> Address: _____ Pace Quote Reference: _____ Pace Project Manager: _____ Pace Profile #: _____	
Regulatory Agency ☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER ☐ UST ☐ RCRA ☐ OTHER _____		Site Location STATE: _____		Page: <u>7</u> of <u>7</u> <u>1689750</u>	

ITEM #	Section D Required Client Information	Matrix Codes MATRIX CODE	COLLECTED		SAMPLE TYPE (G=GRAB C=COMP)	MATRIX CODE (see valid codes to left)	# OF CONTAINERS	Preservatives										Analysis Test Y/N	Requested Analysis Filtered (Y/N)	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
			COMPOSITE START	COMPOSITE END/GRAB				DATE	TIME	DATE	TIME	H ₂ SO ₄	HNO ₃	HCl	NaOH	Na ₂ O ₃	Methanol				
1	BM-022713-5828-8-0-80	DW	✓	7/21/13	0855	✓	1											20694	20694 10694 10694 073		
2	BM-022713-5828-11-1-11.3	WT	✓	7/21/13	0845	✓	1												074		
3	BM-022713-5828-13-13.2	WW	✓	7/27/13	0855	✓	1												075		
4	BM-022713-5828-12.5-13	P	✓	7/27/13	0915	✓	1												076		
5	BM-022613-5837-14.2-14.4	Soil/Solid	✓	7/16/13	1310	✓	1												20694 077		
6		Oil																			
7		Wipe																			
8		Air																			
9		Tissue																			
10		Other																			
11																					
12																					
ADDITIONAL COMMENTS <u>BM-022713-5828-11-1-11.3</u> <u>BM-022713-5828-13-13.2</u> <u>BM-022713-5828-12.5-13</u> <u>BM-022613-5837-14.2-14.4</u>																		SAMPLE CONDITIONS Temp (Y/N) 2.4 Ice (Y/N) 4.2 Sealed Cooler (Y/N) 1.4 Samples Intact (Y/N) 2.5			

SAMPLER NAME AND SIGNATURE PRINT Name of SAMPLER: <u>SPIN ANDERSON</u> SIGNATURE of SAMPLER: <u>[Signature]</u> DATE Signed (MM/DD/YY): <u>02/28/13</u>		F-ALL-Q-020rev.07, 15-May-2007	
--	--	--------------------------------	--

checked in cooler
ORIGINAL

*Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.



Sample Condition Upon Receipt

WO#: 60139568



Client Name: XDD, LLC

Courier: Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☐ Pace ☐ Other ☒ XROADS

Tracking #: _____ Pace Shipping Label Used? Yes ☐ No ☒

Custody Seal on Cooler/Box Present: Yes ☒ No ☐ Seals intact: Yes ☒ No ☐

Packing Material: Bubble Wrap ☐ Bubble Bags ☐ Foam ☒ None ☐ Other ☒ ZPLC

Thermometer Used: T-112 / T-194 Type of Ice: Wet Blue ☐ None ☐ Samples received on ice, cooling process has begun.

Cooler Temperature: 2.4, 4.2, 1.4, 2.6, 0.8, 1.6

Date and initials of person examining contents: 3/1/13 BA

Temperature should be above freezing to 6°C

Chain of Custody present:	☒ Yes ☐ No ☐ N/A	1. All samples out of hold except: (48-hr hold)
Chain of Custody filled out:	☒ Yes ☐ No ☐ N/A	2. "SPC" 8.6-8.8, 11.6-11.8, 3.4-13.8, 11-11.5,
Chain of Custody relinquished:	☒ Yes ☐ No ☐ N/A	3. 16-16.5.
Sampler name & signature on COC:	☒ Yes ☐ No ☐ N/A	4. 8B79 7.6-7.8, 11.2-11.4, 13.2-13.4, 16-16.4,
Samples arrived within holding time:	☒ Yes ☒ No ☐ N/A	5. 8B80 7.5-7.7, 11.3-11.5, 13-13.2, 10.5-11, 16.5-17.
Short Hold Time analyses (<72hr):	☒ Yes ☐ No ☐ N/A	6. KTS
Rush Turn Around Time requested:	☐ Yes ☒ No ☐ N/A	7.
Sufficient volume:	☒ Yes ☐ No ☐ N/A	8.
Correct containers used:	☒ Yes ☐ No ☐ N/A	
Pace containers used:	☒ Yes ☐ No ☐ N/A	9.
Containers intact:	☒ Yes ☐ No ☐ N/A	10.
Unpreserved 5035A soils frozen w/in 48hrs?	☒ Yes ☒ No ☐ N/A	11.
Filtered volume received for dissolved tests?	☐ Yes ☐ No ☒ N/A	12.
Sample labels match COC:	☒ Yes ☐ No ☐ N/A	
Includes date/time/ID/analyses Matrix: <u>SL</u>		13.
All containers needing preservation have been checked.	☐ Yes ☐ No ☒ N/A	
All containers needing preservation are found to be in compliance with EPA recommendation.	☐ Yes ☐ No ☒ N/A	14.
Exceptions: VOA, coliform, TOC, O&G, WI-DRO (water), Phenolics	☐ Yes ☒ No	Initial when completed
Trip Blank present:	☒ Yes ☐ No ☐ N/A	Lot # of added preservative
Pace Trip Blank lot # (if purchased):		15.
Headspace in VOA vials (>6mm):	☐ Yes ☐ No ☒ N/A	16.
Project sampled in USDA Regulated Area:	☐ Yes ☒ No ☐ N/A	17. List State: <u>IL</u>

Client Notification/ Resolution:

Copy COC to Client? Y / N

Field Data Required? Y / N

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: Per Erin Stanisewski Appendix 9 not needed.

Project Manager Review: _____

Date: _____

3/4/13

March 2014 Soil Laboratory Reports

April 02, 2014

Erin Stanisewski
XDD, LLC
22 Marin Way #3
Stratham, NH 03885

RE: Project: BIG MO 2014 SAMPLING
Pace Project No.: 60165127

Dear Erin Stanisewski:

Enclosed are the analytical results for sample(s) received by the laboratory on March 19, 2014. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Jamie Church
jamie.church@pacelabs.com
Project Manager

Enclosures

cc: William Johnson, Solutia, Inc.
Dennis Keane, XDD, LLC.



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: BIG MO 2014 SAMPLING

Pace Project No.: 60165127

Kansas Certification IDs

9608 Loiret Boulevard, Lenexa, KS 66219

WY STR Certification #: 2456.01

Arkansas Certification #: 13-012-0

Illinois Certification #: 003097

Iowa Certification #: 118

Kansas/NELAP Certification #: E-10116

Louisiana Certification #: 03055

Nevada Certification #: KS000212008A

Oklahoma Certification #: 9205/9935

Texas Certification #: T104704407-13-4

Utah Certification #: KS000212013-3

Illinois Certification #: 003097

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: BIG MO 2014 SAMPLING

Pace Project No.: 60165127

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60165127001	WGK-BM-031714-SB-70-3	Solid	03/17/14 11:05	03/19/14 02:05
60165127002	WGK-BM-031714-SB-70-6	Solid	03/17/14 11:20	03/19/14 02:05
60165127003	WGK-BM-031714-SB-70-3-3.5	Solid	03/17/14 11:40	03/19/14 02:05
60165127004	WGK-BM-031714-SB-37-3	Solid	03/17/14 12:15	03/19/14 02:05
60165127005	WGK-BM-031714-SB-37-8	Solid	03/17/14 12:20	03/19/14 02:05
60165127006	WGK-BM-031714-SB-37-10	Solid	03/17/14 12:30	03/19/14 02:05
60165127007	WGK-BM-031714-SB-37-12	Solid	03/17/14 12:35	03/19/14 02:05
60165127008	WGK-BM-031714-SB-37-14	Solid	03/17/14 12:40	03/19/14 02:05
60165127009	WGK-BM-031714-SB-37-3-3.7	Solid	03/17/14 13:40	03/19/14 02:05
60165127010	WGK-BM-031714-SB-37-14-14.5	Solid	03/17/14 13:45	03/19/14 02:05
60165127011	WGK-BM-031714-SB-DUP01	Solid	03/17/14 11:05	03/19/14 02:05
60165127012	WGK-BM-031714-SB-66-8	Solid	03/17/14 14:27	03/19/14 02:05
60165127013	WGK-BM-031714-SB-66-10	Solid	03/17/14 14:25	03/19/14 02:05
60165127014	WGK-BM-031714-SB-66-12	Solid	03/17/14 14:30	03/19/14 02:05
60165127015	WGK-BM-031714-SB-66-13.5	Solid	03/17/14 14:42	03/19/14 02:05
60165127016	WGK-BM-031714-SB-66-13-13.5	Solid	03/17/14 15:17	03/19/14 02:05
60165127017	WGK-BM-031714-SB-34-10	Solid	03/17/14 15:42	03/19/14 02:05
60165127018	WGK-BM-031714-SB-34-12	Solid	03/17/14 15:45	03/19/14 02:05
60165127019	WGK-BM-031714-SB-34-13.9	Solid	03/17/14 15:50	03/19/14 02:05
60165127020	WGK-BM-031714-SB-34-13-13.5	Solid	03/17/14 16:00	03/19/14 02:05
60165127021	WGK-BM-031714-SB-DUP02	Solid	03/17/14 14:00	03/19/14 02:05
60165127022	WGK-BM-SB-TB-01	Solid	03/17/14 00:00	03/19/14 02:05
60165127023	WGK-BM-SB-TB-02	Solid	03/18/14 00:00	03/19/14 02:05
60165127024	WGK-BM-031814-SB-33-3	Solid	03/18/14 09:05	03/19/14 02:05
60165127025	WGK-BM-031814-SB-33-3-3.7	Solid	03/18/14 10:20	03/19/14 02:05
60165127026	WGK-BM-031814-SB-33-5	Solid	03/18/14 09:15	03/19/14 02:05
60165127027	WGK-BM-031814-SB-33-8	Solid	03/18/14 09:20	03/19/14 02:05
60165127028	WGK-BM-031814-SB-33-10	Solid	03/18/14 09:25	03/19/14 02:05
60165127029	WGK-BM-031814-SB-33-12	Solid	03/18/14 09:30	03/19/14 02:05
60165127030	WGK-BM-031814-SB-33-14	Solid	03/18/14 09:35	03/19/14 02:05
60165127031	WGK-BM-031814-SB-33-14-14.5	Solid	03/18/14 10:22	03/19/14 02:05
60165127032	WGK-BM-031814-SB-DUP03	Solid	03/18/14 08:30	03/19/14 02:05
60165127033	WGK-BM-031814-SB-69-3	Solid	03/18/14 09:50	03/19/14 02:05
60165127034	WGK-BM-031814-SB-69-5	Solid	03/18/14 09:55	03/19/14 02:05
60165127035	WGK-BM-031814-SB-69-7	Solid	03/18/14 09:57	03/19/14 02:05
60165127036	WGK-BM-031814-SB-69-5-5.5	Solid	03/18/14 11:05	03/19/14 02:05
60165127037	WGK-BM-031814-SB-69-12	Solid	03/18/14 10:07	03/19/14 02:05

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: BIG MO 2014 SAMPLING

Pace Project No.: 60165127

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60165127038	WGK-BM-031814-SB-69-12-12.5	Solid	03/18/14 11:08	03/19/14 02:05
60165127039	WGK-BM-031814-SB-65-3	Solid	03/18/14 10:34	03/19/14 02:05
60165127040	WGK-BM-031814-SB-65-5	Solid	03/18/14 10:51	03/19/14 02:05
60165127041	WGK-BM-031814-SB-65-8	Solid	03/18/14 10:45	03/19/14 02:05
60165127042	WGK-BM-031814-SB-65-7.5-8.1	Solid	03/18/14 11:46	03/19/14 02:05
60165127043	WGK-BM-031814-SB-65-10	Solid	03/18/14 11:01	03/19/14 02:05
60165127044	WGK-BM-031814-SB-65-12	Solid	03/18/14 11:04	03/19/14 02:05
60165127045	WGK-BM-031814-SB-65-13.6	Solid	03/18/14 11:05	03/19/14 02:05
60165127046	WGK-BM-031814-SB-65-11-11.5	Solid	03/18/14 11:48	03/19/14 02:05
60165127047	WGK-BM-031814-SB-DUP-04	Solid	03/18/14 12:55	03/19/14 02:05
60165127048	WGK-BM-031814-SB-39-7	Solid	03/18/14 12:00	03/19/14 02:05
60165127049	WGK-BM-031814-SB-39-7-7.5	Solid	03/18/14 13:45	03/19/14 02:05
60165127050	WGK-BM-031814-SB-39-10	Solid	03/18/14 12:16	03/19/14 02:05
60165127051	WGK-BM-031814-SB-39-12	Solid	03/18/14 12:15	03/19/14 02:05
60165127052	WGK-BM-031814-SB-39-14	Solid	03/18/14 12:12	03/19/14 02:05
60165127053	WGK-BM-031814-SB-39-13-13.5	Solid	03/18/14 13:50	03/19/14 02:05

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SAMPLE ANALYTE COUNT

Project: BIG MO 2014 SAMPLING

Pace Project No.: 60165127

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60165127001	WGK-BM-031714-SB-70-3	EPA 8260	RAB	9	PASI-K
		ASTM D2974	DWC	1	PASI-K
60165127002	WGK-BM-031714-SB-70-6	EPA 8260	RAB	9	PASI-K
		ASTM D2974	DWC	1	PASI-K
60165127003	WGK-BM-031714-SB-70-3-3.5	EPA 8260	RAB	9	PASI-K
		ASTM D2974	DWC	1	PASI-K
60165127004	WGK-BM-031714-SB-37-3	EPA 8260	JKL	9	PASI-K
		ASTM D2974	DWC	1	PASI-K
60165127005	WGK-BM-031714-SB-37-8	EPA 8260	JKL	9	PASI-K
		ASTM D2974	DWC	1	PASI-K
60165127006	WGK-BM-031714-SB-37-10	EPA 8260	RAB	9	PASI-K
		ASTM D2974	DWC	1	PASI-K
60165127007	WGK-BM-031714-SB-37-12	EPA 8260	JKL	9	PASI-K
		ASTM D2974	DWC	1	PASI-K
60165127008	WGK-BM-031714-SB-37-14	EPA 8260	RAB	9	PASI-K
		ASTM D2974	DWC	1	PASI-K
60165127009	WGK-BM-031714-SB-37-3-3.7	EPA 8260	JKL	9	PASI-K
		ASTM D2974	DWC	1	PASI-K
60165127010	WGK-BM-031714-SB-37-14-14.5	EPA 8260	RAB	9	PASI-K
		ASTM D2974	DWC	1	PASI-K
60165127011	WGK-BM-031714-SB-DUP01	EPA 8260	JKL	9	PASI-K
		ASTM D2974	DWC	1	PASI-K
60165127012	WGK-BM-031714-SB-66-8	EPA 8260	JKL	9	PASI-K
		ASTM D2974	DWC	1	PASI-K
60165127013	WGK-BM-031714-SB-66-10	EPA 8260	RAB	9	PASI-K
		ASTM D2974	DWC	1	PASI-K
60165127014	WGK-BM-031714-SB-66-12	EPA 8260	RAB	9	PASI-K
		ASTM D2974	DWC	1	PASI-K
60165127015	WGK-BM-031714-SB-66-13.5	EPA 8260	RAB	9	PASI-K
		ASTM D2974	DWC	1	PASI-K
60165127016	WGK-BM-031714-SB-66-13-13.5	EPA 8260	RAB	9	PASI-K
		ASTM D2974	DWC	1	PASI-K
60165127017	WGK-BM-031714-SB-34-10	EPA 8260	RAB	9	PASI-K
		ASTM D2974	DWC	1	PASI-K
60165127018	WGK-BM-031714-SB-34-12	EPA 8260	RAB	9	PASI-K
		ASTM D2974	DWC	1	PASI-K
60165127019	WGK-BM-031714-SB-34-13.9	EPA 8260	RAB	9	PASI-K

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SAMPLE ANALYTE COUNT

Project: BIG MO 2014 SAMPLING

Pace Project No.: 60165127

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60165127020	WGK-BM-031714-SB-34-13-13.5	ASTM D2974	DWC	1	PASI-K
		EPA 8260	RAB	9	PASI-K
60165127021	WGK-BM-031714-SB-DUP02	ASTM D2974	DWC	1	PASI-K
		EPA 8260	RAB	9	PASI-K
60165127022	WGK-BM-SB-TB-01	ASTM D2974	DWC	1	PASI-K
		EPA 8260	RAB	9	PASI-K
60165127023	WGK-BM-SB-TB-02	EPA 8260	RAB	9	PASI-K
60165127024	WGK-BM-031814-SB-33-3	EPA 8260	RAB	9	PASI-K
		ASTM D2974	DWC	1	PASI-K
60165127025	WGK-BM-031814-SB-33-3-3.7	EPA 8260	RAB	9	PASI-K
		ASTM D2974	DWC	1	PASI-K
60165127026	WGK-BM-031814-SB-33-5	EPA 8260	RAB	9	PASI-K
		ASTM D2974	DWC	1	PASI-K
60165127027	WGK-BM-031814-SB-33-8	EPA 8260	RAB	9	PASI-K
		ASTM D2974	DWC	1	PASI-K
60165127028	WGK-BM-031814-SB-33-10	EPA 8260	RAB	9	PASI-K
		ASTM D2974	DWC	1	PASI-K
60165127029	WGK-BM-031814-SB-33-12	EPA 8260	RAB	9	PASI-K
		ASTM D2974	DWC	1	PASI-K
60165127030	WGK-BM-031814-SB-33-14	EPA 8260	RAB	9	PASI-K
		ASTM D2974	DWC	1	PASI-K
60165127031	WGK-BM-031814-SB-33-14-14.5	EPA 8260	RAB	9	PASI-K
		ASTM D2974	DWC	1	PASI-K
60165127032	WGK-BM-031814-SB-DUP03	EPA 8260	RAB	9	PASI-K
		ASTM D2974	DWC	1	PASI-K
60165127033	WGK-BM-031814-SB-69-3	EPA 8260	RAB	9	PASI-K
		ASTM D2974	DWC	1	PASI-K
60165127034	WGK-BM-031814-SB-69-5	EPA 8260	RAB	9	PASI-K
		ASTM D2974	DWC	1	PASI-K
60165127035	WGK-BM-031814-SB-69-7	EPA 8260	RAB	9	PASI-K
		ASTM D2974	DWC	1	PASI-K
60165127036	WGK-BM-031814-SB-69-5-5.5	EPA 8260	RAB	9	PASI-K
		ASTM D2974	DWC	1	PASI-K
60165127037	WGK-BM-031814-SB-69-12	EPA 8260	RAB	9	PASI-K
		ASTM D2974	DWC	1	PASI-K
60165127038	WGK-BM-031814-SB-69-12-12.5	EPA 8260	RAB	9	PASI-K
		ASTM D2974	DWC	1	PASI-K

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SAMPLE ANALYTE COUNT

Project: BIG MO 2014 SAMPLING

Pace Project No.: 60165127

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60165127039	WGK-BM-031814-SB-65-3	EPA 8260	RAB	9	PASI-K
		ASTM D2974	DWC	1	PASI-K
60165127040	WGK-BM-031814-SB-65-5	EPA 8260	RAB	9	PASI-K
		ASTM D2974	DWC	1	PASI-K
60165127041	WGK-BM-031814-SB-65-8	EPA 8260	RAB	9	PASI-K
		ASTM D2974	DWC	1	PASI-K
60165127042	WGK-BM-031814-SB-65-7.5-8.1	EPA 8260	RAB	9	PASI-K
		ASTM D2974	DWC	1	PASI-K
60165127043	WGK-BM-031814-SB-65-10	EPA 8260	RAB	9	PASI-K
		ASTM D2974	DWC	1	PASI-K
60165127044	WGK-BM-031814-SB-65-12	EPA 8260	RAB	9	PASI-K
		ASTM D2974	DWC	1	PASI-K
60165127045	WGK-BM-031814-SB-65-13.6	EPA 8260	RAB	9	PASI-K
		ASTM D2974	DWC	1	PASI-K
60165127046	WGK-BM-031814-SB-65-11-11.5	EPA 8260	RAB	9	PASI-K
		ASTM D2974	DWC	1	PASI-K
60165127047	WGK-BM-031814-SB-DUP-04	EPA 8260	JKL	9	PASI-K
		ASTM D2974	DWC	1	PASI-K
60165127048	WGK-BM-031814-SB-39-7	EPA 8260	JKL	9	PASI-K
		ASTM D2974	DWC	1	PASI-K
60165127049	WGK-BM-031814-SB-39-7-7.5	EPA 8260	JKL	9	PASI-K
		ASTM D2974	DWC	1	PASI-K
60165127050	WGK-BM-031814-SB-39-10	EPA 8260	JKL	9	PASI-K
		ASTM D2974	DWC	1	PASI-K
60165127051	WGK-BM-031814-SB-39-12	EPA 8260	JKL	9	PASI-K
		ASTM D2974	DWC	1	PASI-K
60165127052	WGK-BM-031814-SB-39-14	EPA 8260	JKL	9	PASI-K
		ASTM D2974	DWC	1	PASI-K
60165127053	WGK-BM-031814-SB-39-13-13.5	EPA 8260	JKL	9	PASI-K
		ASTM D2974	DWC	1	PASI-K

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: BIG MO 2014 SAMPLING

Pace Project No.: 60165127

Method: EPA 8260

Description: 8260 MSV 5035A VOA

Client: XDD_SOLUTIONIA, LLC

Date: April 02, 2014

General Information:

53 samples were analyzed for EPA 8260. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

QC Batch: MSV/60224

IS: The internal standard response is below criteria. Results may be biased high.

- WGK-BM-031814-SB-39-10 (Lab ID: 60165127050)
 - Toluene-d8 (S)
- WGK-BM-031814-SB-39-12 (Lab ID: 60165127051)
 - Toluene-d8 (S)
- WGK-BM-031814-SB-39-7 (Lab ID: 60165127048)
 - Toluene-d8 (S)
- WGK-BM-031814-SB-39-7-7.5 (Lab ID: 60165127049)
 - Toluene-d8 (S)
- WGK-BM-031814-SB-DUP-04 (Lab ID: 60165127047)
 - Toluene-d8 (S)

QC Batch: MSV/60242

IS: The internal standard response is below criteria. Results may be biased high.

- WGK-BM-031714-SB-37-3 (Lab ID: 60165127004)
 - Toluene-d8 (S)
- WGK-BM-031714-SB-37-8 (Lab ID: 60165127005)
 - Toluene-d8 (S)
- WGK-BM-031714-SB-66-8 (Lab ID: 60165127012)
 - Toluene-d8 (S)
- WGK-BM-031714-SB-DUP01 (Lab ID: 60165127011)
 - Toluene-d8 (S)

QC Batch: MSV/60306

IS: The internal standard response is below criteria. Results may be biased high.

- WGK-BM-031714-SB-66-13.5 (Lab ID: 60165127015)
 - Toluene-d8 (S)
- WGK-BM-031814-SB-33-5 (Lab ID: 60165127026)
 - Toluene-d8 (S)

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PROJECT NARRATIVE

Project: BIG MO 2014 SAMPLING

Pace Project No.: 60165127

Method: EPA 8260

Description: 8260 MSV 5035A VOA

Client: XDD_SOLUTIONIA, LLC

Date: April 02, 2014

Surrogates:

All surrogates were within QC limits with any exceptions noted below.

QC Batch: MSV/60224

S0: Surrogate recovery outside laboratory control limits.

- WGK-BM-031814-SB-39-10 (Lab ID: 60165127050)
 - Toluene-d8 (S)
- WGK-BM-031814-SB-39-7 (Lab ID: 60165127048)
 - Toluene-d8 (S)
- WGK-BM-031814-SB-39-7-7.5 (Lab ID: 60165127049)
 - Toluene-d8 (S)
- WGK-BM-031814-SB-DUP-04 (Lab ID: 60165127047)
 - Toluene-d8 (S)

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: MSV/60306

A matrix spike/matrix spike duplicate was not performed due to insufficient sample volume.

QC Batch: MSV/60309

A matrix spike/matrix spike duplicate was not performed due to insufficient sample volume.

Additional Comments:

Analyte Comments:

QC Batch: MSV/60242

D3: Sample was diluted due to the presence of high levels of non-target analytes or other matrix interference.

- WGK-BM-031714-SB-37-12 (Lab ID: 60165127007)
 - Toluene-d8 (S)

This data package has been reviewed for quality and completeness and is approved for release.

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ANALYTICAL RESULTS

Project: BIG MO 2014 SAMPLING

Pace Project No.: 60165127

Sample: **WGK-BM-031714-SB-70-3** Lab ID: **60165127001** Collected: 03/17/14 11:05 Received: 03/19/14 02:05 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA									
Analytical Method: EPA 8260									
Benzene	25400	ug/kg	20300	10100	5000		03/20/14 15:51	71-43-2	
Chlorobenzene	133000	ug/kg	20300	10100	5000		03/20/14 15:51	108-90-7	
1,4-Dichlorobenzene	2100000	ug/kg	81100	40500	20000		03/21/14 23:50	106-46-7	
Ethylbenzene	ND	ug/kg	20300	10100	5000		03/20/14 15:51	100-41-4	
Toluene	ND	ug/kg	20300	10100	5000		03/20/14 15:51	108-88-3	
Xylene (Total)	ND	ug/kg	20300	10100	5000		03/20/14 15:51	1330-20-7	
Surrogates									
Toluene-d8 (S)	100	%	80-120		5000		03/20/14 15:51	2037-26-5	
4-Bromofluorobenzene (S)	100	%	76-123		5000		03/20/14 15:51	460-00-4	
1,2-Dichloroethane-d4 (S)	98	%	75-129		5000		03/20/14 15:51	17060-07-0	
Percent Moisture									
Analytical Method: ASTM D2974									
Percent Moisture	19.3	%	0.50	0.50	1		03/26/14 00:00		

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ANALYTICAL RESULTS

Project: BIG MO 2014 SAMPLING

Pace Project No.: 60165127

Sample: **WGK-BM-031714-SB-70-6** Lab ID: **60165127002** Collected: 03/17/14 11:20 Received: 03/19/14 02:05 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA									
Analytical Method: EPA 8260									
Benzene	21900	ug/kg	1610	805	500		03/22/14 00:05	71-43-2	
Chlorobenzene	30100	ug/kg	1610	805	500		03/22/14 00:05	108-90-7	
1,4-Dichlorobenzene	82100	ug/kg	1610	805	500		03/22/14 00:05	106-46-7	
Ethylbenzene	ND	ug/kg	1610	805	500		03/22/14 00:05	100-41-4	
Toluene	ND	ug/kg	1610	805	500		03/22/14 00:05	108-88-3	
Xylene (Total)	ND	ug/kg	1610	805	500		03/22/14 00:05	1330-20-7	
Surrogates									
Toluene-d8 (S)	101	%	80-120		500		03/22/14 00:05	2037-26-5	
4-Bromofluorobenzene (S)	97	%	76-123		500		03/22/14 00:05	460-00-4	
1,2-Dichloroethane-d4 (S)	97	%	75-129		500		03/22/14 00:05	17060-07-0	
Percent Moisture									
Analytical Method: ASTM D2974									
Percent Moisture	22.5	%	0.50	0.50	1		03/26/14 00:00		

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ANALYTICAL RESULTS

Project: BIG MO 2014 SAMPLING

Pace Project No.: 60165127

Sample: W GK-BM-031714-SB-70-3-3.5 **Lab ID:** 60165127003 Collected: 03/17/14 11:40 Received: 03/19/14 02:05 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA									
Analytical Method: EPA 8260									
Benzene	135000	ug/kg	21700	10800	5000		03/20/14 16:22	71-43-2	
Chlorobenzene	73600	ug/kg	21700	10800	5000		03/20/14 16:22	108-90-7	
1,4-Dichlorobenzene	1790000	ug/kg	43300	21700	10000		03/22/14 00:52	106-46-7	
Ethylbenzene	ND	ug/kg	21700	10800	5000		03/20/14 16:22	100-41-4	
Toluene	ND	ug/kg	21700	10800	5000		03/20/14 16:22	108-88-3	
Xylene (Total)	ND	ug/kg	21700	10800	5000		03/20/14 16:22	1330-20-7	
Surrogates									
Toluene-d8 (S)	100	%	80-120		5000		03/20/14 16:22	2037-26-5	
4-Bromofluorobenzene (S)	99	%	76-123		5000		03/20/14 16:22	460-00-4	
1,2-Dichloroethane-d4 (S)	101	%	75-129		5000		03/20/14 16:22	17060-07-0	
Percent Moisture									
Analytical Method: ASTM D2974									
Percent Moisture	14.0	%	0.50	0.50	1		03/26/14 00:00		

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ANALYTICAL RESULTS

Project: BIG MO 2014 SAMPLING

Pace Project No.: 60165127

Sample: **WGK-BM-031714-SB-37-3** Lab ID: **60165127004** Collected: 03/17/14 12:15 Received: 03/19/14 02:05 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA									
Analytical Method: EPA 8260									
Benzene	81.5	ug/kg	4.8	2.4	1		03/21/14 19:00	71-43-2	
Chlorobenzene	ND	ug/kg	4.8	2.4	1		03/21/14 19:00	108-90-7	
1,4-Dichlorobenzene	20.8	ug/kg	4.8	2.4	1		03/21/14 19:00	106-46-7	
Ethylbenzene	ND	ug/kg	4.8	2.4	1		03/21/14 19:00	100-41-4	
Toluene	ND	ug/kg	4.8	2.4	1		03/21/14 19:00	108-88-3	
Xylene (Total)	ND	ug/kg	4.8	2.4	1		03/21/14 19:00	1330-20-7	
Surrogates									
Toluene-d8 (S)	95	%	80-120		1		03/21/14 19:00	2037-26-5	IS
4-Bromofluorobenzene (S)	88	%	76-123		1		03/21/14 19:00	460-00-4	
1,2-Dichloroethane-d4 (S)	106	%	75-129		1		03/21/14 19:00	17060-07-0	
Percent Moisture									
Analytical Method: ASTM D2974									
Percent Moisture	28.4	%	0.50	0.50	1		03/26/14 00:00		

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ANALYTICAL RESULTS

Project: BIG MO 2014 SAMPLING

Pace Project No.: 60165127

Sample: W GK-BM-031714-SB-37-8 **Lab ID:** 60165127005 Collected: 03/17/14 12:20 Received: 03/19/14 02:05 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA									
Analytical Method: EPA 8260									
Benzene	2.1J	ug/kg	3.9	1.9	1		03/21/14 19:15	71-43-2	
Chlorobenzene	ND	ug/kg	3.9	1.9	1		03/21/14 19:15	108-90-7	
1,4-Dichlorobenzene	30.0	ug/kg	3.9	1.9	1		03/21/14 19:15	106-46-7	
Ethylbenzene	ND	ug/kg	3.9	1.9	1		03/21/14 19:15	100-41-4	
Toluene	ND	ug/kg	3.9	1.9	1		03/21/14 19:15	108-88-3	
Xylene (Total)	ND	ug/kg	3.9	1.9	1		03/21/14 19:15	1330-20-7	
Surrogates									
Toluene-d8 (S)	90	%	80-120		1		03/21/14 19:15	2037-26-5	IS
4-Bromofluorobenzene (S)	93	%	76-123		1		03/21/14 19:15	460-00-4	
1,2-Dichloroethane-d4 (S)	111	%	75-129		1		03/21/14 19:15	17060-07-0	
Percent Moisture									
Analytical Method: ASTM D2974									
Percent Moisture	6.4	%	0.50	0.50	1		03/26/14 00:00		

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ANALYTICAL RESULTS

Project: BIG MO 2014 SAMPLING

Pace Project No.: 60165127

Sample: **WGK-BM-031714-SB-37-10** Lab ID: **60165127006** Collected: 03/17/14 12:30 Received: 03/19/14 02:05 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA									
Analytical Method: EPA 8260									
Benzene	23.8	ug/kg	3.2	1.6	1		03/25/14 14:31	71-43-2	
Chlorobenzene	6.6	ug/kg	3.2	1.6	1		03/25/14 14:31	108-90-7	
1,4-Dichlorobenzene	48.7	ug/kg	3.2	1.6	1		03/25/14 14:31	106-46-7	
Ethylbenzene	ND	ug/kg	3.2	1.6	1		03/25/14 14:31	100-41-4	
Toluene	ND	ug/kg	3.2	1.6	1		03/25/14 14:31	108-88-3	
Xylene (Total)	ND	ug/kg	3.2	1.6	1		03/25/14 14:31	1330-20-7	
Surrogates									
Toluene-d8 (S)	100	%	80-120		1		03/25/14 14:31	2037-26-5	
4-Bromofluorobenzene (S)	94	%	76-123		1		03/25/14 14:31	460-00-4	
1,2-Dichloroethane-d4 (S)	98	%	75-129		1		03/25/14 14:31	17060-07-0	
Percent Moisture									
Analytical Method: ASTM D2974									
Percent Moisture	9.6	%	0.50	0.50	1		03/26/14 00:00		

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ANALYTICAL RESULTS

Project: BIG MO 2014 SAMPLING

Pace Project No.: 60165127

Sample: W GK-BM-031714-SB-37-12 **Lab ID:** 60165127007 Collected: 03/17/14 12:35 Received: 03/19/14 02:05 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA									
Analytical Method: EPA 8260									
Benzene	ND	ug/kg	165	82.4	50		03/21/14 20:16	71-43-2	
Chlorobenzene	96.9J	ug/kg	165	82.4	50		03/21/14 20:16	108-90-7	
1,4-Dichlorobenzene	252	ug/kg	165	82.4	50		03/21/14 20:16	106-46-7	
Ethylbenzene	ND	ug/kg	165	82.4	50		03/21/14 20:16	100-41-4	
Toluene	ND	ug/kg	165	82.4	50		03/21/14 20:16	108-88-3	
Xylene (Total)	ND	ug/kg	165	82.4	50		03/21/14 20:16	1330-20-7	
Surrogates									
Toluene-d8 (S)	98 %		80-120		50		03/21/14 20:16	2037-26-5	D3
4-Bromofluorobenzene (S)	99 %		76-123		50		03/21/14 20:16	460-00-4	
1,2-Dichloroethane-d4 (S)	97 %		75-129		50		03/21/14 20:16	17060-07-0	
Percent Moisture									
Analytical Method: ASTM D2974									
Percent Moisture	20.4	%	0.50	0.50	1		03/26/14 00:00		

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ANALYTICAL RESULTS

Project: BIG MO 2014 SAMPLING

Pace Project No.: 60165127

Sample: **WGK-BM-031714-SB-37-14** Lab ID: **60165127008** Collected: 03/17/14 12:40 Received: 03/19/14 02:05 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA									
Analytical Method: EPA 8260									
Benzene	264000	ug/kg	13600	6810	5000		03/20/14 17:39	71-43-2	
Chlorobenzene	ND	ug/kg	13600	6810	5000		03/20/14 17:39	108-90-7	
1,4-Dichlorobenzene	ND	ug/kg	13600	6810	5000		03/20/14 17:39	106-46-7	
Ethylbenzene	ND	ug/kg	13600	6810	5000		03/20/14 17:39	100-41-4	
Toluene	ND	ug/kg	13600	6810	5000		03/20/14 17:39	108-88-3	
Xylene (Total)	ND	ug/kg	13600	6810	5000		03/20/14 17:39	1330-20-7	
Surrogates									
Toluene-d8 (S)	101	%	80-120		5000		03/20/14 17:39	2037-26-5	
4-Bromofluorobenzene (S)	100	%	76-123		5000		03/20/14 17:39	460-00-4	
1,2-Dichloroethane-d4 (S)	100	%	75-129		5000		03/20/14 17:39	17060-07-0	
Percent Moisture									
Analytical Method: ASTM D2974									
Percent Moisture	13.1	%	0.50	0.50	1		03/26/14 00:00		

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ANALYTICAL RESULTS

Project: BIG MO 2014 SAMPLING

Pace Project No.: 60165127

Sample: W GK-BM-031714-SB-37-3-3.7 **Lab ID:** 60165127009 Collected: 03/17/14 13:40 Received: 03/19/14 02:05 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA									
Analytical Method: EPA 8260									
Benzene	1340	ug/kg	152	76.1	50		03/21/14 20:32	71-43-2	
Chlorobenzene	ND	ug/kg	152	76.1	50		03/21/14 20:32	108-90-7	
1,4-Dichlorobenzene	209	ug/kg	152	76.1	50		03/21/14 20:32	106-46-7	
Ethylbenzene	ND	ug/kg	152	76.1	50		03/21/14 20:32	100-41-4	
Toluene	ND	ug/kg	152	76.1	50		03/21/14 20:32	108-88-3	
Xylene (Total)	ND	ug/kg	152	76.1	50		03/21/14 20:32	1330-20-7	
Surrogates									
Toluene-d8 (S)	99	%	80-120		50		03/21/14 20:32	2037-26-5	
4-Bromofluorobenzene (S)	98	%	76-123		50		03/21/14 20:32	460-00-4	
1,2-Dichloroethane-d4 (S)	100	%	75-129		50		03/21/14 20:32	17060-07-0	
Percent Moisture									
Analytical Method: ASTM D2974									
Percent Moisture	26.8	%	0.50	0.50	1		03/26/14 00:00		

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ANALYTICAL RESULTS

Project: BIG MO 2014 SAMPLING

Pace Project No.: 60165127

Sample: WGK-BM-031714-SB-37-14-14.5 **Lab ID:** 60165127010 Collected: 03/17/14 13:45 Received: 03/19/14 02:05 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA									
Analytical Method: EPA 8260									
Benzene	147000	ug/kg	16000	7980	5000		03/20/14 18:10	71-43-2	
Chlorobenzene	ND	ug/kg	16000	7980	5000		03/20/14 18:10	108-90-7	
1,4-Dichlorobenzene	ND	ug/kg	16000	7980	5000		03/20/14 18:10	106-46-7	
Ethylbenzene	ND	ug/kg	16000	7980	5000		03/20/14 18:10	100-41-4	
Toluene	ND	ug/kg	16000	7980	5000		03/20/14 18:10	108-88-3	
Xylene (Total)	ND	ug/kg	16000	7980	5000		03/20/14 18:10	1330-20-7	
Surrogates									
Toluene-d8 (S)	100	%	80-120		5000		03/20/14 18:10	2037-26-5	
4-Bromofluorobenzene (S)	98	%	76-123		5000		03/20/14 18:10	460-00-4	
1,2-Dichloroethane-d4 (S)	101	%	75-129		5000		03/20/14 18:10	17060-07-0	
Percent Moisture									
Analytical Method: ASTM D2974									
Percent Moisture	14.2	%	0.50	0.50	1		03/26/14 00:00		

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ANALYTICAL RESULTS

Project: BIG MO 2014 SAMPLING

Pace Project No.: 60165127

Sample: W GK-BM-031714-SB-DUP01 **Lab ID:** 60165127011 Collected: 03/17/14 11:05 Received: 03/19/14 02:05 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA									
Analytical Method: EPA 8260									
Benzene	39.4	ug/kg	3.7	1.8	1		03/21/14 20:47	71-43-2	
Chlorobenzene	5.5	ug/kg	3.7	1.8	1		03/21/14 20:47	108-90-7	
1,4-Dichlorobenzene	60.8	ug/kg	3.7	1.8	1		03/21/14 20:47	106-46-7	
Ethylbenzene	ND	ug/kg	3.7	1.8	1		03/21/14 20:47	100-41-4	
Toluene	ND	ug/kg	3.7	1.8	1		03/21/14 20:47	108-88-3	
Xylene (Total)	ND	ug/kg	3.7	1.8	1		03/21/14 20:47	1330-20-7	
Surrogates									
Toluene-d8 (S)	86	%	80-120		1		03/21/14 20:47	2037-26-5	IS
4-Bromofluorobenzene (S)	88	%	76-123		1		03/21/14 20:47	460-00-4	
1,2-Dichloroethane-d4 (S)	108	%	75-129		1		03/21/14 20:47	17060-07-0	
Percent Moisture									
Analytical Method: ASTM D2974									
Percent Moisture	10.4	%	0.50	0.50	1		03/26/14 00:00		

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ANALYTICAL RESULTS

Project: BIG MO 2014 SAMPLING

Pace Project No.: 60165127

Sample: W GK-BM-031714-SB-66-8 **Lab ID:** 60165127012 Collected: 03/17/14 14:27 Received: 03/19/14 02:05 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA									
Analytical Method: EPA 8260									
Benzene	9.1	ug/kg	2.7	1.4	1		03/21/14 21:02	71-43-2	
Chlorobenzene	ND	ug/kg	2.7	1.4	1		03/21/14 21:02	108-90-7	
1,4-Dichlorobenzene	ND	ug/kg	2.7	1.4	1		03/21/14 21:02	106-46-7	
Ethylbenzene	ND	ug/kg	2.7	1.4	1		03/21/14 21:02	100-41-4	
Toluene	ND	ug/kg	2.7	1.4	1		03/21/14 21:02	108-88-3	
Xylene (Total)	ND	ug/kg	2.7	1.4	1		03/21/14 21:02	1330-20-7	
Surrogates									
Toluene-d8 (S)	90	%	80-120		1		03/21/14 21:02	2037-26-5	IS
4-Bromofluorobenzene (S)	86	%	76-123		1		03/21/14 21:02	460-00-4	
1,2-Dichloroethane-d4 (S)	96	%	75-129		1		03/21/14 21:02	17060-07-0	
Percent Moisture									
Analytical Method: ASTM D2974									
Percent Moisture	9.8	%	0.50	0.50	1		03/26/14 00:00		

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ANALYTICAL RESULTS

Project: BIG MO 2014 SAMPLING

Pace Project No.: 60165127

Sample: **WGK-BM-031714-SB-66-10** Lab ID: **60165127013** Collected: 03/17/14 14:25 Received: 03/19/14 02:05 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA									
Analytical Method: EPA 8260									
Benzene	155	ug/kg	3.7	1.8	1		03/25/14 14:46	71-43-2	
Chlorobenzene	29.5	ug/kg	3.7	1.8	1		03/25/14 14:46	108-90-7	
1,4-Dichlorobenzene	186	ug/kg	3.7	1.8	1		03/25/14 14:46	106-46-7	
Ethylbenzene	ND	ug/kg	3.7	1.8	1		03/25/14 14:46	100-41-4	
Toluene	ND	ug/kg	3.7	1.8	1		03/25/14 14:46	108-88-3	
Xylene (Total)	ND	ug/kg	3.7	1.8	1		03/25/14 14:46	1330-20-7	
Surrogates									
Toluene-d8 (S)	100	%	80-120		1		03/25/14 14:46	2037-26-5	
4-Bromofluorobenzene (S)	98	%	76-123		1		03/25/14 14:46	460-00-4	
1,2-Dichloroethane-d4 (S)	101	%	75-129		1		03/25/14 14:46	17060-07-0	
Percent Moisture									
Analytical Method: ASTM D2974									
Percent Moisture	8.2	%	0.50	0.50	1		03/26/14 00:00		

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ANALYTICAL RESULTS

Project: BIG MO 2014 SAMPLING

Pace Project No.: 60165127

Sample: **WGK-BM-031714-SB-66-12** Lab ID: **60165127014** Collected: 03/17/14 14:30 Received: 03/19/14 02:05 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA									
Analytical Method: EPA 8260									
Benzene	ND	ug/kg	3.0	1.5	1		03/25/14 15:02	71-43-2	
Chlorobenzene	ND	ug/kg	3.0	1.5	1		03/25/14 15:02	108-90-7	
1,4-Dichlorobenzene	2.0J	ug/kg	3.0	1.5	1		03/25/14 15:02	106-46-7	
Ethylbenzene	ND	ug/kg	3.0	1.5	1		03/25/14 15:02	100-41-4	
Toluene	ND	ug/kg	3.0	1.5	1		03/25/14 15:02	108-88-3	
Xylene (Total)	ND	ug/kg	3.0	1.5	1		03/25/14 15:02	1330-20-7	
Surrogates									
Toluene-d8 (S)	101	%	80-120		1		03/25/14 15:02	2037-26-5	
4-Bromofluorobenzene (S)	97	%	76-123		1		03/25/14 15:02	460-00-4	
1,2-Dichloroethane-d4 (S)	96	%	75-129		1		03/25/14 15:02	17060-07-0	
Percent Moisture									
Analytical Method: ASTM D2974									
Percent Moisture	3.7	%	0.50	0.50	1		03/26/14 00:00		

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ANALYTICAL RESULTS

Project: BIG MO 2014 SAMPLING

Pace Project No.: 60165127

Sample: W GK-BM-031714-SB-66-13.5 **Lab ID:** 60165127015 Collected: 03/17/14 14:42 Received: 03/19/14 02:05 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA									
Analytical Method: EPA 8260									
Benzene	2.7J	ug/kg	3.0	1.5	1		03/25/14 15:17	71-43-2	
Chlorobenzene	ND	ug/kg	3.0	1.5	1		03/25/14 15:17	108-90-7	
1,4-Dichlorobenzene	3.7	ug/kg	3.0	1.5	1		03/25/14 15:17	106-46-7	
Ethylbenzene	ND	ug/kg	3.0	1.5	1		03/25/14 15:17	100-41-4	
Toluene	ND	ug/kg	3.0	1.5	1		03/25/14 15:17	108-88-3	
Xylene (Total)	ND	ug/kg	3.0	1.5	1		03/25/14 15:17	1330-20-7	
Surrogates									
Toluene-d8 (S)	99 %		80-120		1		03/25/14 15:17	2037-26-5	IS
4-Bromofluorobenzene (S)	99 %		76-123		1		03/25/14 15:17	460-00-4	
1,2-Dichloroethane-d4 (S)	94 %		75-129		1		03/25/14 15:17	17060-07-0	
Percent Moisture									
Analytical Method: ASTM D2974									
Percent Moisture	19.2	%	0.50	0.50	1		03/26/14 00:00		

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ANALYTICAL RESULTS

Project: BIG MO 2014 SAMPLING

Pace Project No.: 60165127

Sample: W GK-BM-031714-SB-66-13-13.5 **Lab ID:** 60165127016 Collected: 03/17/14 15:17 Received: 03/19/14 02:05 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA									
Analytical Method: EPA 8260									
Benzene	1.6J	ug/kg	2.8	1.4	1		03/26/14 12:56	71-43-2	
Chlorobenzene	ND	ug/kg	2.8	1.4	1		03/26/14 12:56	108-90-7	
1,4-Dichlorobenzene	5.5	ug/kg	2.8	1.4	1		03/26/14 12:56	106-46-7	
Ethylbenzene	ND	ug/kg	2.8	1.4	1		03/26/14 12:56	100-41-4	
Toluene	ND	ug/kg	2.8	1.4	1		03/26/14 12:56	108-88-3	
Xylene (Total)	ND	ug/kg	2.8	1.4	1		03/26/14 12:56	1330-20-7	
Surrogates									
Toluene-d8 (S)	100	%	80-120		1		03/26/14 12:56	2037-26-5	
4-Bromofluorobenzene (S)	97	%	76-123		1		03/26/14 12:56	460-00-4	
1,2-Dichloroethane-d4 (S)	92	%	75-129		1		03/26/14 12:56	17060-07-0	
Percent Moisture									
Analytical Method: ASTM D2974									
Percent Moisture	18.9	%	0.50	0.50	1		03/26/14 00:00		

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ANALYTICAL RESULTS

Project: BIG MO 2014 SAMPLING

Pace Project No.: 60165127

Sample: **WGK-BM-031714-SB-34-10** Lab ID: **60165127017** Collected: 03/17/14 15:42 Received: 03/19/14 02:05 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA									
Analytical Method: EPA 8260									
Benzene	ND	ug/kg	3.0	1.5	1		03/25/14 15:33	71-43-2	
Chlorobenzene	ND	ug/kg	3.0	1.5	1		03/25/14 15:33	108-90-7	
1,4-Dichlorobenzene	ND	ug/kg	3.0	1.5	1		03/25/14 15:33	106-46-7	
Ethylbenzene	ND	ug/kg	3.0	1.5	1		03/25/14 15:33	100-41-4	
Toluene	ND	ug/kg	3.0	1.5	1		03/25/14 15:33	108-88-3	
Xylene (Total)	ND	ug/kg	3.0	1.5	1		03/25/14 15:33	1330-20-7	
Surrogates									
Toluene-d8 (S)	101	%	80-120		1		03/25/14 15:33	2037-26-5	
4-Bromofluorobenzene (S)	99	%	76-123		1		03/25/14 15:33	460-00-4	
1,2-Dichloroethane-d4 (S)	100	%	75-129		1		03/25/14 15:33	17060-07-0	
Percent Moisture									
Analytical Method: ASTM D2974									
Percent Moisture	1.7	%	0.50	0.50	1		03/26/14 00:00		

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ANALYTICAL RESULTS

Project: BIG MO 2014 SAMPLING

Pace Project No.: 60165127

Sample: **WGK-BM-031714-SB-34-12** Lab ID: **60165127018** Collected: 03/17/14 15:45 Received: 03/19/14 02:05 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA									
Analytical Method: EPA 8260									
Benzene	ND	ug/kg	2.8	1.4	1		03/25/14 15:48	71-43-2	
Chlorobenzene	ND	ug/kg	2.8	1.4	1		03/25/14 15:48	108-90-7	
1,4-Dichlorobenzene	ND	ug/kg	2.8	1.4	1		03/25/14 15:48	106-46-7	
Ethylbenzene	ND	ug/kg	2.8	1.4	1		03/25/14 15:48	100-41-4	
Toluene	ND	ug/kg	2.8	1.4	1		03/25/14 15:48	108-88-3	
Xylene (Total)	ND	ug/kg	2.8	1.4	1		03/25/14 15:48	1330-20-7	
Surrogates									
Toluene-d8 (S)	100	%	80-120		1		03/25/14 15:48	2037-26-5	
4-Bromofluorobenzene (S)	97	%	76-123		1		03/25/14 15:48	460-00-4	
1,2-Dichloroethane-d4 (S)	98	%	75-129		1		03/25/14 15:48	17060-07-0	
Percent Moisture									
Analytical Method: ASTM D2974									
Percent Moisture	2.3	%	0.50	0.50	1		03/26/14 00:00		

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ANALYTICAL RESULTS

Project: BIG MO 2014 SAMPLING

Pace Project No.: 60165127

Sample: W GK-BM-031714-SB-34-13.9 **Lab ID:** 60165127019 Collected: 03/17/14 15:50 Received: 03/19/14 02:05 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA									
Analytical Method: EPA 8260									
Benzene	ND	ug/kg	3.0	1.5	1		03/25/14 16:04	71-43-2	
Chlorobenzene	ND	ug/kg	3.0	1.5	1		03/25/14 16:04	108-90-7	
1,4-Dichlorobenzene	ND	ug/kg	3.0	1.5	1		03/25/14 16:04	106-46-7	
Ethylbenzene	ND	ug/kg	3.0	1.5	1		03/25/14 16:04	100-41-4	
Toluene	ND	ug/kg	3.0	1.5	1		03/25/14 16:04	108-88-3	
Xylene (Total)	ND	ug/kg	3.0	1.5	1		03/25/14 16:04	1330-20-7	
Surrogates									
Toluene-d8 (S)	101	%	80-120		1		03/25/14 16:04	2037-26-5	
4-Bromofluorobenzene (S)	97	%	76-123		1		03/25/14 16:04	460-00-4	
1,2-Dichloroethane-d4 (S)	99	%	75-129		1		03/25/14 16:04	17060-07-0	
Percent Moisture									
Analytical Method: ASTM D2974									
Percent Moisture	5.2	%	0.50	0.50	1		03/26/14 00:00		

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ANALYTICAL RESULTS

Project: BIG MO 2014 SAMPLING

Pace Project No.: 60165127

Sample: W GK-BM-031714-SB-34-13-13.5 **Lab ID:** 60165127020 Collected: 03/17/14 16:00 Received: 03/19/14 02:05 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA									
Analytical Method: EPA 8260									
Benzene	ND	ug/kg	3.0	1.5	1		03/26/14 13:11	71-43-2	
Chlorobenzene	ND	ug/kg	3.0	1.5	1		03/26/14 13:11	108-90-7	
1,4-Dichlorobenzene	ND	ug/kg	3.0	1.5	1		03/26/14 13:11	106-46-7	
Ethylbenzene	ND	ug/kg	3.0	1.5	1		03/26/14 13:11	100-41-4	
Toluene	ND	ug/kg	3.0	1.5	1		03/26/14 13:11	108-88-3	
Xylene (Total)	ND	ug/kg	3.0	1.5	1		03/26/14 13:11	1330-20-7	
Surrogates									
Toluene-d8 (S)	102	%	80-120		1		03/26/14 13:11	2037-26-5	
4-Bromofluorobenzene (S)	97	%	76-123		1		03/26/14 13:11	460-00-4	
1,2-Dichloroethane-d4 (S)	97	%	75-129		1		03/26/14 13:11	17060-07-0	
Percent Moisture									
Analytical Method: ASTM D2974									
Percent Moisture	2.9	%	0.50	0.50	1		03/26/14 00:00		

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ANALYTICAL RESULTS

Project: BIG MO 2014 SAMPLING

Pace Project No.: 60165127

Sample: W GK-BM-031714-SB-DUP02 **Lab ID:** 60165127021 Collected: 03/17/14 14:00 Received: 03/19/14 02:05 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA									
Analytical Method: EPA 8260									
Benzene	ND	ug/kg	3.1	1.6	1		03/26/14 13:27	71-43-2	
Chlorobenzene	ND	ug/kg	3.1	1.6	1		03/26/14 13:27	108-90-7	
1,4-Dichlorobenzene	ND	ug/kg	3.1	1.6	1		03/26/14 13:27	106-46-7	
Ethylbenzene	ND	ug/kg	3.1	1.6	1		03/26/14 13:27	100-41-4	
Toluene	ND	ug/kg	3.1	1.6	1		03/26/14 13:27	108-88-3	
Xylene (Total)	ND	ug/kg	3.1	1.6	1		03/26/14 13:27	1330-20-7	
Surrogates									
Toluene-d8 (S)	102	%	80-120		1		03/26/14 13:27	2037-26-5	
4-Bromofluorobenzene (S)	98	%	76-123		1		03/26/14 13:27	460-00-4	
1,2-Dichloroethane-d4 (S)	97	%	75-129		1		03/26/14 13:27	17060-07-0	
Percent Moisture									
Analytical Method: ASTM D2974									
Percent Moisture	3.4	%	0.50	0.50	1		03/26/14 00:00		

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ANALYTICAL RESULTS

Project: BIG MO 2014 SAMPLING

Pace Project No.: 60165127

Sample: WGK-BM-SB-TB-01 **Lab ID: 60165127022** Collected: 03/17/14 00:00 Received: 03/19/14 02:05 Matrix: Solid

Results reported on a "wet-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA									
Analytical Method: EPA 8260									
Benzene	ND	ug/kg	5.0	2.5	1		03/20/14 20:45	71-43-2	
Chlorobenzene	ND	ug/kg	5.0	2.5	1		03/20/14 20:45	108-90-7	
1,4-Dichlorobenzene	ND	ug/kg	5.0	2.5	1		03/20/14 20:45	106-46-7	
Ethylbenzene	ND	ug/kg	5.0	2.5	1		03/20/14 20:45	100-41-4	
Toluene	ND	ug/kg	5.0	2.5	1		03/20/14 20:45	108-88-3	
Xylene (Total)	ND	ug/kg	5.0	2.5	1		03/20/14 20:45	1330-20-7	
Surrogates									
Toluene-d8 (S)	101	%	80-120		1		03/20/14 20:45	2037-26-5	
4-Bromofluorobenzene (S)	100	%	76-123		1		03/20/14 20:45	460-00-4	
1,2-Dichloroethane-d4 (S)	103	%	75-129		1		03/20/14 20:45	17060-07-0	

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ANALYTICAL RESULTS

Project: BIG MO 2014 SAMPLING

Pace Project No.: 60165127

Sample: WGK-BM-SB-TB-02 **Lab ID: 60165127023** Collected: 03/18/14 00:00 Received: 03/19/14 02:05 Matrix: Solid

Results reported on a "wet-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA									
Analytical Method: EPA 8260									
Benzene	ND	ug/kg	5.0	2.5	1		03/20/14 21:00	71-43-2	
Chlorobenzene	ND	ug/kg	5.0	2.5	1		03/20/14 21:00	108-90-7	
1,4-Dichlorobenzene	ND	ug/kg	5.0	2.5	1		03/20/14 21:00	106-46-7	
Ethylbenzene	ND	ug/kg	5.0	2.5	1		03/20/14 21:00	100-41-4	
Toluene	ND	ug/kg	5.0	2.5	1		03/20/14 21:00	108-88-3	
Xylene (Total)	ND	ug/kg	5.0	2.5	1		03/20/14 21:00	1330-20-7	
Surrogates									
Toluene-d8 (S)	102	%	80-120		1		03/20/14 21:00	2037-26-5	
4-Bromofluorobenzene (S)	100	%	76-123		1		03/20/14 21:00	460-00-4	
1,2-Dichloroethane-d4 (S)	103	%	75-129		1		03/20/14 21:00	17060-07-0	

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ANALYTICAL RESULTS

Project: BIG MO 2014 SAMPLING

Pace Project No.: 60165127

Sample: WGK-BM-031814-SB-33-3 **Lab ID:** 60165127024 Collected: 03/18/14 09:05 Received: 03/19/14 02:05 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA									
Analytical Method: EPA 8260									
Benzene	ND	ug/kg	3.4	1.7	1		03/26/14 13:42	71-43-2	
Chlorobenzene	ND	ug/kg	3.4	1.7	1		03/26/14 13:42	108-90-7	
1,4-Dichlorobenzene	ND	ug/kg	3.4	1.7	1		03/26/14 13:42	106-46-7	
Ethylbenzene	ND	ug/kg	3.4	1.7	1		03/26/14 13:42	100-41-4	
Toluene	ND	ug/kg	3.4	1.7	1		03/26/14 13:42	108-88-3	
Xylene (Total)	ND	ug/kg	3.4	1.7	1		03/26/14 13:42	1330-20-7	
Surrogates									
Toluene-d8 (S)	102	%	80-120		1		03/26/14 13:42	2037-26-5	
4-Bromofluorobenzene (S)	98	%	76-123		1		03/26/14 13:42	460-00-4	
1,2-Dichloroethane-d4 (S)	101	%	75-129		1		03/26/14 13:42	17060-07-0	
Percent Moisture									
Analytical Method: ASTM D2974									
Percent Moisture	22.0	%	0.50	0.50	1		03/26/14 00:00		

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ANALYTICAL RESULTS

Project: BIG MO 2014 SAMPLING

Pace Project No.: 60165127

Sample: WGK-BM-031814-SB-33-3-3.7 **Lab ID:** 60165127025 Collected: 03/18/14 10:20 Received: 03/19/14 02:05 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA									
Analytical Method: EPA 8260									
Benzene	ND	ug/kg	160	80.1	50		03/26/14 08:48	71-43-2	
Chlorobenzene	ND	ug/kg	160	80.1	50		03/26/14 08:48	108-90-7	
1,4-Dichlorobenzene	ND	ug/kg	160	80.1	50		03/26/14 08:48	106-46-7	
Ethylbenzene	ND	ug/kg	160	80.1	50		03/26/14 08:48	100-41-4	
Toluene	ND	ug/kg	160	80.1	50		03/26/14 08:48	108-88-3	
Xylene (Total)	ND	ug/kg	160	80.1	50		03/26/14 08:48	1330-20-7	
Surrogates									
Toluene-d8 (S)	101	%	80-120		50		03/26/14 08:48	2037-26-5	
4-Bromofluorobenzene (S)	97	%	76-123		50		03/26/14 08:48	460-00-4	
1,2-Dichloroethane-d4 (S)	91	%	75-129		50		03/26/14 08:48	17060-07-0	
Percent Moisture									
Analytical Method: ASTM D2974									
Percent Moisture	23.5	%	0.50	0.50	1		03/26/14 00:00		

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ANALYTICAL RESULTS

Project: BIG MO 2014 SAMPLING

Pace Project No.: 60165127

Sample: **WGK-BM-031814-SB-33-5** Lab ID: **60165127026** Collected: 03/18/14 09:15 Received: 03/19/14 02:05 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA									
Analytical Method: EPA 8260									
Benzene	ND	ug/kg	3.1	1.5	1		03/25/14 16:19	71-43-2	
Chlorobenzene	ND	ug/kg	3.1	1.5	1		03/25/14 16:19	108-90-7	
1,4-Dichlorobenzene	ND	ug/kg	3.1	1.5	1		03/25/14 16:19	106-46-7	
Ethylbenzene	ND	ug/kg	3.1	1.5	1		03/25/14 16:19	100-41-4	
Toluene	ND	ug/kg	3.1	1.5	1		03/25/14 16:19	108-88-3	
Xylene (Total)	ND	ug/kg	3.1	1.5	1		03/25/14 16:19	1330-20-7	
Surrogates									
Toluene-d8 (S)	99 %		80-120		1		03/25/14 16:19	2037-26-5	IS
4-Bromofluorobenzene (S)	100 %		76-123		1		03/25/14 16:19	460-00-4	
1,2-Dichloroethane-d4 (S)	94 %		75-129		1		03/25/14 16:19	17060-07-0	
Percent Moisture									
Analytical Method: ASTM D2974									
Percent Moisture	25.5 %		0.50	0.50	1		03/26/14 00:00		

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ANALYTICAL RESULTS

Project: BIG MO 2014 SAMPLING

Pace Project No.: 60165127

Sample: W GK-BM-031814-SB-33-8 **Lab ID:** 60165127027 Collected: 03/18/14 09:20 Received: 03/19/14 02:05 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA									
Analytical Method: EPA 8260									
Benzene	ND	ug/kg	3.5	1.7	1		03/28/14 14:13	71-43-2	
Chlorobenzene	ND	ug/kg	3.5	1.7	1		03/28/14 14:13	108-90-7	
1,4-Dichlorobenzene	ND	ug/kg	3.5	1.7	1		03/28/14 14:13	106-46-7	
Ethylbenzene	ND	ug/kg	3.5	1.7	1		03/28/14 14:13	100-41-4	
Toluene	ND	ug/kg	3.5	1.7	1		03/28/14 14:13	108-88-3	
Xylene (Total)	ND	ug/kg	3.5	1.7	1		03/28/14 14:13	1330-20-7	
Surrogates									
Toluene-d8 (S)	99	%	80-120		1		03/28/14 14:13	2037-26-5	
4-Bromofluorobenzene (S)	103	%	76-123		1		03/28/14 14:13	460-00-4	
1,2-Dichloroethane-d4 (S)	102	%	75-129		1		03/28/14 14:13	17060-07-0	
Percent Moisture									
Analytical Method: ASTM D2974									
Percent Moisture	14.9	%	0.50	0.50	1		03/26/14 00:00		

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ANALYTICAL RESULTS

Project: BIG MO 2014 SAMPLING

Pace Project No.: 60165127

Sample: **WGK-BM-031814-SB-33-10** Lab ID: **60165127028** Collected: 03/18/14 09:25 Received: 03/19/14 02:05 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA									
Analytical Method: EPA 8260									
Benzene	ND	ug/kg	2.9	1.5	1		03/25/14 16:35	71-43-2	
Chlorobenzene	ND	ug/kg	2.9	1.5	1		03/25/14 16:35	108-90-7	
1,4-Dichlorobenzene	2.8J	ug/kg	2.9	1.5	1		03/25/14 16:35	106-46-7	
Ethylbenzene	ND	ug/kg	2.9	1.5	1		03/25/14 16:35	100-41-4	
Toluene	ND	ug/kg	2.9	1.5	1		03/25/14 16:35	108-88-3	
Xylene (Total)	ND	ug/kg	2.9	1.5	1		03/25/14 16:35	1330-20-7	
Surrogates									
Toluene-d8 (S)	102	%	80-120		1		03/25/14 16:35	2037-26-5	
4-Bromofluorobenzene (S)	98	%	76-123		1		03/25/14 16:35	460-00-4	
1,2-Dichloroethane-d4 (S)	100	%	75-129		1		03/25/14 16:35	17060-07-0	
Percent Moisture									
Analytical Method: ASTM D2974									
Percent Moisture	4.3	%	0.50	0.50	1		03/26/14 00:00		

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ANALYTICAL RESULTS

Project: BIG MO 2014 SAMPLING

Pace Project No.: 60165127

Sample: **WGK-BM-031814-SB-33-12** Lab ID: **60165127029** Collected: 03/18/14 09:30 Received: 03/19/14 02:05 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA									
Analytical Method: EPA 8260									
Benzene	ND	ug/kg	3.4	1.7	1		03/25/14 16:50	71-43-2	
Chlorobenzene	ND	ug/kg	3.4	1.7	1		03/25/14 16:50	108-90-7	
1,4-Dichlorobenzene	ND	ug/kg	3.4	1.7	1		03/25/14 16:50	106-46-7	
Ethylbenzene	ND	ug/kg	3.4	1.7	1		03/25/14 16:50	100-41-4	
Toluene	ND	ug/kg	3.4	1.7	1		03/25/14 16:50	108-88-3	
Xylene (Total)	ND	ug/kg	3.4	1.7	1		03/25/14 16:50	1330-20-7	
Surrogates									
Toluene-d8 (S)	100	%	80-120		1		03/25/14 16:50	2037-26-5	
4-Bromofluorobenzene (S)	98	%	76-123		1		03/25/14 16:50	460-00-4	
1,2-Dichloroethane-d4 (S)	92	%	75-129		1		03/25/14 16:50	17060-07-0	
Percent Moisture									
Analytical Method: ASTM D2974									
Percent Moisture	5.3	%	0.50	0.50	1		03/26/14 00:00		

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ANALYTICAL RESULTS

Project: BIG MO 2014 SAMPLING

Pace Project No.: 60165127

Sample: **WGK-BM-031814-SB-33-14** Lab ID: **60165127030** Collected: 03/18/14 09:35 Received: 03/19/14 02:05 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA									
Analytical Method: EPA 8260									
Benzene	238000	ug/kg	16400	8200	5000		03/21/14 01:07	71-43-2	
Chlorobenzene	176000	ug/kg	16400	8200	5000		03/21/14 01:07	108-90-7	
1,4-Dichlorobenzene	ND	ug/kg	16400	8200	5000		03/21/14 01:07	106-46-7	
Ethylbenzene	ND	ug/kg	16400	8200	5000		03/21/14 01:07	100-41-4	
Toluene	ND	ug/kg	16400	8200	5000		03/21/14 01:07	108-88-3	
Xylene (Total)	ND	ug/kg	16400	8200	5000		03/21/14 01:07	1330-20-7	
Surrogates									
Toluene-d8 (S)	99	%	80-120		5000		03/21/14 01:07	2037-26-5	
4-Bromofluorobenzene (S)	100	%	76-123		5000		03/21/14 01:07	460-00-4	
1,2-Dichloroethane-d4 (S)	102	%	75-129		5000		03/21/14 01:07	17060-07-0	
Percent Moisture									
Analytical Method: ASTM D2974									
Percent Moisture	19.0	%	0.50	0.50	1		03/26/14 00:00		

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ANALYTICAL RESULTS

Project: BIG MO 2014 SAMPLING

Pace Project No.: 60165127

Sample: W GK-BM-031814-SB-33-14-14.5 **Lab ID:** 60165127031 **Collected:** 03/18/14 10:22 **Received:** 03/19/14 02:05 **Matrix:** Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA									
Analytical Method: EPA 8260									
Benzene	162000	ug/kg	17700	8850	5000		03/21/14 01:23	71-43-2	
Chlorobenzene	120000	ug/kg	17700	8850	5000		03/21/14 01:23	108-90-7	
1,4-Dichlorobenzene	ND	ug/kg	17700	8850	5000		03/21/14 01:23	106-46-7	
Ethylbenzene	ND	ug/kg	17700	8850	5000		03/21/14 01:23	100-41-4	
Toluene	ND	ug/kg	17700	8850	5000		03/21/14 01:23	108-88-3	
Xylene (Total)	ND	ug/kg	17700	8850	5000		03/21/14 01:23	1330-20-7	
Surrogates									
Toluene-d8 (S)	99	%	80-120		5000		03/21/14 01:23	2037-26-5	
4-Bromofluorobenzene (S)	99	%	76-123		5000		03/21/14 01:23	460-00-4	
1,2-Dichloroethane-d4 (S)	103	%	75-129		5000		03/21/14 01:23	17060-07-0	
Percent Moisture									
Analytical Method: ASTM D2974									
Percent Moisture	19.3	%	0.50	0.50	1		03/26/14 00:00		

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ANALYTICAL RESULTS

Project: BIG MO 2014 SAMPLING

Pace Project No.: 60165127

Sample: W GK-BM-031814-SB-DUP03 **Lab ID:** 60165127032 **Collected:** 03/18/14 08:30 **Received:** 03/19/14 02:05 **Matrix:** Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA									
Analytical Method: EPA 8260									
Benzene	ND	ug/kg	3.3	1.7	1		03/28/14 14:28	71-43-2	
Chlorobenzene	ND	ug/kg	3.3	1.7	1		03/28/14 14:28	108-90-7	
1,4-Dichlorobenzene	ND	ug/kg	3.3	1.7	1		03/28/14 14:28	106-46-7	
Ethylbenzene	ND	ug/kg	3.3	1.7	1		03/28/14 14:28	100-41-4	
Toluene	ND	ug/kg	3.3	1.7	1		03/28/14 14:28	108-88-3	
Xylene (Total)	ND	ug/kg	3.3	1.7	1		03/28/14 14:28	1330-20-7	
Surrogates									
Toluene-d8 (S)	100	%	80-120		1		03/28/14 14:28	2037-26-5	
4-Bromofluorobenzene (S)	101	%	76-123		1		03/28/14 14:28	460-00-4	
1,2-Dichloroethane-d4 (S)	98	%	75-129		1		03/28/14 14:28	17060-07-0	
Percent Moisture									
Analytical Method: ASTM D2974									
Percent Moisture	5.0	%	0.50	0.50	1		03/26/14 00:00		

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ANALYTICAL RESULTS

Project: BIG MO 2014 SAMPLING

Pace Project No.: 60165127

Sample: WGK-BM-031814-SB-69-3 **Lab ID:** 60165127033 Collected: 03/18/14 09:50 Received: 03/19/14 02:05 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA									
Analytical Method: EPA 8260									
Benzene	16.8	ug/kg	3.4	1.7	1		03/25/14 17:06	71-43-2	
Chlorobenzene	2.0J	ug/kg	3.4	1.7	1		03/25/14 17:06	108-90-7	
1,4-Dichlorobenzene	ND	ug/kg	3.4	1.7	1		03/25/14 17:06	106-46-7	
Ethylbenzene	ND	ug/kg	3.4	1.7	1		03/25/14 17:06	100-41-4	
Toluene	ND	ug/kg	3.4	1.7	1		03/25/14 17:06	108-88-3	
Xylene (Total)	ND	ug/kg	3.4	1.7	1		03/25/14 17:06	1330-20-7	
Surrogates									
Toluene-d8 (S)	101	%	80-120		1		03/25/14 17:06	2037-26-5	
4-Bromofluorobenzene (S)	97	%	76-123		1		03/25/14 17:06	460-00-4	
1,2-Dichloroethane-d4 (S)	97	%	75-129		1		03/25/14 17:06	17060-07-0	
Percent Moisture									
Analytical Method: ASTM D2974									
Percent Moisture	2.4	%	0.50	0.50	1		03/26/14 00:00		

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ANALYTICAL RESULTS

Project: BIG MO 2014 SAMPLING

Pace Project No.: 60165127

Sample: W GK-BM-031814-SB-69-5 **Lab ID:** 60165127034 Collected: 03/18/14 09:55 Received: 03/19/14 02:05 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA									
Analytical Method: EPA 8260									
Benzene	54.5	ug/kg	2.7	1.3	1		03/26/14 15:21	71-43-2	
Chlorobenzene	ND	ug/kg	2.7	1.3	1		03/26/14 15:21	108-90-7	
1,4-Dichlorobenzene	ND	ug/kg	2.7	1.3	1		03/26/14 15:21	106-46-7	
Ethylbenzene	ND	ug/kg	2.7	1.3	1		03/26/14 15:21	100-41-4	
Toluene	ND	ug/kg	2.7	1.3	1		03/26/14 15:21	108-88-3	
Xylene (Total)	ND	ug/kg	2.7	1.3	1		03/26/14 15:21	1330-20-7	
Surrogates									
Toluene-d8 (S)	99	%	80-120		1		03/26/14 15:21	2037-26-5	
4-Bromofluorobenzene (S)	96	%	76-123		1		03/26/14 15:21	460-00-4	
1,2-Dichloroethane-d4 (S)	92	%	75-129		1		03/26/14 15:21	17060-07-0	
Percent Moisture									
Analytical Method: ASTM D2974									
Percent Moisture	9.3	%	0.50	0.50	1		03/26/14 00:00		

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ANALYTICAL RESULTS

Project: BIG MO 2014 SAMPLING

Pace Project No.: 60165127

Sample: **WGK-BM-031814-SB-69-7** Lab ID: **60165127035** Collected: 03/18/14 09:57 Received: 03/19/14 02:05 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA									
Analytical Method: EPA 8260									
Benzene	9.9	ug/kg	2.9	1.5	1		03/26/14 15:36	71-43-2	
Chlorobenzene	ND	ug/kg	2.9	1.5	1		03/26/14 15:36	108-90-7	
1,4-Dichlorobenzene	3420	ug/kg	147	73.3	50		03/27/14 14:00	106-46-7	
Ethylbenzene	ND	ug/kg	2.9	1.5	1		03/26/14 15:36	100-41-4	
Toluene	ND	ug/kg	2.9	1.5	1		03/26/14 15:36	108-88-3	
Xylene (Total)	ND	ug/kg	2.9	1.5	1		03/26/14 15:36	1330-20-7	
Surrogates									
Toluene-d8 (S)	96	%	80-120		1		03/26/14 15:36	2037-26-5	
4-Bromofluorobenzene (S)	87	%	76-123		1		03/26/14 15:36	460-00-4	
1,2-Dichloroethane-d4 (S)	97	%	75-129		1		03/26/14 15:36	17060-07-0	
Percent Moisture									
Analytical Method: ASTM D2974									
Percent Moisture	9.8	%	0.50	0.50	1		03/26/14 00:00		

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ANALYTICAL RESULTS

Project: BIG MO 2014 SAMPLING

Pace Project No.: 60165127

Sample: W GK-BM-031814-SB-69-5-5.5 **Lab ID:** 60165127036 Collected: 03/18/14 11:05 Received: 03/19/14 02:05 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA									
Analytical Method: EPA 8260									
Benzene	1170	ug/kg	280	140	50		03/26/14 09:34	71-43-2	
Chlorobenzene	ND	ug/kg	280	140	50		03/26/14 09:34	108-90-7	
1,4-Dichlorobenzene	ND	ug/kg	280	140	50		03/26/14 09:34	106-46-7	
Ethylbenzene	ND	ug/kg	280	140	50		03/26/14 09:34	100-41-4	
Toluene	ND	ug/kg	280	140	50		03/26/14 09:34	108-88-3	
Xylene (Total)	ND	ug/kg	280	140	50		03/26/14 09:34	1330-20-7	
Surrogates									
Toluene-d8 (S)	100	%	80-120		50		03/26/14 09:34	2037-26-5	
4-Bromofluorobenzene (S)	97	%	76-123		50		03/26/14 09:34	460-00-4	
1,2-Dichloroethane-d4 (S)	91	%	75-129		50		03/26/14 09:34	17060-07-0	
Percent Moisture									
Analytical Method: ASTM D2974									
Percent Moisture	10.7	%	0.50	0.50	1		03/26/14 00:00		

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ANALYTICAL RESULTS

Project: BIG MO 2014 SAMPLING

Pace Project No.: 60165127

Sample: **WGK-BM-031814-SB-69-12** Lab ID: **60165127037** Collected: 03/18/14 10:07 Received: 03/19/14 02:05 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA									
Analytical Method: EPA 8260									
Benzene	2830000	ug/kg	60600	30300	20000		03/21/14 18:41	71-43-2	
Chlorobenzene	82300	ug/kg	15100	7570	5000		03/21/14 04:29	108-90-7	
1,4-Dichlorobenzene	ND	ug/kg	15100	7570	5000		03/21/14 04:29	106-46-7	
Ethylbenzene	ND	ug/kg	15100	7570	5000		03/21/14 04:29	100-41-4	
Toluene	ND	ug/kg	15100	7570	5000		03/21/14 04:29	108-88-3	
Xylene (Total)	ND	ug/kg	15100	7570	5000		03/21/14 04:29	1330-20-7	
Surrogates									
Toluene-d8 (S)	99 %		80-120		5000		03/21/14 04:29	2037-26-5	
4-Bromofluorobenzene (S)	99 %		76-123		5000		03/21/14 04:29	460-00-4	
1,2-Dichloroethane-d4 (S)	99 %		75-129		5000		03/21/14 04:29	17060-07-0	
Percent Moisture									
Analytical Method: ASTM D2974									
Percent Moisture	10.1	%	0.50	0.50	1		03/26/14 00:00		

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ANALYTICAL RESULTS

Project: BIG MO 2014 SAMPLING

Pace Project No.: 60165127

Sample: W GK-BM-031814-SB-69-12-12.5 **Lab ID:** 60165127038 Collected: 03/18/14 11:08 Received: 03/19/14 02:05 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA									
Analytical Method: EPA 8260									
Benzene	1800000	ug/kg	66100	33000	20000		03/21/14 18:57	71-43-2	
Chlorobenzene	68800	ug/kg	16500	8260	5000		03/21/14 04:44	108-90-7	
1,4-Dichlorobenzene	ND	ug/kg	16500	8260	5000		03/21/14 04:44	106-46-7	
Ethylbenzene	ND	ug/kg	16500	8260	5000		03/21/14 04:44	100-41-4	
Toluene	ND	ug/kg	16500	8260	5000		03/21/14 04:44	108-88-3	
Xylene (Total)	ND	ug/kg	16500	8260	5000		03/21/14 04:44	1330-20-7	
Surrogates									
Toluene-d8 (S)	100	%	80-120		5000		03/21/14 04:44	2037-26-5	
4-Bromofluorobenzene (S)	98	%	76-123		5000		03/21/14 04:44	460-00-4	
1,2-Dichloroethane-d4 (S)	98	%	75-129		5000		03/21/14 04:44	17060-07-0	
Percent Moisture									
Analytical Method: ASTM D2974									
Percent Moisture	11.8	%	0.50	0.50	1		03/26/14 00:00		

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ANALYTICAL RESULTS

Project: BIG MO 2014 SAMPLING

Pace Project No.: 60165127

Sample: **WGK-BM-031814-SB-65-3** Lab ID: **60165127039** Collected: 03/18/14 10:34 Received: 03/19/14 02:05 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA									
Analytical Method: EPA 8260									
Benzene	1.8J	ug/kg	2.8	1.4	1		03/26/14 15:52	71-43-2	
Chlorobenzene	ND	ug/kg	2.8	1.4	1		03/26/14 15:52	108-90-7	
1,4-Dichlorobenzene	ND	ug/kg	2.8	1.4	1		03/26/14 15:52	106-46-7	
Ethylbenzene	ND	ug/kg	2.8	1.4	1		03/26/14 15:52	100-41-4	
Toluene	ND	ug/kg	2.8	1.4	1		03/26/14 15:52	108-88-3	
Xylene (Total)	ND	ug/kg	2.8	1.4	1		03/26/14 15:52	1330-20-7	
Surrogates									
Toluene-d8 (S)	100	%	80-120		1		03/26/14 15:52	2037-26-5	
4-Bromofluorobenzene (S)	95	%	76-123		1		03/26/14 15:52	460-00-4	
1,2-Dichloroethane-d4 (S)	93	%	75-129		1		03/26/14 15:52	17060-07-0	
Percent Moisture									
Analytical Method: ASTM D2974									
Percent Moisture	2.4	%	0.50	0.50	1		03/26/14 00:00		

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ANALYTICAL RESULTS

Project: BIG MO 2014 SAMPLING

Pace Project No.: 60165127

Sample: **WGK-BM-031814-SB-65-5** Lab ID: **60165127040** Collected: 03/18/14 10:51 Received: 03/19/14 02:05 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA									
Analytical Method: EPA 8260									
Benzene	3.9	ug/kg	2.8	1.4	1		03/26/14 16:07	71-43-2	
Chlorobenzene	ND	ug/kg	2.8	1.4	1		03/26/14 16:07	108-90-7	
1,4-Dichlorobenzene	ND	ug/kg	2.8	1.4	1		03/26/14 16:07	106-46-7	
Ethylbenzene	ND	ug/kg	2.8	1.4	1		03/26/14 16:07	100-41-4	
Toluene	ND	ug/kg	2.8	1.4	1		03/26/14 16:07	108-88-3	
Xylene (Total)	ND	ug/kg	2.8	1.4	1		03/26/14 16:07	1330-20-7	
Surrogates									
Toluene-d8 (S)	101	%	80-120		1		03/26/14 16:07	2037-26-5	
4-Bromofluorobenzene (S)	96	%	76-123		1		03/26/14 16:07	460-00-4	
1,2-Dichloroethane-d4 (S)	93	%	75-129		1		03/26/14 16:07	17060-07-0	
Percent Moisture									
Analytical Method: ASTM D2974									
Percent Moisture	9.2	%	0.50	0.50	1		03/26/14 00:00		

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ANALYTICAL RESULTS

Project: BIG MO 2014 SAMPLING

Pace Project No.: 60165127

Sample: **WGK-BM-031814-SB-65-8** Lab ID: **60165127041** Collected: 03/18/14 10:45 Received: 03/19/14 02:05 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA									
Analytical Method: EPA 8260									
Benzene	2190000	ug/kg	54200	27100	20000		03/21/14 19:58	71-43-2	
Chlorobenzene	ND	ug/kg	13500	6770	5000		03/21/14 05:30	108-90-7	
1,4-Dichlorobenzene	ND	ug/kg	13500	6770	5000		03/21/14 05:30	106-46-7	
Ethylbenzene	ND	ug/kg	13500	6770	5000		03/21/14 05:30	100-41-4	
Toluene	ND	ug/kg	13500	6770	5000		03/21/14 05:30	108-88-3	
Xylene (Total)	ND	ug/kg	13500	6770	5000		03/21/14 05:30	1330-20-7	
Surrogates									
Toluene-d8 (S)	99 %		80-120		5000		03/21/14 05:30	2037-26-5	
4-Bromofluorobenzene (S)	99 %		76-123		5000		03/21/14 05:30	460-00-4	
1,2-Dichloroethane-d4 (S)	98 %		75-129		5000		03/21/14 05:30	17060-07-0	
Percent Moisture									
Analytical Method: ASTM D2974									
Percent Moisture	16.5	%	0.50	0.50	1		03/26/14 00:00		

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ANALYTICAL RESULTS

Project: BIG MO 2014 SAMPLING

Pace Project No.: 60165127

Sample: W GK-BM-031814-SB-65-7.5-8.1 **Lab ID:** 60165127042 Collected: 03/18/14 11:46 Received: 03/19/14 02:05 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA									
Analytical Method: EPA 8260									
Benzene	7030000	ug/kg	181000	90700	50000		03/26/14 16:23	71-43-2	
Chlorobenzene	ND	ug/kg	18100	9070	5000		03/21/14 05:46	108-90-7	
1,4-Dichlorobenzene	ND	ug/kg	18100	9070	5000		03/21/14 05:46	106-46-7	
Ethylbenzene	ND	ug/kg	18100	9070	5000		03/21/14 05:46	100-41-4	
Toluene	ND	ug/kg	18100	9070	5000		03/21/14 05:46	108-88-3	
Xylene (Total)	ND	ug/kg	18100	9070	5000		03/21/14 05:46	1330-20-7	
Surrogates									
Toluene-d8 (S)	99 %		80-120		5000		03/21/14 05:46	2037-26-5	
4-Bromofluorobenzene (S)	99 %		76-123		5000		03/21/14 05:46	460-00-4	
1,2-Dichloroethane-d4 (S)	100 %		75-129		5000		03/21/14 05:46	17060-07-0	
Percent Moisture									
Analytical Method: ASTM D2974									
Percent Moisture	25.0	%	0.50	0.50	1		03/26/14 00:00		

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ANALYTICAL RESULTS

Project: BIG MO 2014 SAMPLING

Pace Project No.: 60165127

Sample: **WGK-BM-031814-SB-65-10** Lab ID: **60165127043** Collected: 03/18/14 11:01 Received: 03/19/14 02:05 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA									
Analytical Method: EPA 8260									
Benzene	2680	ug/kg	148	74.2	50		03/27/14 14:16	71-43-2	
Chlorobenzene	16.5	ug/kg	3.0	1.5	1		03/26/14 16:38	108-90-7	
1,4-Dichlorobenzene	39.1	ug/kg	3.0	1.5	1		03/26/14 16:38	106-46-7	
Ethylbenzene	ND	ug/kg	3.0	1.5	1		03/26/14 16:38	100-41-4	
Toluene	ND	ug/kg	3.0	1.5	1		03/26/14 16:38	108-88-3	
Xylene (Total)	ND	ug/kg	3.0	1.5	1		03/26/14 16:38	1330-20-7	
Surrogates									
Toluene-d8 (S)	99 %		80-120		1		03/26/14 16:38	2037-26-5	
4-Bromofluorobenzene (S)	96 %		76-123		1		03/26/14 16:38	460-00-4	
1,2-Dichloroethane-d4 (S)	95 %		75-129		1		03/26/14 16:38	17060-07-0	
Percent Moisture									
Analytical Method: ASTM D2974									
Percent Moisture	3.7	%	0.50	0.50	1		03/26/14 00:00		

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ANALYTICAL RESULTS

Project: BIG MO 2014 SAMPLING

Pace Project No.: 60165127

Sample: **WGK-BM-031814-SB-65-12** Lab ID: **60165127044** Collected: 03/18/14 11:04 Received: 03/19/14 02:05 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA									
Analytical Method: EPA 8260									
Benzene	2.3J	ug/kg	3.1	1.5	1		03/26/14 16:54	71-43-2	
Chlorobenzene	ND	ug/kg	3.1	1.5	1		03/26/14 16:54	108-90-7	
1,4-Dichlorobenzene	41.4	ug/kg	3.1	1.5	1		03/26/14 16:54	106-46-7	
Ethylbenzene	ND	ug/kg	3.1	1.5	1		03/26/14 16:54	100-41-4	
Toluene	ND	ug/kg	3.1	1.5	1		03/26/14 16:54	108-88-3	
Xylene (Total)	ND	ug/kg	3.1	1.5	1		03/26/14 16:54	1330-20-7	
Surrogates									
Toluene-d8 (S)	99	%	80-120		1		03/26/14 16:54	2037-26-5	
4-Bromofluorobenzene (S)	94	%	76-123		1		03/26/14 16:54	460-00-4	
1,2-Dichloroethane-d4 (S)	97	%	75-129		1		03/26/14 16:54	17060-07-0	
Percent Moisture									
Analytical Method: ASTM D2974									
Percent Moisture	5.0	%	0.50	0.50	1		03/26/14 00:00		

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ANALYTICAL RESULTS

Project: BIG MO 2014 SAMPLING

Pace Project No.: 60165127

Sample: W GK-BM-031814-SB-65-13.6 **Lab ID:** 60165127045 **Collected:** 03/18/14 11:05 **Received:** 03/19/14 02:05 **Matrix:** Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA									
Analytical Method: EPA 8260									
Benzene	4910	ug/kg	142	71.1	50		03/27/14 14:31	71-43-2	
Chlorobenzene	15.0	ug/kg	3.1	1.5	1		03/26/14 17:09	108-90-7	
1,4-Dichlorobenzene	48.4	ug/kg	3.1	1.5	1		03/26/14 17:09	106-46-7	
Ethylbenzene	ND	ug/kg	3.1	1.5	1		03/26/14 17:09	100-41-4	
Toluene	ND	ug/kg	3.1	1.5	1		03/26/14 17:09	108-88-3	
Xylene (Total)	ND	ug/kg	3.1	1.5	1		03/26/14 17:09	1330-20-7	
Surrogates									
Toluene-d8 (S)	98	%	80-120		1		03/26/14 17:09	2037-26-5	
4-Bromofluorobenzene (S)	95	%	76-123		1		03/26/14 17:09	460-00-4	
1,2-Dichloroethane-d4 (S)	93	%	75-129		1		03/26/14 17:09	17060-07-0	
Percent Moisture									
Analytical Method: ASTM D2974									
Percent Moisture	5.2	%	0.50	0.50	1		03/26/14 00:00		

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ANALYTICAL RESULTS

Project: BIG MO 2014 SAMPLING

Pace Project No.: 60165127

Sample: W GK-BM-031814-SB-65-11-11.5 **Lab ID:** 60165127046 Collected: 03/18/14 11:48 Received: 03/19/14 02:05 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA									
Analytical Method: EPA 8260									
Benzene	196000	ug/kg	22400	11200	5000		03/21/14 06:48	71-43-2	
Chlorobenzene	ND	ug/kg	22400	11200	5000		03/21/14 06:48	108-90-7	
1,4-Dichlorobenzene	ND	ug/kg	22400	11200	5000		03/21/14 06:48	106-46-7	
Ethylbenzene	ND	ug/kg	22400	11200	5000		03/21/14 06:48	100-41-4	
Toluene	ND	ug/kg	22400	11200	5000		03/21/14 06:48	108-88-3	
Xylene (Total)	ND	ug/kg	22400	11200	5000		03/21/14 06:48	1330-20-7	
Surrogates									
Toluene-d8 (S)	100	%	80-120		5000		03/21/14 06:48	2037-26-5	
4-Bromofluorobenzene (S)	98	%	76-123		5000		03/21/14 06:48	460-00-4	
1,2-Dichloroethane-d4 (S)	100	%	75-129		5000		03/21/14 06:48	17060-07-0	
Percent Moisture									
Analytical Method: ASTM D2974									
Percent Moisture	22.1	%	0.50	0.50	1		03/26/14 00:00		

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ANALYTICAL RESULTS

Project: BIG MO 2014 SAMPLING

Pace Project No.: 60165127

Sample: WGK-BM-031814-SB-DUP-04 **Lab ID:** 60165127047 **Collected:** 03/18/14 12:55 **Received:** 03/19/14 02:05 **Matrix:** Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA									
Analytical Method: EPA 8260									
Benzene	808	ug/kg	167	83.3	50		03/21/14 16:57	71-43-2	
Chlorobenzene	ND	ug/kg	3.8	1.9	1		03/21/14 11:20	108-90-7	
1,4-Dichlorobenzene	115	ug/kg	3.8	1.9	1		03/21/14 11:20	106-46-7	
Ethylbenzene	ND	ug/kg	3.8	1.9	1		03/21/14 11:20	100-41-4	
Toluene	ND	ug/kg	3.8	1.9	1		03/21/14 11:20	108-88-3	
Xylene (Total)	ND	ug/kg	3.8	1.9	1		03/21/14 11:20	1330-20-7	
Surrogates									
Toluene-d8 (S)	77	%	80-120		1		03/21/14 11:20	2037-26-5	IS,S0
4-Bromofluorobenzene (S)	88	%	76-123		1		03/21/14 11:20	460-00-4	
1,2-Dichloroethane-d4 (S)	122	%	75-129		1		03/21/14 11:20	17060-07-0	
Percent Moisture									
Analytical Method: ASTM D2974									
Percent Moisture	14.8	%	0.50	0.50	1		03/26/14 00:00		

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ANALYTICAL RESULTS

Project: BIG MO 2014 SAMPLING

Pace Project No.: 60165127

Sample: **WGK-BM-031814-SB-39-7** Lab ID: **60165127048** Collected: 03/18/14 12:00 Received: 03/19/14 02:05 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA									
Analytical Method: EPA 8260									
Benzene	1.8J	ug/kg	3.2	1.6	1		03/21/14 11:35	71-43-2	
Chlorobenzene	ND	ug/kg	3.2	1.6	1		03/21/14 11:35	108-90-7	
1,4-Dichlorobenzene	124	ug/kg	3.2	1.6	1		03/21/14 11:35	106-46-7	
Ethylbenzene	ND	ug/kg	3.2	1.6	1		03/21/14 11:35	100-41-4	
Toluene	ND	ug/kg	3.2	1.6	1		03/21/14 11:35	108-88-3	
Xylene (Total)	ND	ug/kg	3.2	1.6	1		03/21/14 11:35	1330-20-7	
Surrogates									
Toluene-d8 (S)	79	%	80-120		1		03/21/14 11:35	2037-26-5	IS,S0
4-Bromofluorobenzene (S)	94	%	76-123		1		03/21/14 11:35	460-00-4	
1,2-Dichloroethane-d4 (S)	115	%	75-129		1		03/21/14 11:35	17060-07-0	
Percent Moisture									
Analytical Method: ASTM D2974									
Percent Moisture	15.1	%	0.50	0.50	1		03/26/14 00:00		

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ANALYTICAL RESULTS

Project: BIG MO 2014 SAMPLING

Pace Project No.: 60165127

Sample: W GK-BM-031814-SB-39-7-7.5 **Lab ID:** 60165127049 **Collected:** 03/18/14 13:45 **Received:** 03/19/14 02:05 **Matrix:** Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA									
Analytical Method: EPA 8260									
Benzene	898	ug/kg	205	102	50		03/21/14 17:13	71-43-2	
Chlorobenzene	ND	ug/kg	3.5	1.7	1		03/21/14 11:50	108-90-7	
1,4-Dichlorobenzene	51.3	ug/kg	3.5	1.7	1		03/21/14 11:50	106-46-7	
Ethylbenzene	ND	ug/kg	3.5	1.7	1		03/21/14 11:50	100-41-4	
Toluene	ND	ug/kg	3.5	1.7	1		03/21/14 11:50	108-88-3	
Xylene (Total)	ND	ug/kg	3.5	1.7	1		03/21/14 11:50	1330-20-7	
Surrogates									
Toluene-d8 (S)	79	%	80-120		1		03/21/14 11:50	2037-26-5	IS,S0
4-Bromofluorobenzene (S)	94	%	76-123		1		03/21/14 11:50	460-00-4	
1,2-Dichloroethane-d4 (S)	128	%	75-129		1		03/21/14 11:50	17060-07-0	
Percent Moisture									
Analytical Method: ASTM D2974									
Percent Moisture	15.6	%	0.50	0.50	1		03/26/14 00:00		

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ANALYTICAL RESULTS

Project: BIG MO 2014 SAMPLING

Pace Project No.: 60165127

Sample: **WGK-BM-031814-SB-39-10** Lab ID: **60165127050** Collected: 03/18/14 12:16 Received: 03/19/14 02:05 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA									
Analytical Method: EPA 8260									
Benzene	151	ug/kg	3.0	1.5	1		03/21/14 12:06	71-43-2	
Chlorobenzene	38.6	ug/kg	3.0	1.5	1		03/21/14 12:06	108-90-7	
1,4-Dichlorobenzene	105	ug/kg	3.0	1.5	1		03/21/14 12:06	106-46-7	
Ethylbenzene	ND	ug/kg	3.0	1.5	1		03/21/14 12:06	100-41-4	
Toluene	ND	ug/kg	3.0	1.5	1		03/21/14 12:06	108-88-3	
Xylene (Total)	ND	ug/kg	3.0	1.5	1		03/21/14 12:06	1330-20-7	
Surrogates									
Toluene-d8 (S)	74	%	80-120		1		03/21/14 12:06	2037-26-5	IS,S0
4-Bromofluorobenzene (S)	88	%	76-123		1		03/21/14 12:06	460-00-4	
1,2-Dichloroethane-d4 (S)	123	%	75-129		1		03/21/14 12:06	17060-07-0	
Percent Moisture									
Analytical Method: ASTM D2974									
Percent Moisture	14.7	%	0.50	0.50	1		03/26/14 00:00		

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ANALYTICAL RESULTS

Project: BIG MO 2014 SAMPLING

Pace Project No.: 60165127

Sample: W GK-BM-031814-SB-39-12 **Lab ID:** 60165127051 Collected: 03/18/14 12:15 Received: 03/19/14 02:05 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA									
Analytical Method: EPA 8260									
Benzene	153	ug/kg	2.8	1.4	1		03/21/14 12:21	71-43-2	
Chlorobenzene	ND	ug/kg	2.8	1.4	1		03/21/14 12:21	108-90-7	
1,4-Dichlorobenzene	ND	ug/kg	2.8	1.4	1		03/21/14 12:21	106-46-7	
Ethylbenzene	ND	ug/kg	2.8	1.4	1		03/21/14 12:21	100-41-4	
Toluene	ND	ug/kg	2.8	1.4	1		03/21/14 12:21	108-88-3	
Xylene (Total)	ND	ug/kg	2.8	1.4	1		03/21/14 12:21	1330-20-7	
Surrogates									
Toluene-d8 (S)	81	%	80-120		1		03/21/14 12:21	2037-26-5	IS
4-Bromofluorobenzene (S)	90	%	76-123		1		03/21/14 12:21	460-00-4	
1,2-Dichloroethane-d4 (S)	98	%	75-129		1		03/21/14 12:21	17060-07-0	
Percent Moisture									
Analytical Method: ASTM D2974									
Percent Moisture	9.1	%	0.50	0.50	1		03/26/14 00:00		

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ANALYTICAL RESULTS

Project: BIG MO 2014 SAMPLING

Pace Project No.: 60165127

Sample: **WGK-BM-031814-SB-39-14** Lab ID: **60165127052** Collected: 03/18/14 12:12 Received: 03/19/14 02:05 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA									
Analytical Method: EPA 8260									
Benzene	3290	ug/kg	150	74.9	50		03/21/14 12:37	71-43-2	
Chlorobenzene	83.6J	ug/kg	150	74.9	50		03/21/14 12:37	108-90-7	
1,4-Dichlorobenzene	198	ug/kg	150	74.9	50		03/21/14 12:37	106-46-7	
Ethylbenzene	ND	ug/kg	150	74.9	50		03/21/14 12:37	100-41-4	
Toluene	ND	ug/kg	150	74.9	50		03/21/14 12:37	108-88-3	
Xylene (Total)	ND	ug/kg	150	74.9	50		03/21/14 12:37	1330-20-7	
Surrogates									
Toluene-d8 (S)	97	%	80-120		50		03/21/14 12:37	2037-26-5	
4-Bromofluorobenzene (S)	99	%	76-123		50		03/21/14 12:37	460-00-4	
1,2-Dichloroethane-d4 (S)	96	%	75-129		50		03/21/14 12:37	17060-07-0	
Percent Moisture									
Analytical Method: ASTM D2974									
Percent Moisture	6.1	%	0.50	0.50	1		03/26/14 00:00		

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ANALYTICAL RESULTS

Project: BIG MO 2014 SAMPLING

Pace Project No.: 60165127

Sample: W GK-BM-031814-SB-39-13-13.5 **Lab ID:** 60165127053 Collected: 03/18/14 13:50 Received: 03/19/14 02:05 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA									
Analytical Method: EPA 8260									
Benzene	539000	ug/kg	16300	8130	5000		03/20/14 20:31	71-43-2	
Chlorobenzene	ND	ug/kg	16300	8130	5000		03/20/14 20:31	108-90-7	
1,4-Dichlorobenzene	ND	ug/kg	16300	8130	5000		03/20/14 20:31	106-46-7	
Ethylbenzene	ND	ug/kg	16300	8130	5000		03/20/14 20:31	100-41-4	
Toluene	ND	ug/kg	16300	8130	5000		03/20/14 20:31	108-88-3	
Xylene (Total)	ND	ug/kg	16300	8130	5000		03/20/14 20:31	1330-20-7	
Surrogates									
Toluene-d8 (S)	100	%	80-120		5000		03/20/14 20:31	2037-26-5	
4-Bromofluorobenzene (S)	97	%	76-123		5000		03/20/14 20:31	460-00-4	
1,2-Dichloroethane-d4 (S)	102	%	75-129		5000		03/20/14 20:31	17060-07-0	
Percent Moisture									
Analytical Method: ASTM D2974									
Percent Moisture	19.2	%	0.50	0.50	1		03/26/14 00:00		

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QUALITY CONTROL DATA

Project: BIG MO 2014 SAMPLING

Pace Project No.: 60165127

QC Batch: MSV/60185 Analysis Method: EPA 8260
QC Batch Method: EPA 8260 Analysis Description: 8260 MSV 5035A Volatile Organics
Associated Lab Samples: 60165127001, 60165127003, 60165127008, 60165127010

METHOD BLANK: 1347033 Matrix: Solid
Associated Lab Samples: 60165127001, 60165127003, 60165127008, 60165127010

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,4-Dichlorobenzene	ug/kg	ND	5.0	03/20/14 13:01	
Benzene	ug/kg	ND	5.0	03/20/14 13:01	
Chlorobenzene	ug/kg	ND	5.0	03/20/14 13:01	
Ethylbenzene	ug/kg	ND	5.0	03/20/14 13:01	
Toluene	ug/kg	ND	5.0	03/20/14 13:01	
Xylene (Total)	ug/kg	ND	5.0	03/20/14 13:01	
1,2-Dichloroethane-d4 (S)	%	99	75-129	03/20/14 13:01	
4-Bromofluorobenzene (S)	%	99	76-123	03/20/14 13:01	
Toluene-d8 (S)	%	99	80-120	03/20/14 13:01	

LABORATORY CONTROL SAMPLE: 1347034

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,4-Dichlorobenzene	ug/kg	100	103	103	80-120	
Benzene	ug/kg	100	99.4	99	80-120	
Chlorobenzene	ug/kg	100	105	105	80-120	
Ethylbenzene	ug/kg	100	102	102	80-120	
Toluene	ug/kg	100	95.5	95	79-120	
Xylene (Total)	ug/kg	300	302	101	79-120	
1,2-Dichloroethane-d4 (S)	%			99	75-129	
4-Bromofluorobenzene (S)	%			100	76-123	
Toluene-d8 (S)	%			101	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1347035 1347036

Parameter	Units	60165181001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1,4-Dichlorobenzene	ug/kg	ND	115	116	100	94.9	87	82	10-144	5	48	
Benzene	ug/kg	ND	115	116	115	120	100	104	22-144	5	38	
Chlorobenzene	ug/kg	ND	115	116	112	110	98	96	10-145	2	46	
Ethylbenzene	ug/kg	ND	115	116	116	119	101	103	10-154	3	42	
Toluene	ug/kg	ND	115	116	110	112	95	97	11-150	2	40	
Xylene (Total)	ug/kg	ND	346	347	338	336	98	97	10-154	1	41	
1,2-Dichloroethane-d4 (S)	%						101	104	75-129			
4-Bromofluorobenzene (S)	%						97	98	76-123			
Toluene-d8 (S)	%						100	99	80-120			

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QUALITY CONTROL DATA

Project: BIG MO 2014 SAMPLING
Pace Project No.: 60165127

QC Batch: MSV/60200 Analysis Method: EPA 8260
QC Batch Method: EPA 8260 Analysis Description: 8260 MSV 5035A Volatile Organics
Associated Lab Samples: 60165127022, 60165127023, 60165127030, 60165127031

METHOD BLANK: 1347301 Matrix: Solid
Associated Lab Samples: 60165127022, 60165127023, 60165127030, 60165127031

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,4-Dichlorobenzene	ug/kg	ND	5.0	03/20/14 20:29	
Benzene	ug/kg	ND	5.0	03/20/14 20:29	
Chlorobenzene	ug/kg	ND	5.0	03/20/14 20:29	
Ethylbenzene	ug/kg	ND	5.0	03/20/14 20:29	
Toluene	ug/kg	ND	5.0	03/20/14 20:29	
Xylene (Total)	ug/kg	ND	5.0	03/20/14 20:29	
1,2-Dichloroethane-d4 (S)	%	100	75-129	03/20/14 20:29	
4-Bromofluorobenzene (S)	%	99	76-123	03/20/14 20:29	
Toluene-d8 (S)	%	100	80-120	03/20/14 20:29	

LABORATORY CONTROL SAMPLE: 1347302

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,4-Dichlorobenzene	ug/kg	100	104	104	80-120	
Benzene	ug/kg	100	98.0	98	80-120	
Chlorobenzene	ug/kg	100	106	106	80-120	
Ethylbenzene	ug/kg	100	102	102	80-120	
Toluene	ug/kg	100	99.8	100	79-120	
Xylene (Total)	ug/kg	300	302	101	79-120	
1,2-Dichloroethane-d4 (S)	%			97	75-129	
4-Bromofluorobenzene (S)	%			100	76-123	
Toluene-d8 (S)	%			102	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1347303 1347304

Parameter	Units	60165127030 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1,4-Dichlorobenzene	ug/kg	ND	328000	328000	326000	340000	99	104	10-144	4	48	
Benzene	ug/kg	238000	328000	328000	545000	575000	94	103	22-144	5	38	
Chlorobenzene	ug/kg	176000	328000	328000	518000	529000	104	108	10-145	2	46	
Ethylbenzene	ug/kg	ND	328000	328000	330000	339000	101	103	10-154	3	42	
Toluene	ug/kg	ND	328000	328000	308000	325000	94	99	11-150	6	40	
Xylene (Total)	ug/kg	ND	983000	983000	966000	1000000	98	102	10-154	4	41	
1,2-Dichloroethane-d4 (S)	%						96	98	75-129			
4-Bromofluorobenzene (S)	%						99	99	76-123			
Toluene-d8 (S)	%						99	100	80-120			

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QUALITY CONTROL DATA

Project: BIG MO 2014 SAMPLING
Pace Project No.: 60165127

QC Batch: MSV/60202 Analysis Method: EPA 8260
QC Batch Method: EPA 8260 Analysis Description: 8260 MSV 5035A Volatile Organics
Associated Lab Samples: 60165127037, 60165127038, 60165127041, 60165127042, 60165127046

METHOD BLANK: 1347374 Matrix: Solid
Associated Lab Samples: 60165127037, 60165127038, 60165127041, 60165127042, 60165127046

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,4-Dichlorobenzene	ug/kg	ND	5.0	03/21/14 03:11	
Benzene	ug/kg	ND	5.0	03/21/14 03:11	
Chlorobenzene	ug/kg	ND	5.0	03/21/14 03:11	
Ethylbenzene	ug/kg	ND	5.0	03/21/14 03:11	
Toluene	ug/kg	ND	5.0	03/21/14 03:11	
Xylene (Total)	ug/kg	ND	5.0	03/21/14 03:11	
1,2-Dichloroethane-d4 (S)	%	98	75-129	03/21/14 03:11	
4-Bromofluorobenzene (S)	%	98	76-123	03/21/14 03:11	
Toluene-d8 (S)	%	99	80-120	03/21/14 03:11	

LABORATORY CONTROL SAMPLE: 1347375

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,4-Dichlorobenzene	ug/kg	100	106	106	80-120	
Benzene	ug/kg	100	106	106	80-120	
Chlorobenzene	ug/kg	100	111	111	80-120	
Ethylbenzene	ug/kg	100	105	105	80-120	
Toluene	ug/kg	100	108	108	79-120	
Xylene (Total)	ug/kg	300	312	104	79-120	
1,2-Dichloroethane-d4 (S)	%			100	75-129	
4-Bromofluorobenzene (S)	%			101	76-123	
Toluene-d8 (S)	%			107	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1347376 1347377

Parameter	Units	60165127046 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1,4-Dichlorobenzene	ug/kg	ND	447000	447000	442000	436000	99	97	10-144	1	48	
Benzene	ug/kg	196000	447000	447000	649000	654000	101	102	22-144	1	38	
Chlorobenzene	ug/kg	ND	447000	447000	469000	469000	105	105	10-145	0	46	
Ethylbenzene	ug/kg	ND	447000	447000	446000	455000	100	102	10-154	2	42	
Toluene	ug/kg	ND	447000	447000	421000	433000	94	97	11-150	3	40	
Xylene (Total)	ug/kg	ND	1340000	1340000	1300000	1320000	97	98	10-154	1	41	
1,2-Dichloroethane-d4 (S)	%						98	97	75-129			
4-Bromofluorobenzene (S)	%						100	99	76-123			
Toluene-d8 (S)	%						101	100	80-120			

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QUALITY CONTROL DATA

Project: BIG MO 2014 SAMPLING

Pace Project No.: 60165127

QC Batch: MSV/60209

Analysis Method: EPA 8260

QC Batch Method: EPA 8260

Analysis Description: 8260 MSV 5035A Volatile Organics

Associated Lab Samples: 60165127053

METHOD BLANK: 1347570

Matrix: Solid

Associated Lab Samples: 60165127053

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,4-Dichlorobenzene	ug/kg	ND	5.0	03/20/14 16:09	
Benzene	ug/kg	ND	5.0	03/20/14 16:09	
Chlorobenzene	ug/kg	ND	5.0	03/20/14 16:09	
Ethylbenzene	ug/kg	ND	5.0	03/20/14 16:09	
Toluene	ug/kg	ND	5.0	03/20/14 16:09	
Xylene (Total)	ug/kg	ND	5.0	03/20/14 16:09	
1,2-Dichloroethane-d4 (S)	%	102	75-129	03/20/14 16:09	
4-Bromofluorobenzene (S)	%	97	76-123	03/20/14 16:09	
Toluene-d8 (S)	%	100	80-120	03/20/14 16:09	

LABORATORY CONTROL SAMPLE: 1347571

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,4-Dichlorobenzene	ug/kg	100	94.8	95	80-120	
Benzene	ug/kg	100	97.9	98	80-120	
Chlorobenzene	ug/kg	100	97.6	98	80-120	
Ethylbenzene	ug/kg	100	101	101	80-120	
Toluene	ug/kg	100	96.7	97	79-120	
Xylene (Total)	ug/kg	300	300	100	79-120	
1,2-Dichloroethane-d4 (S)	%			98	75-129	
4-Bromofluorobenzene (S)	%			100	76-123	
Toluene-d8 (S)	%			99	80-120	

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QUALITY CONTROL DATA

Project: BIG MO 2014 SAMPLING
Pace Project No.: 60165127

QC Batch: MSV/60220 Analysis Method: EPA 8260
QC Batch Method: EPA 8260 Analysis Description: 8260 MSV 5035A Volatile Organics
Associated Lab Samples: 60165127001, 60165127002, 60165127003

METHOD BLANK: 1347854 Matrix: Solid
Associated Lab Samples: 60165127001, 60165127002, 60165127003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,4-Dichlorobenzene	ug/kg	ND	5.0	03/21/14 21:15	
Benzene	ug/kg	ND	5.0	03/21/14 21:15	
Chlorobenzene	ug/kg	ND	5.0	03/21/14 21:15	
Ethylbenzene	ug/kg	ND	5.0	03/21/14 21:15	
Toluene	ug/kg	ND	5.0	03/21/14 21:15	
Xylene (Total)	ug/kg	ND	5.0	03/21/14 21:15	
1,2-Dichloroethane-d4 (S)	%	91	75-129	03/21/14 21:15	
4-Bromofluorobenzene (S)	%	97	76-123	03/21/14 21:15	
Toluene-d8 (S)	%	98	80-120	03/21/14 21:15	

LABORATORY CONTROL SAMPLE: 1347855

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,4-Dichlorobenzene	ug/kg	100	102	102	80-120	
Benzene	ug/kg	100	96.1	96	80-120	
Chlorobenzene	ug/kg	100	106	106	80-120	
Ethylbenzene	ug/kg	100	102	102	80-120	
Toluene	ug/kg	100	100	100	79-120	
Xylene (Total)	ug/kg	300	301	100	79-120	
1,2-Dichloroethane-d4 (S)	%			92	75-129	
4-Bromofluorobenzene (S)	%			98	76-123	
Toluene-d8 (S)	%			101	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1348068 1348069

Parameter	Units	60165127002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1,4-Dichlorobenzene	ug/kg	82100	32100	32100	114000	111000	100	89	10-144	3	48	
Benzene	ug/kg	21900	32100	32100	52700	52300	96	95	22-144	1	38	
Chlorobenzene	ug/kg	30100	32100	32100	63200	62900	103	102	10-145	0	46	
Ethylbenzene	ug/kg	ND	32100	32100	32900	34100	102	106	10-154	4	42	
Toluene	ug/kg	ND	32100	32100	31300	31500	97	98	11-150	1	40	
Xylene (Total)	ug/kg	ND	96600	96600	96800	97600	100	101	10-154	1	41	
1,2-Dichloroethane-d4 (S)	%						93	96	75-129			
4-Bromofluorobenzene (S)	%						99	99	76-123			
Toluene-d8 (S)	%						100	100	80-120			

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QUALITY CONTROL DATA

Project: BIG MO 2014 SAMPLING

Pace Project No.: 60165127

QC Batch: MSV/60224 Analysis Method: EPA 8260
QC Batch Method: EPA 8260 Analysis Description: 8260 MSV 5035A Volatile Organics
Associated Lab Samples: 60165127047, 60165127048, 60165127049, 60165127050, 60165127051, 60165127052

METHOD BLANK: 1347971 Matrix: Solid
Associated Lab Samples: 60165127047, 60165127048, 60165127049, 60165127050, 60165127051, 60165127052

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,4-Dichlorobenzene	ug/kg	ND	5.0	03/21/14 11:04	
Benzene	ug/kg	ND	5.0	03/21/14 11:04	
Chlorobenzene	ug/kg	ND	5.0	03/21/14 11:04	
Ethylbenzene	ug/kg	ND	5.0	03/21/14 11:04	
Toluene	ug/kg	ND	5.0	03/21/14 11:04	
Xylene (Total)	ug/kg	ND	5.0	03/21/14 11:04	
1,2-Dichloroethane-d4 (S)	%	94	75-129	03/21/14 11:04	
4-Bromofluorobenzene (S)	%	95	76-123	03/21/14 11:04	
Toluene-d8 (S)	%	100	80-120	03/21/14 11:04	

LABORATORY CONTROL SAMPLE: 1347972

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,4-Dichlorobenzene	ug/kg	100	98.0	98	80-120	
Benzene	ug/kg	100	103	103	80-120	
Chlorobenzene	ug/kg	100	100	100	80-120	
Ethylbenzene	ug/kg	100	105	105	80-120	
Toluene	ug/kg	100	102	102	79-120	
Xylene (Total)	ug/kg	300	313	104	79-120	
1,2-Dichloroethane-d4 (S)	%			98	75-129	
4-Bromofluorobenzene (S)	%			102	76-123	
Toluene-d8 (S)	%			99	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1347973 1347974

Parameter	Units	60165127052 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1,4-Dichlorobenzene	ug/kg	198	2990	2990	2930	2890	91	90	10-144	1	48	
Benzene	ug/kg	3290	2990	2990	6100	5920	94	88	22-144	3	38	
Chlorobenzene	ug/kg	83.6J	2990	2990	2830	2820	92	91	10-145	0	46	
Ethylbenzene	ug/kg	ND	2990	2990	2740	2730	91	91	10-154	0	42	
Toluene	ug/kg	ND	2990	2990	2630	2560	88	85	11-150	3	40	
Xylene (Total)	ug/kg	ND	8990	8990	8310	8190	93	91	10-154	2	41	
1,2-Dichloroethane-d4 (S)	%						94	92	75-129			
4-Bromofluorobenzene (S)	%						99	99	76-123			
Toluene-d8 (S)	%						98	99	80-120			

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QUALITY CONTROL DATA

Project: BIG MO 2014 SAMPLING
Pace Project No.: 60165127

QC Batch: MSV/60242 Analysis Method: EPA 8260
QC Batch Method: EPA 8260 Analysis Description: 8260 MSV 5035A Volatile Organics
Associated Lab Samples: 60165127004, 60165127005, 60165127007, 60165127009, 60165127011, 60165127012

METHOD BLANK: 1348334 Matrix: Solid
Associated Lab Samples: 60165127004, 60165127005, 60165127007, 60165127009, 60165127011, 60165127012

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,4-Dichlorobenzene	ug/kg	ND	5.0	03/21/14 17:43	
Benzene	ug/kg	ND	5.0	03/21/14 17:43	
Chlorobenzene	ug/kg	ND	5.0	03/21/14 17:43	
Ethylbenzene	ug/kg	ND	5.0	03/21/14 17:43	
Toluene	ug/kg	ND	5.0	03/21/14 17:43	
Xylene (Total)	ug/kg	ND	5.0	03/21/14 17:43	
1,2-Dichloroethane-d4 (S)	%	99	75-129	03/21/14 17:43	
4-Bromofluorobenzene (S)	%	96	76-123	03/21/14 17:43	
Toluene-d8 (S)	%	99	80-120	03/21/14 17:43	

LABORATORY CONTROL SAMPLE: 1348335

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,4-Dichlorobenzene	ug/kg	100	103	103	80-120	
Benzene	ug/kg	100	107	107	80-120	
Chlorobenzene	ug/kg	100	106	106	80-120	
Ethylbenzene	ug/kg	100	109	109	80-120	
Toluene	ug/kg	100	103	103	79-120	
Xylene (Total)	ug/kg	300	316	105	79-120	
1,2-Dichloroethane-d4 (S)	%			98	75-129	
4-Bromofluorobenzene (S)	%			98	76-123	
Toluene-d8 (S)	%			98	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1349467 1349468

Parameter	Units	60165127007 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1,4-Dichlorobenzene	ug/kg	252	3290	3290	3850	3790	109	107	10-144	2	48	
Benzene	ug/kg	ND	3290	3290	3620	3620	110	110	22-144	0	38	
Chlorobenzene	ug/kg	96.9J	3290	3290	3820	3770	113	111	10-145	1	46	
Ethylbenzene	ug/kg	ND	3290	3290	3650	3630	110	109	10-154	1	42	
Toluene	ug/kg	ND	3290	3290	3410	3310	103	101	11-150	3	40	
Xylene (Total)	ug/kg	ND	9890	9890	10800	10700	110	108	10-154	2	41	
1,2-Dichloroethane-d4 (S)	%						103	102	75-129			
4-Bromofluorobenzene (S)	%						105	104	76-123			
Toluene-d8 (S)	%						99	98	80-120			

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BIG MO 2014 SAMPLING

Pace Project No.: 60165127

QC Batch:	MSV/60246	Analysis Method:	EPA 8260
QC Batch Method:	EPA 8260	Analysis Description:	8260 MSV 5035A Volatile Organics
Associated Lab Samples:	60165127037, 60165127038, 60165127041		

METHOD BLANK: 1348361 Matrix: Solid

Associated Lab Samples: 60165127037, 60165127038, 60165127041

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Benzene	ug/kg	ND	5.0	03/21/14 14:03	
1,2-Dichloroethane-d4 (S)	%	98	75-129	03/21/14 14:03	
4-Bromofluorobenzene (S)	%	99	76-123	03/21/14 14:03	
Toluene-d8 (S)	%	99	80-120	03/21/14 14:03	

LABORATORY CONTROL SAMPLE: 1348362

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Benzene	ug/kg	100	99.8	100	80-120	
1,2-Dichloroethane-d4 (S)	%			96	75-129	
4-Bromofluorobenzene (S)	%			99	76-123	
Toluene-d8 (S)	%			102	80-120	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BIG MO 2014 SAMPLING

Pace Project No.: 60165127

QC Batch:	MSV/60306	Analysis Method:	EPA 8260
QC Batch Method:	EPA 8260	Analysis Description:	8260 MSV 5035A Volatile Organics
Associated Lab Samples:	60165127006, 60165127013, 60165127014, 60165127015, 60165127017, 60165127018, 60165127019, 60165127026, 60165127028, 60165127029, 60165127033		

METHOD BLANK: 1349837 Matrix: Solid
Associated Lab Samples: 60165127006, 60165127013, 60165127014, 60165127015, 60165127017, 60165127018, 60165127019, 60165127026, 60165127028, 60165127029, 60165127033

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,4-Dichlorobenzene	ug/kg	ND	5.0	03/25/14 11:10	
Benzene	ug/kg	ND	5.0	03/25/14 11:10	
Chlorobenzene	ug/kg	ND	5.0	03/25/14 11:10	
Ethylbenzene	ug/kg	ND	5.0	03/25/14 11:10	
Toluene	ug/kg	ND	5.0	03/25/14 11:10	
Xylene (Total)	ug/kg	ND	5.0	03/25/14 11:10	
1,2-Dichloroethane-d4 (S)	%	93	75-129	03/25/14 11:10	
4-Bromofluorobenzene (S)	%	98	76-123	03/25/14 11:10	
Toluene-d8 (S)	%	100	80-120	03/25/14 11:10	

LABORATORY CONTROL SAMPLE: 1349838

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,4-Dichlorobenzene	ug/kg	100	96.6	97	80-120	
Benzene	ug/kg	100	101	101	80-120	
Chlorobenzene	ug/kg	100	104	104	80-120	
Ethylbenzene	ug/kg	100	99.3	99	80-120	
Toluene	ug/kg	100	97.0	97	79-120	
Xylene (Total)	ug/kg	300	294	98	79-120	
1,2-Dichloroethane-d4 (S)	%			94	75-129	
4-Bromofluorobenzene (S)	%			98	76-123	
Toluene-d8 (S)	%			102	80-120	

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QUALITY CONTROL DATA

Project: BIG MO 2014 SAMPLING

Pace Project No.: 60165127

QC Batch: MSV/60309

Analysis Method: EPA 8260

QC Batch Method: EPA 8260

Analysis Description: 8260 MSV 5035A Volatile Organics

Associated Lab Samples: 60165127025, 60165127036

METHOD BLANK: 1349849

Matrix: Solid

Associated Lab Samples: 60165127025, 60165127036

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,4-Dichlorobenzene	ug/kg	ND	5.0	03/26/14 05:58	
Benzene	ug/kg	ND	5.0	03/26/14 05:58	
Chlorobenzene	ug/kg	ND	5.0	03/26/14 05:58	
Ethylbenzene	ug/kg	ND	5.0	03/26/14 05:58	
Toluene	ug/kg	ND	5.0	03/26/14 05:58	
Xylene (Total)	ug/kg	ND	5.0	03/26/14 05:58	
1,2-Dichloroethane-d4 (S)	%	89	75-129	03/26/14 05:58	
4-Bromofluorobenzene (S)	%	98	76-123	03/26/14 05:58	
Toluene-d8 (S)	%	101	80-120	03/26/14 05:58	

LABORATORY CONTROL SAMPLE: 1349850

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,4-Dichlorobenzene	ug/kg	100	97.8	98	80-120	
Benzene	ug/kg	100	102	102	80-120	
Chlorobenzene	ug/kg	100	105	105	80-120	
Ethylbenzene	ug/kg	100	101	101	80-120	
Toluene	ug/kg	100	103	103	79-120	
Xylene (Total)	ug/kg	300	296	99	79-120	
1,2-Dichloroethane-d4 (S)	%			91	75-129	
4-Bromofluorobenzene (S)	%			98	76-123	
Toluene-d8 (S)	%			101	80-120	

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QUALITY CONTROL DATA

Project: BIG MO 2014 SAMPLING

Pace Project No.: 60165127

QC Batch:	MSV/60319	Analysis Method:	EPA 8260
QC Batch Method:	EPA 8260	Analysis Description:	8260 MSV 5035A Volatile Organics
Associated Lab Samples:	60165127016, 60165127020, 60165127021, 60165127024, 60165127034, 60165127035, 60165127039, 60165127040, 60165127042, 60165127043, 60165127044, 60165127045		

METHOD BLANK: 1349984

Matrix: Solid

Associated Lab Samples: 60165127016, 60165127020, 60165127021, 60165127024, 60165127034, 60165127035, 60165127039, 60165127040, 60165127042, 60165127043, 60165127044, 60165127045

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,4-Dichlorobenzene	ug/kg	ND	5.0	03/26/14 11:23	
Benzene	ug/kg	ND	5.0	03/26/14 11:23	
Chlorobenzene	ug/kg	ND	5.0	03/26/14 11:23	
Ethylbenzene	ug/kg	ND	5.0	03/26/14 11:23	
Toluene	ug/kg	ND	5.0	03/26/14 11:23	
Xylene (Total)	ug/kg	ND	5.0	03/26/14 11:23	
1,2-Dichloroethane-d4 (S)	%	92	75-129	03/26/14 11:23	
4-Bromofluorobenzene (S)	%	96	76-123	03/26/14 11:23	
Toluene-d8 (S)	%	101	80-120	03/26/14 11:23	

METHOD BLANK: 1351761

Matrix: Solid

Associated Lab Samples: 60165127043, 60165127045

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Benzene	ug/kg	ND	5.0	03/27/14 10:54	
1,2-Dichloroethane-d4 (S)	%	100	75-129	03/27/14 10:54	
4-Bromofluorobenzene (S)	%	99	76-123	03/27/14 10:54	
Toluene-d8 (S)	%	101	80-120	03/27/14 10:54	

LABORATORY CONTROL SAMPLE: 1349985

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,4-Dichlorobenzene	ug/kg	100	105	105	80-120	
Benzene	ug/kg	100	107	107	80-120	
Chlorobenzene	ug/kg	100	109	109	80-120	
Ethylbenzene	ug/kg	100	107	107	80-120	
Toluene	ug/kg	100	105	105	79-120	
Xylene (Total)	ug/kg	300	311	104	79-120	
1,2-Dichloroethane-d4 (S)	%			95	75-129	
4-Bromofluorobenzene (S)	%			99	76-123	
Toluene-d8 (S)	%			102	80-120	

LABORATORY CONTROL SAMPLE: 1351762

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,4-Dichlorobenzene	ug/kg	100	90.4	90	80-120	

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QUALITY CONTROL DATA

Project: BIG MO 2014 SAMPLING

Pace Project No.: 60165127

LABORATORY CONTROL SAMPLE: 1351762

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Benzene	ug/kg	100	93.6	94	80-120	
1,2-Dichloroethane-d4 (S)	%			100	75-129	
4-Bromofluorobenzene (S)	%			101	76-123	
Toluene-d8 (S)	%			101	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1349986 1349987

Parameter	Units	60165283006 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1,4-Dichlorobenzene	ug/kg	ND	14500	14500	15400	16800	103	113	10-144	9	48	
Benzene	ug/kg	36700	14500	14500	50900	52400	98	108	22-144	3	38	
Chlorobenzene	ug/kg	ND	14500	14500	15800	17000	106	115	10-145	7	46	
Ethylbenzene	ug/kg	ND	14500	14500	15700	16500	108	114	10-154	5	42	
Toluene	ug/kg	ND	14500	14500	14800	15800	102	109	11-150	7	40	
Xylene (Total)	ug/kg	ND	43600	43600	45400	48500	104	111	10-154	7	41	
1,2-Dichloroethane-d4 (S)	%						92	94	75-129			
4-Bromofluorobenzene (S)	%						101	101	76-123			
Toluene-d8 (S)	%						102	101	80-120			

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QUALITY CONTROL DATA

Project: BIG MO 2014 SAMPLING

Pace Project No.: 60165127

QC Batch: MSV/60374

Analysis Method: EPA 8260

QC Batch Method: EPA 8260

Analysis Description: 8260 MSV 5035A Volatile Organics

Associated Lab Samples: 60165127027, 60165127032

METHOD BLANK: 1351053

Matrix: Solid

Associated Lab Samples: 60165127027, 60165127032

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,4-Dichlorobenzene	ug/kg	ND	5.0	03/28/14 09:50	
Benzene	ug/kg	ND	5.0	03/28/14 09:50	
Chlorobenzene	ug/kg	ND	5.0	03/28/14 09:50	
Ethylbenzene	ug/kg	ND	5.0	03/28/14 09:50	
Toluene	ug/kg	ND	5.0	03/28/14 09:50	
Xylene (Total)	ug/kg	ND	5.0	03/28/14 09:50	
1,2-Dichloroethane-d4 (S)	%	98	75-129	03/28/14 09:50	
4-Bromofluorobenzene (S)	%	100	76-123	03/28/14 09:50	
Toluene-d8 (S)	%	100	80-120	03/28/14 09:50	

LABORATORY CONTROL SAMPLE: 1351054

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,4-Dichlorobenzene	ug/kg	100	103	103	80-120	
Benzene	ug/kg	100	106	106	80-120	
Chlorobenzene	ug/kg	100	106	106	80-120	
Ethylbenzene	ug/kg	100	107	107	80-120	
Toluene	ug/kg	100	102	102	79-120	
Xylene (Total)	ug/kg	300	316	105	79-120	
1,2-Dichloroethane-d4 (S)	%			99	75-129	
4-Bromofluorobenzene (S)	%			103	76-123	
Toluene-d8 (S)	%			100	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1351055 1351056

Parameter	Units	60165283053 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1,4-Dichlorobenzene	ug/kg	ND	149000	149000	113000	126000	76	85	10-144	11	48	
Benzene	ug/kg	175000	149000	149000	286000	291000	75	78	22-144	2	38	
Chlorobenzene	ug/kg	102000	149000	149000	212000	226000	74	83	10-145	6	46	
Ethylbenzene	ug/kg	ND	149000	149000	116000	127000	78	85	10-154	9	42	
Toluene	ug/kg	ND	149000	149000	123000	135000	81	89	11-150	10	40	
Xylene (Total)	ug/kg	ND	447000	447000	336000	378000	75	85	10-154	12	41	
1,2-Dichloroethane-d4 (S)	%						109	99	75-129			
4-Bromofluorobenzene (S)	%						100	101	76-123			
Toluene-d8 (S)	%						105	103	80-120			

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QUALITY CONTROL DATA

Project: BIG MO 2014 SAMPLING

Pace Project No.: 60165127

QC Batch:	PMST/9506	Analysis Method:	ASTM D2974
QC Batch Method:	ASTM D2974	Analysis Description:	Dry Weight/Percent Moisture
Associated Lab Samples:	60165127001, 60165127002, 60165127003, 60165127004, 60165127005, 60165127006, 60165127007, 60165127008, 60165127009, 60165127010, 60165127011, 60165127012, 60165127013, 60165127014, 60165127015, 60165127016, 60165127017, 60165127018, 60165127019, 60165127020		

METHOD BLANK: 1350103

Matrix: Solid

Associated Lab Samples: 60165127001, 60165127002, 60165127003, 60165127004, 60165127005, 60165127006, 60165127007, 60165127008, 60165127009, 60165127010, 60165127011, 60165127012, 60165127013, 60165127014, 60165127015, 60165127016, 60165127017, 60165127018, 60165127019, 60165127020

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Percent Moisture	%	ND	0.50	03/26/14 00:00	

SAMPLE DUPLICATE: 1350104

Parameter	Units	60165127001 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	19.3	21.1	9	20	

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QUALITY CONTROL DATA

Project: BIG MO 2014 SAMPLING

Pace Project No.: 60165127

QC Batch:	PMST/9507	Analysis Method:	ASTM D2974
QC Batch Method:	ASTM D2974	Analysis Description:	Dry Weight/Percent Moisture
Associated Lab Samples:	60165127021, 60165127024, 60165127025, 60165127026, 60165127027, 60165127028, 60165127029, 60165127030, 60165127031, 60165127032, 60165127033, 60165127034, 60165127035, 60165127036, 60165127037, 60165127038, 60165127039, 60165127040, 60165127041, 60165127042		

METHOD BLANK: 1350105

Matrix: Solid

Associated Lab Samples: 60165127021, 60165127024, 60165127025, 60165127026, 60165127027, 60165127028, 60165127029, 60165127030, 60165127031, 60165127032, 60165127033, 60165127034, 60165127035, 60165127036, 60165127037, 60165127038, 60165127039, 60165127040, 60165127041, 60165127042

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Percent Moisture	%	ND	0.50	03/26/14 00:00	

SAMPLE DUPLICATE: 1350106

Parameter	Units	60165127021 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	3.4	2.9	14	20	

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QUALITY CONTROL DATA

Project: BIG MO 2014 SAMPLING

Pace Project No.: 60165127

QC Batch:	PMST/9508	Analysis Method:	ASTM D2974
QC Batch Method:	ASTM D2974	Analysis Description:	Dry Weight/Percent Moisture
Associated Lab Samples:	60165127043, 60165127044, 60165127045, 60165127046, 60165127047, 60165127048, 60165127049, 60165127050, 60165127051, 60165127052, 60165127053		

METHOD BLANK:	1350108	Matrix:	Solid
Associated Lab Samples:	60165127043, 60165127044, 60165127045, 60165127046, 60165127047, 60165127048, 60165127049, 60165127050, 60165127051, 60165127052, 60165127053		

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Percent Moisture	%	ND	0.50	03/26/14 00:00	

SAMPLE DUPLICATE: 1350109

Parameter	Units	60165222001 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	19.5	19.7	1	20	

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QUALIFIERS

Project: BIG MO 2014 SAMPLING
Pace Project No.: 60165127

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PRL - Pace Reporting Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

LABORATORIES

PASI-K Pace Analytical Services - Kansas City

BATCH QUALIFIERS

Batch: MSV/60306

[M5] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

Batch: MSV/60309

[M5] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

ANALYTE QUALIFIERS

D3 Sample was diluted due to the presence of high levels of non-target analytes or other matrix interference.

IS The internal standard response is below criteria. Results may be biased high.

S0 Surrogate recovery outside laboratory control limits.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: BIG MO 2014 SAMPLING

Pace Project No.: 60165127

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60165127001	WGK-BM-031714-SB-70-3	EPA 8260	MSV/60185		
60165127001	WGK-BM-031714-SB-70-3	EPA 8260	MSV/60220		
60165127002	WGK-BM-031714-SB-70-6	EPA 8260	MSV/60220		
60165127003	WGK-BM-031714-SB-70-3-3.5	EPA 8260	MSV/60185		
60165127003	WGK-BM-031714-SB-70-3-3.5	EPA 8260	MSV/60220		
60165127004	WGK-BM-031714-SB-37-3	EPA 8260	MSV/60242		
60165127005	WGK-BM-031714-SB-37-8	EPA 8260	MSV/60242		
60165127006	WGK-BM-031714-SB-37-10	EPA 8260	MSV/60306		
60165127007	WGK-BM-031714-SB-37-12	EPA 8260	MSV/60242		
60165127008	WGK-BM-031714-SB-37-14	EPA 8260	MSV/60185		
60165127009	WGK-BM-031714-SB-37-3-3.7	EPA 8260	MSV/60242		
60165127010	WGK-BM-031714-SB-37-14-14.5	EPA 8260	MSV/60185		
60165127011	WGK-BM-031714-SB-DUP01	EPA 8260	MSV/60242		
60165127012	WGK-BM-031714-SB-66-8	EPA 8260	MSV/60242		
60165127013	WGK-BM-031714-SB-66-10	EPA 8260	MSV/60306		
60165127014	WGK-BM-031714-SB-66-12	EPA 8260	MSV/60306		
60165127015	WGK-BM-031714-SB-66-13.5	EPA 8260	MSV/60306		
60165127016	WGK-BM-031714-SB-66-13-13.5	EPA 8260	MSV/60319		
60165127017	WGK-BM-031714-SB-34-10	EPA 8260	MSV/60306		
60165127018	WGK-BM-031714-SB-34-12	EPA 8260	MSV/60306		
60165127019	WGK-BM-031714-SB-34-13.9	EPA 8260	MSV/60306		
60165127020	WGK-BM-031714-SB-34-13-13.5	EPA 8260	MSV/60319		
60165127021	WGK-BM-031714-SB-DUP02	EPA 8260	MSV/60319		
60165127022	WGK-BM-SB-TB-01	EPA 8260	MSV/60200		
60165127023	WGK-BM-SB-TB-02	EPA 8260	MSV/60200		
60165127024	WGK-BM-031814-SB-33-3	EPA 8260	MSV/60319		
60165127025	WGK-BM-031814-SB-33-3-3.7	EPA 8260	MSV/60309		
60165127026	WGK-BM-031814-SB-33-5	EPA 8260	MSV/60306		
60165127027	WGK-BM-031814-SB-33-8	EPA 8260	MSV/60374		
60165127028	WGK-BM-031814-SB-33-10	EPA 8260	MSV/60306		
60165127029	WGK-BM-031814-SB-33-12	EPA 8260	MSV/60306		
60165127030	WGK-BM-031814-SB-33-14	EPA 8260	MSV/60200		
60165127031	WGK-BM-031814-SB-33-14-14.5	EPA 8260	MSV/60200		
60165127032	WGK-BM-031814-SB-DUP03	EPA 8260	MSV/60374		
60165127033	WGK-BM-031814-SB-69-3	EPA 8260	MSV/60306		
60165127034	WGK-BM-031814-SB-69-5	EPA 8260	MSV/60319		
60165127035	WGK-BM-031814-SB-69-7	EPA 8260	MSV/60319		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: BIG MO 2014 SAMPLING

Pace Project No.: 60165127

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60165127036	WGK-BM-031814-SB-69-5-5.5	EPA 8260	MSV/60309		
60165127037	WGK-BM-031814-SB-69-12	EPA 8260	MSV/60202		
60165127037	WGK-BM-031814-SB-69-12	EPA 8260	MSV/60246		
60165127038	WGK-BM-031814-SB-69-12-12.5	EPA 8260	MSV/60202		
60165127038	WGK-BM-031814-SB-69-12-12.5	EPA 8260	MSV/60246		
60165127039	WGK-BM-031814-SB-65-3	EPA 8260	MSV/60319		
60165127040	WGK-BM-031814-SB-65-5	EPA 8260	MSV/60319		
60165127041	WGK-BM-031814-SB-65-8	EPA 8260	MSV/60202		
60165127041	WGK-BM-031814-SB-65-8	EPA 8260	MSV/60246		
60165127042	WGK-BM-031814-SB-65-7.5-8.1	EPA 8260	MSV/60202		
60165127042	WGK-BM-031814-SB-65-7.5-8.1	EPA 8260	MSV/60319		
60165127043	WGK-BM-031814-SB-65-10	EPA 8260	MSV/60319		
60165127044	WGK-BM-031814-SB-65-12	EPA 8260	MSV/60319		
60165127045	WGK-BM-031814-SB-65-13.6	EPA 8260	MSV/60319		
60165127046	WGK-BM-031814-SB-65-11-11.5	EPA 8260	MSV/60202		
60165127047	WGK-BM-031814-SB-DUP-04	EPA 8260	MSV/60224		
60165127048	WGK-BM-031814-SB-39-7	EPA 8260	MSV/60224		
60165127049	WGK-BM-031814-SB-39-7-7.5	EPA 8260	MSV/60224		
60165127050	WGK-BM-031814-SB-39-10	EPA 8260	MSV/60224		
60165127051	WGK-BM-031814-SB-39-12	EPA 8260	MSV/60224		
60165127052	WGK-BM-031814-SB-39-14	EPA 8260	MSV/60224		
60165127053	WGK-BM-031814-SB-39-13-13.5	EPA 8260	MSV/60209		
60165127001	WGK-BM-031714-SB-70-3	ASTM D2974	PMST/9506		
60165127002	WGK-BM-031714-SB-70-6	ASTM D2974	PMST/9506		
60165127003	WGK-BM-031714-SB-70-3-3.5	ASTM D2974	PMST/9506		
60165127004	WGK-BM-031714-SB-37-3	ASTM D2974	PMST/9506		
60165127005	WGK-BM-031714-SB-37-8	ASTM D2974	PMST/9506		
60165127006	WGK-BM-031714-SB-37-10	ASTM D2974	PMST/9506		
60165127007	WGK-BM-031714-SB-37-12	ASTM D2974	PMST/9506		
60165127008	WGK-BM-031714-SB-37-14	ASTM D2974	PMST/9506		
60165127009	WGK-BM-031714-SB-37-3-3.7	ASTM D2974	PMST/9506		
60165127010	WGK-BM-031714-SB-37-14-14.5	ASTM D2974	PMST/9506		
60165127011	WGK-BM-031714-SB-DUP01	ASTM D2974	PMST/9506		
60165127012	WGK-BM-031714-SB-66-8	ASTM D2974	PMST/9506		
60165127013	WGK-BM-031714-SB-66-10	ASTM D2974	PMST/9506		
60165127014	WGK-BM-031714-SB-66-12	ASTM D2974	PMST/9506		
60165127015	WGK-BM-031714-SB-66-13.5	ASTM D2974	PMST/9506		
60165127016	WGK-BM-031714-SB-66-13-13.5	ASTM D2974	PMST/9506		
60165127017	WGK-BM-031714-SB-34-10	ASTM D2974	PMST/9506		
60165127018	WGK-BM-031714-SB-34-12	ASTM D2974	PMST/9506		
60165127019	WGK-BM-031714-SB-34-13.9	ASTM D2974	PMST/9506		
60165127020	WGK-BM-031714-SB-34-13-13.5	ASTM D2974	PMST/9506		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: BIG MO 2014 SAMPLING

Pace Project No.: 60165127

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60165127021	WGK-BM-031714-SB-DUP02	ASTM D2974	PMST/9507		
60165127024	WGK-BM-031814-SB-33-3	ASTM D2974	PMST/9507		
60165127025	WGK-BM-031814-SB-33-3-3.7	ASTM D2974	PMST/9507		
60165127026	WGK-BM-031814-SB-33-5	ASTM D2974	PMST/9507		
60165127027	WGK-BM-031814-SB-33-8	ASTM D2974	PMST/9507		
60165127028	WGK-BM-031814-SB-33-10	ASTM D2974	PMST/9507		
60165127029	WGK-BM-031814-SB-33-12	ASTM D2974	PMST/9507		
60165127030	WGK-BM-031814-SB-33-14	ASTM D2974	PMST/9507		
60165127031	WGK-BM-031814-SB-33-14-14.5	ASTM D2974	PMST/9507		
60165127032	WGK-BM-031814-SB-DUP03	ASTM D2974	PMST/9507		
60165127033	WGK-BM-031814-SB-69-3	ASTM D2974	PMST/9507		
60165127034	WGK-BM-031814-SB-69-5	ASTM D2974	PMST/9507		
60165127035	WGK-BM-031814-SB-69-7	ASTM D2974	PMST/9507		
60165127036	WGK-BM-031814-SB-69-5-5.5	ASTM D2974	PMST/9507		
60165127037	WGK-BM-031814-SB-69-12	ASTM D2974	PMST/9507		
60165127038	WGK-BM-031814-SB-69-12-12.5	ASTM D2974	PMST/9507		
60165127039	WGK-BM-031814-SB-65-3	ASTM D2974	PMST/9507		
60165127040	WGK-BM-031814-SB-65-5	ASTM D2974	PMST/9507		
60165127041	WGK-BM-031814-SB-65-8	ASTM D2974	PMST/9507		
60165127042	WGK-BM-031814-SB-65-7.5-8.1	ASTM D2974	PMST/9507		
60165127043	WGK-BM-031814-SB-65-10	ASTM D2974	PMST/9508		
60165127044	WGK-BM-031814-SB-65-12	ASTM D2974	PMST/9508		
60165127045	WGK-BM-031814-SB-65-13.6	ASTM D2974	PMST/9508		
60165127046	WGK-BM-031814-SB-65-11-11.5	ASTM D2974	PMST/9508		
60165127047	WGK-BM-031814-SB-DUP-04	ASTM D2974	PMST/9508		
60165127048	WGK-BM-031814-SB-39-7	ASTM D2974	PMST/9508		
60165127049	WGK-BM-031814-SB-39-7-7.5	ASTM D2974	PMST/9508		
60165127050	WGK-BM-031814-SB-39-10	ASTM D2974	PMST/9508		
60165127051	WGK-BM-031814-SB-39-12	ASTM D2974	PMST/9508		
60165127052	WGK-BM-031814-SB-39-14	ASTM D2974	PMST/9508		
60165127053	WGK-BM-031814-SB-39-13-13.5	ASTM D2974	PMST/9508		

REPORT OF LABORATORY ANALYSIS

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Sample Condition Upon Receipt

WO#: 60165127



60165127

Client Name: XDD LLC

Courier: Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☐ Pace ☐ Other ☒ road

Tracking #: _____ Pace Shipping Label Used? Yes ☐ No ☒

Custody Seal on Cooler/Box Present: Yes ☒ No ☐ Seals intact: Yes ☒ No ☐

Packing Material: Bubble Wrap ☐ Bubble Bags ☐ Foam ☒ None ☐ Other ☒ 2 P/L

Thermometer Used: T-239 / T-194

Type of Ice: Wet Blue ☐ None ☐ Samples received on ice, cooling process has begun.
(circle one)

Cooler Temperature: 0.8

Temperature should be above freezing to 6°C

Date and initials of person examining contents: _____

Chain of Custody present:	☒ Yes ☐ No ☐ N/A	1.
Chain of Custody filled out:	☒ Yes ☐ No ☐ N/A	2.
Chain of Custody relinquished:	☒ Yes ☐ No ☐ N/A	3.
Sampler name & signature on COC:	☒ Yes ☐ No ☐ N/A	4.
Samples arrived within holding time:	☒ Yes ☐ No ☐ N/A	5.
Short Hold Time analyses (<72hr):	☒ Yes ☐ No ☐ N/A	6. <u>Kits</u>
Rush Turn Around Time requested:	☐ Yes ☒ No ☐ N/A	7.
Sufficient volume:	☒ Yes ☐ No ☐ N/A	8.
Correct containers used:	☒ Yes ☐ No ☐ N/A	9.
Pace containers used:	☒ Yes ☐ No ☐ N/A	10. <u>everything before TB1 on coc</u>
Containers intact:	☒ Yes ☐ No ☐ N/A	11. <u>received with TB1.</u>
Unpreserved 5035A soils frozen w/in 48hrs?	☒ Yes ☐ No ☐ N/A	12. <u>everything after TB2 on coc</u>
Filtered volume received for dissolved tests?	☐ Yes ☐ No ☒ N/A	13. <u>received with TB2.</u>
Sample labels match COC:	☒ Yes ☐ No ☐ N/A	14.
Includes date/time/ID/analyses Matrix: <u>SL</u>		15.
All containers needing preservation have been checked.	☐ Yes ☐ No ☒ N/A	16.
All containers needing preservation are found to be in compliance with EPA recommendation.	☐ Yes ☐ No ☒ N/A	17.
Exceptions: <u>VOA</u> , coliform, TOC, O&G, WI-DRO (water), Phenolics	☒ Yes ☐ No	Initial when completed
Trip Blank present:	☒ Yes ☐ No ☐ N/A	Lot # of added preservative
Pace Trip Blank lot # (if purchased): <u>Cover</u>		
Headspace in VOA vials (>6mm):	☐ Yes ☐ No ☒ N/A	
Project sampled in USDA Regulated Area:	☐ Yes ☒ No ☐ N/A	17. List State:

Client Notification/ Resolution: Copy COC to Client? Y / N Field Data Required? Y / N

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: _____ Date: _____

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.



Section A

Required Client Information:

Company: **XDO LLC**
 Address: **22 Mann Way**
Shatham, NH
 Email To: **Stanislawski@xdo-llc.com**
 Phone: **603-778-1100** Fax: **---**
 Requested Due Date/TAT: **---**

Section B

Required Project Information:

Report To: **Erin Stanislawski (xdo)**
 Copy To: **wjphnc@eastman.com**
 Purchase Order No.: **---**
 Project Name: **big Mo 2014 sampling**
 Project Number: **---**

Section C

Invoice Information:

Attention: **Bill Johnson**
 Company Name: **Eastman**
 Address: **---**
 Pace Quote Reference: **# 00011737**
 Pace Project Manager: **J. Church**
 Pace Profile #: **---**

Page: **1** of **5**
1795414
 REGULATORY AGENCY
☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER
☐ UST ☐ RCRA ☒ OTHER
 Site Location **IL**
 STATE: **IL**

ITEM #	Section D Required Client Information	Matrix Codes MATRIX / CODE	SAMPLE TYPE (G=GRAB C=COMP) (see valid codes to left)	COLLECTED	DATE	TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives	Analysis Test ↑	Y/N ↑	Requested Analysis Filtered (Y/N)	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	WJLV-15M - 031714-58-30-3	Drinking Water WT	G	COMPOSITE START	3/17/14	1105	15.0	3	Unpreserved	1st 600 note				1069M 1694M 1808U 61
2	WJLV-15M - 031714-58-30-10	Drinking Water WT	G	COMPOSITE END/GRAB	3/17/14	1120		1	NaOH					106
3	WJLV-15M - 031714-58-30-335	Drinking Water WT	G	COMPOSITE END/GRAB	3/17/14	1140		1	HCl					103
4	WJLV-15M - 031714-58-37-3	Drinking Water WT	G	COMPOSITE END/GRAB	3/17/14	1215		1	HNO3					104
5	WJLV-15M - 031714-58-37-8	Drinking Water WT	G	COMPOSITE END/GRAB	3/17/14	1220		1	H2SO4					105
6	WJLV-15M - 031714-58-37-10	Drinking Water WT	G	COMPOSITE END/GRAB	3/17/14	1230		1	Unpreserved					106
7	WJLV-15M - 031714-58-37-12	Drinking Water WT	G	COMPOSITE END/GRAB	3/17/14	1235		1	Unpreserved					107
8	WJLV-15M - 031714-58-37-14	Drinking Water WT	G	COMPOSITE END/GRAB	3/17/14	1240		1	Unpreserved					108
9	WJLV-15M - 031714-58-37-33.7	Drinking Water WT	G	COMPOSITE END/GRAB	3/17/14	1340		1	Unpreserved					109
10	WJLV-15M - 031714-58-37-14-14.5	Drinking Water WT	G	COMPOSITE END/GRAB	3/17/14	1345		1	Unpreserved					110
11	WJLV-15M - 031714-58-DUP01	Drinking Water WT	G	COMPOSITE END/GRAB	3/17/14	1105		1	Unpreserved					111
12	WJLV-15M - 031714-58-66-7	Drinking Water WT	G	COMPOSITE END/GRAB	3/17/14	1423		1	Unpreserved					112

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
VOL 1st = BTEX,		3/18/14	1648		3/19/14	0205	Y
Chlorobenzene, 1,4-dichlorobenzene		3/18/14	1723		3/19/14	0205	Y

SAMPLER NAME AND SIGNATURE	PRINT Name of SAMPLER:	SIGNATURE of SAMPLER:	DATE Signed (MM/DD/YY):	Temp in °C	Received on (Y/N)	Sealed Cooler (Y/N)	Samples Intact (Y/N)
	Erin Stanislawski	[Signature]	3/18/14				

ORIGINAL

*Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.



Section A Required Client Information: Company:		Section B Required Project Information: Report To:		Section C Invoice Information: Attention:	
Address:		Copy To:		Company Name:	
Email To:		Purchase Order No.:		Address:	
Phone:		Project Name:		Pace Quote Reference:	
Requested Due Date/TAT:		Project Number:		Pace Project Manager:	
Fax:		Project Number:		Pace Profile #:	

Page: 2 of 5
1795415

REGULATORY AGENCY

NPDES ☐ GROUND WATER ☐ DRINKING WATER ☐
 UST ☐ RCRA ☐ OTHER ☐

Site Location
STATE: IL

Requested Analysis Filtered (Y/N)

ITEM #	Matrix Codes MATRIX / CODE	Matrix Codes DW WT WW P SL OL WP TS AR OT	COLLECTED		SAMPLE TYPE (G=GRAB C=COMP)	MATRIX CODE (see valid codes to left)	DATE	TIME	DATE	TIME	# OF CONTAINERS	Preservatives	Analysis Test ↑	Y/N	Requested Analysis Filtered (Y/N)	Pace Project No. / Lab I.D.
			COMPOSITE START	COMPOSITE END (GRAB)												
1	W26K-BM-031714-SB-66-10				G	SL-6	3/17/14	1425	3/18/14	1425	2					11644M 1V614 13P84 613
2	- - -031714-SB-66-12				G	SL-6	3/17/14	1430	3/18/14	1430	2					614
3	- - -031714-SB-66-13.5				G	SL-6	3/17/14	1442	3/18/14	1442	2					615
4	- - -031714-SB-66-13-30.5				G	SL-6	3/17/14	1512	3/18/14	1512	2					616
5	- - -031714-SB-34-10				G	SL-6	3/17/14	1542	3/18/14	1542	2					617
6	- - -031714-SB-34-12				G	SL-6	3/17/14	1545	3/18/14	1545	2					618
7	- - -031714-SB-34-13.9				G	SL-6	3/17/14	1550	3/18/14	1550	2					619
8	- - -031714-SB-34-13.5				G	SL-6	3/17/14	1600	3/18/14	1600	2					620
9	- - -031714-SB-12P02				G	SL-6	3/17/14	1600	3/18/14	1600	2					621
10	W26K-BM-SB-TB-01				G	SL-6	3/17/14	1600	3/18/14	1600	2					622
11	W26K-BM-SB-TB-02				G	SL-6	3/17/14	1600	3/18/14	1600	2					623
12	W26K-BM-031814-SB-33-3				G	SL-6	3/17/14	0945	3/18/14	0945	2					624

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
							Received on	Custody	Sealed Cooler	Samples Intact
VOC list (short) per the PACE proposal # 00011737		3/18/14	1512		3/18/14	1512	Y	Y	Y	Y
		3/18/14	1730		3/19/14	0205	0.8	Y	Y	Y
							3.6	Y	Y	Y

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Emm Stangowski

SIGNATURE of SAMPLER: [Signature]

DATE Signed (MM/DD/YY): 3/18/14

ORIGINAL

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Section A Required Client Information: Company: _____ Address: _____ Email To: <u>see page 1/4</u> Phone: <u>see page 1/4</u> Requested Due Date/TAT: <u>#1795417</u>		Section B Required Project Information: Report To: _____ Copy To: _____ Purchase Order #: <u>see page 1/4</u> Project Name: <u>see page 1/4</u> Project Number: <u>see page 1/4</u>		Section C Invoice Information: Attention: _____ Company Name: _____ Address: _____ Pace Quote Reference: _____ Pace Project Manager: _____ Pace Profile #: _____	
Section D Required Client Information Matrix Codes MATRIX / CODE Drinking Water DW Water WT Waste Water WW Product P Soil/Solid SL Oil OL Wipe WP Air AR Tissue TS Other OT		Section E Regulatory Agency ☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER ☐ UST ☐ RCRA ☐ OTHER _____ Site Location: _____ STATE: <u>IL</u>			

ITEM #	Section D Required Client Information		Matrix Codes MATRIX / CODE		MATRIX CODE (see valid codes to left)		SAMPLE TYPE (G=GRAB C=COMP)		COLLECTED			SAMPLE TEMP AT COLLECTION		# OF CONTAINERS		Preservatives							Y/N		Requested Analysis Filtered (Y/N)																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
	SAMPLE ID (A-Z, 0-9 / , -)	Matrix Codes Drinking Water Water Waste Water Product Solid/Solid Oil Wipe Air Tissue Other	MATRIX / CODE	DW WT WW P SL OL WP AR TS OT	COMPOSITE START	COMPOSITE END/GRAB	DATE	TIME	DATE	TIME	UNPRESERVED	H ₂ SO ₄	HNO ₃	HCl	NaOH	Na ₂ S ₂ O ₃	Methanol	Other	Analysis Test	Y/N	Requested Analysis Filtered (Y/N)																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																												
1	W06E-BM-031814-SB-69-12		SLC					3/18/14	10:07	152	3	2																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																					

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:	
Company:	Report To:	Company Name:	Attention:	Page: 5	of 5
Address:	Copy To:	Address:		1795418	
Email To:	Purchase Order No.:	Pace Quote Reference:			
Phone:	Project Name:	Pace Project Manager:			
Requested Due Date/TAT:	Project Number:				
REGULATORY AGENCY			☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER ☐ UST ☐ RCRA ☐ OTHER		
Site Location			STATE: IL		

[illegible]

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS		Temp In °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
vol wt - BTEX, mcb, 14-020	<i>[Signature]</i>	3/18/14	16:42	<i>[Signature]</i>	3/18/14	16:42						
	<i>[Signature]</i>	3/18/14	17:30	<i>[Signature]</i>	3/18/14	02:05						
see pg 4/5												

ORIGINAL

SAMPLER NAME AND SIGNATURE *[Signature]*

PRINT Name of SAMPLER: *[Signature]*

SIGNATURE of SAMPLER: *[Signature]*

DATE Signed (MM/DD/YY): 3/18/14

Page 88 of 88

April 03, 2014

Erin Stanisewski
XDD, LLC
22 Marin Way #3
Stratham, NH 03885

RE: Project: BIG MO 2014 SOIL SAMPLING
Pace Project No.: 60165283

Dear Erin Stanisewski:

Enclosed are the analytical results for sample(s) received by the laboratory on March 20, 2014. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Jamie Church
jamie.church@pacelabs.com
Project Manager

Enclosures

cc: William Johnson, Solutia, Inc.
Dennis Keane, XDD, LLC.



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: BIG MO 2014 SOIL SAMPLING

Pace Project No.: 60165283

Kansas Certification IDs

9608 Loiret Boulevard, Lenexa, KS 66219

WY STR Certification #: 2456.01

Arkansas Certification #: 13-012-0

Illinois Certification #: 003097

Iowa Certification #: 118

Kansas/NELAP Certification #: E-10116

Louisiana Certification #: 03055

Nevada Certification #: KS000212008A

Oklahoma Certification #: 9205/9935

Texas Certification #: T104704407-13-4

Utah Certification #: KS000212013-3

Illinois Certification #: 003097

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: BIG MO 2014 SOIL SAMPLING

Pace Project No.: 60165283

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60165283001	WGK-BM-031814-SB-64-3	Solid	03/18/14 14:15	03/20/14 00:45
60165283002	WGK-BM-031814-SB-64-3-3.4	Solid	03/18/14 15:45	03/20/14 00:45
60165283003	WGK-BM-031814-SB-64-8.2	Solid	03/18/14 14:30	03/20/14 00:45
60165283004	WGK-BM-031814-SB-64-10	Solid	03/18/14 14:42	03/20/14 00:45
60165283005	WGK-BM-031814-SB-64-12	Solid	03/18/14 14:44	03/20/14 00:45
60165283006	WGK-BM-031814-SB-64-13.5-13.8	Solid	03/18/14 15:52	03/20/14 00:45
60165283007	WGK-BM-031814-SB-DUP-05	Solid	03/18/14 14:00	03/20/14 00:45
60165283008	WGK-BM-031814-SB-36-3	Solid	03/18/14 15:30	03/20/14 00:45
60165283009	WGK-BM-031814-SB-36-10	Solid	03/18/14 15:46	03/20/14 00:45
60165283010	WGK-BM-031814-SB-36-14	Solid	03/18/14 15:50	03/20/14 00:45
60165283011	WGK-BM-031814-SB-36-11.5-12	Solid	03/18/14 16:45	03/20/14 00:45
60165283012	WGK-BM-031814-SB-DUP-06	Solid	03/18/14 16:00	03/20/14 00:45
60165283013	WGK-BM-031814-SB-38-10	Solid	03/18/14 17:18	03/20/14 00:45
60165283014	WGK-BM-031814-SB-38-12	Solid	03/18/14 17:20	03/20/14 00:45
60165283015	WGK-BM-031814-SB-38-13.7	Solid	03/18/14 17:22	03/20/14 00:45
60165283016	WGK-BM-031814-SB-38-11.5-12	Solid	03/18/14 17:45	03/20/14 00:45
60165283017	WGK-BM-031914-TB-04	Solid	03/19/14 00:00	03/20/14 00:45
60165283018	WGK-BM-031914-SB-63-8	Solid	03/19/14 08:38	03/20/14 00:45
60165283019	WGK-BM-031914-SB-63-10	Solid	03/19/14 08:47	03/20/14 00:45
60165283020	WGK-BM-031914-SB-63-12	Solid	03/19/14 08:54	03/20/14 00:45
60165283021	WGK-BM-031914-SB-63-14	Solid	03/19/14 08:58	03/20/14 00:45
60165283022	WGK-BM-031914-SB-DUP-07	Solid	03/19/14 08:00	03/20/14 00:45
60165283023	WGK-BM-031914-SB-68-7.5	Solid	03/19/14 09:28	03/20/14 00:45
60165283024	WGK-BM-031914-SB-68-10.5	Solid	03/19/14 09:40	03/20/14 00:45
60165283025	WGK-BM-031914-SB-68-12	Solid	03/19/14 09:42	03/20/14 00:45
60165283026	WGK-BM-031914-SB-68-13.9	Solid	03/19/14 09:44	03/20/14 00:45
60165283027	WGK-BM-031914-SB-68-13-13.5	Solid	03/19/14 10:08	03/20/14 00:45
60165283028	WGK-BM-031914-SB-68-DUP-08	Solid	03/19/14 10:13	03/20/14 00:45
60165283029	WGK-BM-031914-SB-80-7.5	Solid	03/19/14 10:45	03/20/14 00:45
60165283030	WGK-BM-031914-SB-80-10	Solid	03/19/14 10:54	03/20/14 00:45
60165283031	WGK-BM-031914-SB-80-12	Solid	03/19/14 10:56	03/20/14 00:45
60165283032	WGK-BM-031914-SB-80-14	Solid	03/19/14 10:58	03/20/14 00:45
60165283033	WGK-BM-031914-SB-79-7.5	Solid	03/19/14 12:06	03/20/14 00:45
60165283034	WGK-BM-031914-SB-79-10	Solid	03/19/14 12:10	03/20/14 00:45
60165283035	WGK-BM-031914-SB-79-12	Solid	03/19/14 12:12	03/20/14 00:45
60165283036	WGK-BM-031914-SB-79-13.8	Solid	03/19/14 12:14	03/20/14 00:45
60165283037	WGK-BM-031914-SB-83-10	Solid	03/19/14 12:50	03/20/14 00:45

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: BIG MO 2014 SOIL SAMPLING

Pace Project No.: 60165283

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60165283038	WGK-BM-031914-SB-83-12	Solid	03/19/14 12:52	03/20/14 00:45
60165283039	WGK-BM-031914-SB-83-14	Solid	03/19/14 12:54	03/20/14 00:45
60165283040	WGK-BM-031914-SB-DUP-09	Solid	03/19/14 12:30	03/20/14 00:45
60165283041	WGK-BM-031914-SB-28-7.5	Solid	03/19/14 14:30	03/20/14 00:45
60165283042	WGK-BM-031914-SB-28-10	Solid	03/19/14 14:38	03/20/14 00:45
60165283043	WGK-BM-031914-SB-28-12	Solid	03/19/14 14:40	03/20/14 00:45
60165283044	WGK-BM-031914-SB-28-13.8	Solid	03/19/14 14:42	03/20/14 00:45
60165283045	WGK-BM-031914-SB-27-3	Solid	03/19/14 15:12	03/20/14 00:45
60165283046	WGK-BM-031914-SB-27-8	Solid	03/19/14 15:16	03/20/14 00:45
60165283047	WGK-BM-031914-SB-27-10	Solid	03/19/14 15:20	03/20/14 00:45
60165283048	WGK-BM-031914-SB-27-12	Solid	03/19/14 15:22	03/20/14 00:45
60165283049	WGK-BM-031914-SB-28-11.5-12	Solid	03/19/14 15:54	03/20/14 00:45
60165283050	WGK-BM-031914-SB-28-7.2-7.5	Solid	03/19/14 15:56	03/20/14 00:45
60165283051	WGK-BM-031914-SB-27-13.8	Solid	03/19/14 15:54	03/20/14 00:45
60165283052	WGK-BM-031914-SB-27-11-11.5	Solid	03/19/14 16:16	03/20/14 00:45
60165283053	WGK-BM-031914-SB-27-7.6-8	Solid	03/19/14 16:12	03/20/14 00:45
60165283054	WGK-BM-031914-SB-DUP-10	Solid	03/19/14 16:00	03/20/14 00:45
60165283055	WGK-BM-031914-TB-05	Solid	03/19/14 00:00	03/20/14 00:45
60165283056	WGK-BM-031814-TB-03	Solid	03/18/14 00:00	03/20/14 00:45

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: BIG MO 2014 SOIL SAMPLING
Pace Project No.: 60165283

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60165283001	WGK-BM-031814-SB-64-3	EPA 8260	JKL	9	PASI-K
		ASTM D2974	DWC	1	PASI-K
60165283002	WGK-BM-031814-SB-64-3-3.4	EPA 8260	JKL, RAB	9	PASI-K
		ASTM D2974	DWC	1	PASI-K
60165283003	WGK-BM-031814-SB-64-8.2	EPA 8260	RAB	9	PASI-K
		ASTM D2974	DWC	1	PASI-K
60165283004	WGK-BM-031814-SB-64-10	EPA 8260	RAB	9	PASI-K
		ASTM D2974	DWC	1	PASI-K
60165283005	WGK-BM-031814-SB-64-12	EPA 8260	RAB	9	PASI-K
		ASTM D2974	DWC	1	PASI-K
60165283006	WGK-BM-031814-SB-64-13.5-13.8	EPA 8260	RAB	9	PASI-K
		ASTM D2974	DWC	1	PASI-K
60165283007	WGK-BM-031814-SB-DUP-05	EPA 8260	JKL	9	PASI-K
		ASTM D2974	DWC	1	PASI-K
60165283008	WGK-BM-031814-SB-36-3	EPA 8260	JKL	9	PASI-K
		ASTM D2974	DWC	1	PASI-K
60165283009	WGK-BM-031814-SB-36-10	EPA 8260	JKL, RAB	9	PASI-K
		ASTM D2974	DWC	1	PASI-K
60165283010	WGK-BM-031814-SB-36-14	EPA 8260	JKL, RAB	9	PASI-K
		ASTM D2974	DWC	1	PASI-K
60165283011	WGK-BM-031814-SB-36-11.5-12	EPA 8260	JKL, RAB	9	PASI-K
		ASTM D2974	DWC	1	PASI-K
60165283012	WGK-BM-031814-SB-DUP-06	EPA 8260	JKL, RAB	9	PASI-K
		ASTM D2974	DWC	1	PASI-K
60165283013	WGK-BM-031814-SB-38-10	EPA 8260	JKL	9	PASI-K
		ASTM D2974	DWC	1	PASI-K
60165283014	WGK-BM-031814-SB-38-12	EPA 8260	JKL	9	PASI-K
		ASTM D2974	DWC	1	PASI-K
60165283015	WGK-BM-031814-SB-38-13.7	EPA 8260	JKL	9	PASI-K
		ASTM D2974	DWC	1	PASI-K
60165283016	WGK-BM-031814-SB-38-11.5-12	EPA 8260	JKL	9	PASI-K
		ASTM D2974	DWC	1	PASI-K
60165283017	WGK-BM-031914-TB-04	EPA 8260	JKL	9	PASI-K
60165283018	WGK-BM-031914-SB-63-8	EPA 8260	JKL	9	PASI-K
		ASTM D2974	DWC	1	PASI-K
60165283019	WGK-BM-031914-SB-63-10	EPA 8260	JKL	9	PASI-K
		ASTM D2974	DWC	1	PASI-K

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SAMPLE ANALYTE COUNT

Project: BIG MO 2014 SOIL SAMPLING

Pace Project No.: 60165283

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60165283020	WGK-BM-031914-SB-63-12	EPA 8260	JKL	9	PASI-K
		ASTM D2974	DWC	1	PASI-K
60165283021	WGK-BM-031914-SB-63-14	EPA 8260	JKL	9	PASI-K
		ASTM D2974	DWC	1	PASI-K
60165283022	WGK-BM-031914-SB-DUP-07	EPA 8260	JKL	9	PASI-K
		ASTM D2974	DWC	1	PASI-K
60165283023	WGK-BM-031914-SB-68-7.5	EPA 8260	JKL	9	PASI-K
		ASTM D2974	DWC	1	PASI-K
60165283024	WGK-BM-031914-SB-68-10.5	EPA 8260	JKL	9	PASI-K
		ASTM D2974	DWC	1	PASI-K
60165283025	WGK-BM-031914-SB-68-12	EPA 8260	JKL	9	PASI-K
		ASTM D2974	DWC	1	PASI-K
60165283026	WGK-BM-031914-SB-68-13.9	EPA 8260	JKL	9	PASI-K
		ASTM D2974	DWC	1	PASI-K
60165283027	WGK-BM-031914-SB-68-13-13.5	EPA 8260	JKL	9	PASI-K
		ASTM D2974	DWC	1	PASI-K
60165283028	WGK-BM-031914-SB-68-DUP-08	EPA 8260	JKL	9	PASI-K
		ASTM D2974	DWC	1	PASI-K
60165283029	WGK-BM-031914-SB-80-7.5	EPA 8260	JKL	9	PASI-K
		ASTM D2974	DWC	1	PASI-K
60165283030	WGK-BM-031914-SB-80-10	EPA 8260	JKL	9	PASI-K
		ASTM D2974	DWC	1	PASI-K
60165283031	WGK-BM-031914-SB-80-12	EPA 8260	RAB	9	PASI-K
		ASTM D2974	DWC	1	PASI-K
60165283032	WGK-BM-031914-SB-80-14	EPA 8260	RAB	9	PASI-K
		ASTM D2974	DWC	1	PASI-K
60165283033	WGK-BM-031914-SB-79-7.5	EPA 8260	RAB	9	PASI-K
		ASTM D2974	DWC	1	PASI-K
60165283034	WGK-BM-031914-SB-79-10	EPA 8260	RAB	9	PASI-K
		ASTM D2974	DWC	1	PASI-K
60165283035	WGK-BM-031914-SB-79-12	EPA 8260	RAB	9	PASI-K
		ASTM D2974	DWC	1	PASI-K
60165283036	WGK-BM-031914-SB-79-13.8	EPA 8260	RAB	9	PASI-K
		ASTM D2974	DWC	1	PASI-K
60165283037	WGK-BM-031914-SB-83-10	EPA 8260	RAB	9	PASI-K
		ASTM D2974	DWC	1	PASI-K
60165283038	WGK-BM-031914-SB-83-12	EPA 8260	RAB	9	PASI-K

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SAMPLE ANALYTE COUNT

Project: BIG MO 2014 SOIL SAMPLING
Pace Project No.: 60165283

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		ASTM D2974	DWC	1	PASI-K
60165283039	WGK-BM-031914-SB-83-14	EPA 8260	RAB	9	PASI-K
		ASTM D2974	DWC	1	PASI-K
60165283040	WGK-BM-031914-SB-DUP-09	EPA 8260	RAB	9	PASI-K
		ASTM D2974	DWC	1	PASI-K
60165283041	WGK-BM-031914-SB-28-7.5	EPA 8260	RAB	9	PASI-K
		ASTM D2974	DWC	1	PASI-K
60165283042	WGK-BM-031914-SB-28-10	EPA 8260	RAB	9	PASI-K
		ASTM D2974	TMD	1	PASI-K
60165283043	WGK-BM-031914-SB-28-12	EPA 8260	RAB	9	PASI-K
		ASTM D2974	TMD	1	PASI-K
60165283044	WGK-BM-031914-SB-28-13.8	EPA 8260	RAB	9	PASI-K
		ASTM D2974	TMD	1	PASI-K
60165283045	WGK-BM-031914-SB-27-3	EPA 8260	RAB	9	PASI-K
		ASTM D2974	TMD	1	PASI-K
60165283046	WGK-BM-031914-SB-27-8	EPA 8260	RAB	9	PASI-K
		ASTM D2974	TMD	1	PASI-K
60165283047	WGK-BM-031914-SB-27-10	EPA 8260	RAB	9	PASI-K
		ASTM D2974	TMD	1	PASI-K
60165283048	WGK-BM-031914-SB-27-12	EPA 8260	RAB	9	PASI-K
		ASTM D2974	TMD	1	PASI-K
60165283049	WGK-BM-031914-SB-28-11.5-12	EPA 8260	RAB	9	PASI-K
		ASTM D2974	TMD	1	PASI-K
60165283050	WGK-BM-031914-SB-28-7.2-7.5	EPA 8260	RAB	9	PASI-K
		ASTM D2974	TMD	1	PASI-K
60165283051	WGK-BM-031914-SB-27-13.8	EPA 8260	RAB	9	PASI-K
		ASTM D2974	TMD	1	PASI-K
60165283052	WGK-BM-031914-SB-27-11-11.5	EPA 8260	RAB	9	PASI-K
		ASTM D2974	TMD	1	PASI-K
60165283053	WGK-BM-031914-SB-27-7.6-8	EPA 8260	RAB	9	PASI-K
		ASTM D2974	TMD	1	PASI-K
60165283054	WGK-BM-031914-SB-DUP-10	EPA 8260	RAB	9	PASI-K
		ASTM D2974	TMD	1	PASI-K
60165283055	WGK-BM-031914-TB-05	EPA 8260	JKL	9	PASI-K
60165283056	WGK-BM-031814-TB-03	EPA 8260	JKL	9	PASI-K

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: BIG MO 2014 SOIL SAMPLING

Pace Project No.: 60165283

Method: EPA 8260

Description: 8260 MSV 5035A VOA

Client: XDD_SOLUTION, LLC

Date: April 03, 2014

General Information:

56 samples were analyzed for EPA 8260. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

Surrogates:

All surrogates were within QC limits with any exceptions noted below.

QC Batch: MSV/60282

S0: Surrogate recovery outside laboratory control limits.

- WGK-BM-031814-SB-38-11.5-12 (Lab ID: 60165283016)
 - Toluene-d8 (S)
- WGK-BM-031914-SB-68-13-13.5 (Lab ID: 60165283027)
 - Toluene-d8 (S)
- WGK-BM-031914-SB-68-7.5 (Lab ID: 60165283023)
 - 4-Bromofluorobenzene (S)
- WGK-BM-031914-SB-68-DUP-08 (Lab ID: 60165283028)
 - Toluene-d8 (S)

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: MSV/60243

A matrix spike/matrix spike duplicate was not performed due to insufficient sample volume.

QC Batch: MSV/60282

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 60165283026

M1: Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

- MS (Lab ID: 1349309)

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: BIG MO 2014 SOIL SAMPLING

Pace Project No.: 60165283

Method: EPA 8260

Description: 8260 MSV 5035A VOA

Client: XDD_SOLUTIONIA, LLC

Date: April 03, 2014

QC Batch: MSV/60282

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 60165283026

M1: Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

- Benzene
- MSD (Lab ID: 1349310)
- Benzene

QC Batch: MSV/60505

A matrix spike/matrix spike duplicate was not performed due to insufficient sample volume.

Additional Comments:

Analyte Comments:

QC Batch: MSV/60282

1e: The internal standard response is below criteria. Results may be biased high. Insufficient sample remained for re-analysis.

- WGK-BM-031814-SB-38-10 (Lab ID: 60165283013)
 - Toluene-d8 (S)
- WGK-BM-031814-SB-38-11.5-12 (Lab ID: 60165283016)
 - Toluene-d8 (S)
- WGK-BM-031814-SB-38-12 (Lab ID: 60165283014)
 - Toluene-d8 (S)
- WGK-BM-031814-SB-38-13.7 (Lab ID: 60165283015)
 - Toluene-d8 (S)
- WGK-BM-031914-SB-63-12 (Lab ID: 60165283020)
 - Toluene-d8 (S)
- WGK-BM-031914-SB-68-10.5 (Lab ID: 60165283024)
 - Toluene-d8 (S)
- WGK-BM-031914-SB-68-12 (Lab ID: 60165283025)
 - Toluene-d8 (S)
- WGK-BM-031914-SB-68-13-13.5 (Lab ID: 60165283027)
 - Toluene-d8 (S)
- WGK-BM-031914-SB-68-7.5 (Lab ID: 60165283023)
 - Toluene-d8 (S)
- WGK-BM-031914-SB-68-DUP-08 (Lab ID: 60165283028)
 - Toluene-d8 (S)
- WGK-BM-031914-SB-80-10 (Lab ID: 60165283030)
 - Toluene-d8 (S)
- WGK-BM-031914-SB-80-7.5 (Lab ID: 60165283029)
 - Toluene-d8 (S)
- WGK-BM-031914-SB-DUP-07 (Lab ID: 60165283022)
 - Toluene-d8 (S)

This data package has been reviewed for quality and completeness and is approved for release.

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BIG MO 2014 SOIL SAMPLING

Pace Project No.: 60165283

Sample: **WGK-BM-031814-SB-64-3** Lab ID: **60165283001** Collected: 03/18/14 14:15 Received: 03/20/14 00:45 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA									
Analytical Method: EPA 8260									
Benzene	554000	ug/kg	27900	13900	5000		03/21/14 14:09	71-43-2	
Chlorobenzene	ND	ug/kg	27900	13900	5000		03/21/14 14:09	108-90-7	
1,4-Dichlorobenzene	ND	ug/kg	27900	13900	5000		03/21/14 14:09	106-46-7	
Ethylbenzene	ND	ug/kg	27900	13900	5000		03/21/14 14:09	100-41-4	
Toluene	ND	ug/kg	27900	13900	5000		03/21/14 14:09	108-88-3	
Xylene (Total)	ND	ug/kg	27900	13900	5000		03/21/14 14:09	1330-20-7	
Surrogates									
Toluene-d8 (S)	99 %		80-120		5000		03/21/14 14:09	2037-26-5	
4-Bromofluorobenzene (S)	97 %		76-123		5000		03/21/14 14:09	460-00-4	
1,2-Dichloroethane-d4 (S)	98 %		75-129		5000		03/21/14 14:09	17060-07-0	
Percent Moisture									
Analytical Method: ASTM D2974									
Percent Moisture	25.8	%	0.50	0.50	1		03/28/14 00:00		

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ANALYTICAL RESULTS

Project: BIG MO 2014 SOIL SAMPLING

Pace Project No.: 60165283

Sample: W GK-BM-031814-SB-64-3-3.4 **Lab ID:** 60165283002 Collected: 03/18/14 15:45 Received: 03/20/14 00:45 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA									
Analytical Method: EPA 8260									
Benzene	3020000	ug/kg	131000	65700	25000		03/26/14 19:28	71-43-2	
Chlorobenzene	ND	ug/kg	26300	13100	5000		03/21/14 14:24	108-90-7	
1,4-Dichlorobenzene	ND	ug/kg	26300	13100	5000		03/21/14 14:24	106-46-7	
Ethylbenzene	ND	ug/kg	26300	13100	5000		03/21/14 14:24	100-41-4	
Toluene	ND	ug/kg	26300	13100	5000		03/21/14 14:24	108-88-3	
Xylene (Total)	ND	ug/kg	26300	13100	5000		03/21/14 14:24	1330-20-7	
Surrogates									
Toluene-d8 (S)	100	%	80-120		5000		03/21/14 14:24	2037-26-5	
4-Bromofluorobenzene (S)	95	%	76-123		5000		03/21/14 14:24	460-00-4	
1,2-Dichloroethane-d4 (S)	101	%	75-129		5000		03/21/14 14:24	17060-07-0	
Percent Moisture									
Analytical Method: ASTM D2974									
Percent Moisture	22.4	%	0.50	0.50	1		03/28/14 00:00		

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ANALYTICAL RESULTS

Project: BIG MO 2014 SOIL SAMPLING

Pace Project No.: 60165283

Sample: **WGK-BM-031814-SB-64-8.2** Lab ID: **60165283003** Collected: 03/18/14 14:30 Received: 03/20/14 00:45 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA									
Analytical Method: EPA 8260									
Benzene	1150	ug/kg	813	407	250		03/26/14 20:46	71-43-2	
Chlorobenzene	ND	ug/kg	813	407	250		03/26/14 20:46	108-90-7	
1,4-Dichlorobenzene	ND	ug/kg	813	407	250		03/26/14 20:46	106-46-7	
Ethylbenzene	ND	ug/kg	813	407	250		03/26/14 20:46	100-41-4	
Toluene	ND	ug/kg	813	407	250		03/26/14 20:46	108-88-3	
Xylene (Total)	ND	ug/kg	813	407	250		03/26/14 20:46	1330-20-7	
Surrogates									
Toluene-d8 (S)	100	%	80-120		250		03/26/14 20:46	2037-26-5	
4-Bromofluorobenzene (S)	106	%	76-123		250		03/26/14 20:46	460-00-4	
1,2-Dichloroethane-d4 (S)	91	%	75-129		250		03/26/14 20:46	17060-07-0	
Percent Moisture									
Analytical Method: ASTM D2974									
Percent Moisture	6.7	%	0.50	0.50	1		03/28/14 00:00		

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ANALYTICAL RESULTS

Project: BIG MO 2014 SOIL SAMPLING

Pace Project No.: 60165283

Sample: **WGK-BM-031814-SB-64-10** Lab ID: **60165283004** Collected: 03/18/14 14:42 Received: 03/20/14 00:45 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA									
Analytical Method: EPA 8260									
Benzene	446	ug/kg	169	84.7	50		03/30/14 03:22	71-43-2	
Chlorobenzene	0.28J	ug/kg	0.45	0.22	1		03/26/14 17:24	108-90-7	
1,4-Dichlorobenzene	1.5	ug/kg	0.45	0.22	1		03/26/14 17:24	106-46-7	
Ethylbenzene	ND	ug/kg	0.45	0.22	1		03/26/14 17:24	100-41-4	
Toluene	ND	ug/kg	0.45	0.22	1		03/26/14 17:24	108-88-3	
Xylene (Total)	ND	ug/kg	0.45	0.22	1		03/26/14 17:24	1330-20-7	
Surrogates									
Toluene-d8 (S)	99	%	80-120		1		03/26/14 17:24	2037-26-5	
4-Bromofluorobenzene (S)	95	%	76-123		1		03/26/14 17:24	460-00-4	
1,2-Dichloroethane-d4 (S)	96	%	75-129		1		03/26/14 17:24	17060-07-0	
Percent Moisture									
Analytical Method: ASTM D2974									
Percent Moisture	5.0	%	0.50	0.50	1		03/28/14 00:00		

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ANALYTICAL RESULTS

Project: BIG MO 2014 SOIL SAMPLING

Pace Project No.: 60165283

Sample: **WGK-BM-031814-SB-64-12** Lab ID: **60165283005** Collected: 03/18/14 14:44 Received: 03/20/14 00:45 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA									
Analytical Method: EPA 8260									
Benzene	13.2	ug/kg	3.2	1.6	1		03/26/14 17:40	71-43-2	
Chlorobenzene	ND	ug/kg	3.2	1.6	1		03/26/14 17:40	108-90-7	
1,4-Dichlorobenzene	2.7J	ug/kg	3.2	1.6	1		03/26/14 17:40	106-46-7	
Ethylbenzene	ND	ug/kg	3.2	1.6	1		03/26/14 17:40	100-41-4	
Toluene	ND	ug/kg	3.2	1.6	1		03/26/14 17:40	108-88-3	
Xylene (Total)	ND	ug/kg	3.2	1.6	1		03/26/14 17:40	1330-20-7	
Surrogates									
Toluene-d8 (S)	97	%	80-120		1		03/26/14 17:40	2037-26-5	
4-Bromofluorobenzene (S)	94	%	76-123		1		03/26/14 17:40	460-00-4	
1,2-Dichloroethane-d4 (S)	93	%	75-129		1		03/26/14 17:40	17060-07-0	
Percent Moisture									
Analytical Method: ASTM D2974									
Percent Moisture	4.6	%	0.50	0.50	1		03/28/14 00:00		

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ANALYTICAL RESULTS

Project: BIG MO 2014 SOIL SAMPLING

Pace Project No.: 60165283

Sample: WGK-BM-031814-SB-64-13.5-13.8 **Lab ID:** 60165283006 Collected: 03/18/14 15:52 Received: 03/20/14 00:45 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA									
Analytical Method: EPA 8260									
Benzene	36700	ug/kg	726	363	250		03/26/14 12:09	71-43-2	
Chlorobenzene	ND	ug/kg	726	363	250		03/26/14 12:09	108-90-7	
1,4-Dichlorobenzene	ND	ug/kg	726	363	250		03/26/14 12:09	106-46-7	
Ethylbenzene	ND	ug/kg	726	363	250		03/26/14 12:09	100-41-4	
Toluene	ND	ug/kg	726	363	250		03/26/14 12:09	108-88-3	
Xylene (Total)	ND	ug/kg	726	363	250		03/26/14 12:09	1330-20-7	
Surrogates									
Toluene-d8 (S)	101	%	80-120		250		03/26/14 12:09	2037-26-5	
4-Bromofluorobenzene (S)	102	%	76-123		250		03/26/14 12:09	460-00-4	
1,2-Dichloroethane-d4 (S)	88	%	75-129		250		03/26/14 12:09	17060-07-0	
Percent Moisture									
Analytical Method: ASTM D2974									
Percent Moisture	7.6	%	0.50	0.50	1		03/28/14 00:00		

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ANALYTICAL RESULTS

Project: BIG MO 2014 SOIL SAMPLING

Pace Project No.: 60165283

Sample: WGK-BM-031814-SB-DUP-05 **Lab ID:** 60165283007 Collected: 03/18/14 14:00 Received: 03/20/14 00:45 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA									
Analytical Method: EPA 8260									
Benzene	446000	ug/kg	28100	14000	5000		03/21/14 15:41	71-43-2	
Chlorobenzene	ND	ug/kg	28100	14000	5000		03/21/14 15:41	108-90-7	
1,4-Dichlorobenzene	ND	ug/kg	28100	14000	5000		03/21/14 15:41	106-46-7	
Ethylbenzene	ND	ug/kg	28100	14000	5000		03/21/14 15:41	100-41-4	
Toluene	ND	ug/kg	28100	14000	5000		03/21/14 15:41	108-88-3	
Xylene (Total)	ND	ug/kg	28100	14000	5000		03/21/14 15:41	1330-20-7	
Surrogates									
Toluene-d8 (S)	100	%	80-120		5000		03/21/14 15:41	2037-26-5	
4-Bromofluorobenzene (S)	96	%	76-123		5000		03/21/14 15:41	460-00-4	
1,2-Dichloroethane-d4 (S)	98	%	75-129		5000		03/21/14 15:41	17060-07-0	
Percent Moisture									
Analytical Method: ASTM D2974									
Percent Moisture	16.5	%	0.50	0.50	1		03/28/14 00:00		

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ANALYTICAL RESULTS

Project: BIG MO 2014 SOIL SAMPLING

Pace Project No.: 60165283

Sample: W GK-BM-031814-SB-36-3 **Lab ID:** 60165283008 Collected: 03/18/14 15:30 Received: 03/20/14 00:45 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA									
Analytical Method: EPA 8260									
Benzene	620000	ug/kg	27200	13600	5000		03/21/14 15:56	71-43-2	
Chlorobenzene	ND	ug/kg	27200	13600	5000		03/21/14 15:56	108-90-7	
1,4-Dichlorobenzene	ND	ug/kg	27200	13600	5000		03/21/14 15:56	106-46-7	
Ethylbenzene	ND	ug/kg	27200	13600	5000		03/21/14 15:56	100-41-4	
Toluene	ND	ug/kg	27200	13600	5000		03/21/14 15:56	108-88-3	
Xylene (Total)	ND	ug/kg	27200	13600	5000		03/21/14 15:56	1330-20-7	
Surrogates									
Toluene-d8 (S)	100	%	80-120		5000		03/21/14 15:56	2037-26-5	
4-Bromofluorobenzene (S)	96	%	76-123		5000		03/21/14 15:56	460-00-4	
1,2-Dichloroethane-d4 (S)	99	%	75-129		5000		03/21/14 15:56	17060-07-0	
Percent Moisture									
Analytical Method: ASTM D2974									
Percent Moisture	18.4	%	0.50	0.50	1		03/28/14 00:00		

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ANALYTICAL RESULTS

Project: BIG MO 2014 SOIL SAMPLING

Pace Project No.: 60165283

Sample: **WGK-BM-031814-SB-36-10** Lab ID: **60165283009** Collected: 03/18/14 15:46 Received: 03/20/14 00:45 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA									
Analytical Method: EPA 8260									
Benzene	7660000	ug/kg	346000	173000	10000 0		03/26/14 19:44	71-43-2	
Chlorobenzene	ND	ug/kg	17300	8650	5000		03/21/14 16:12	108-90-7	
1,4-Dichlorobenzene	ND	ug/kg	17300	8650	5000		03/21/14 16:12	106-46-7	
Ethylbenzene	ND	ug/kg	17300	8650	5000		03/21/14 16:12	100-41-4	
Toluene	ND	ug/kg	17300	8650	5000		03/21/14 16:12	108-88-3	
Xylene (Total)	ND	ug/kg	17300	8650	5000		03/21/14 16:12	1330-20-7	
Surrogates									
Toluene-d8 (S)	101	%	80-120		5000		03/21/14 16:12	2037-26-5	
4-Bromofluorobenzene (S)	96	%	76-123		5000		03/21/14 16:12	460-00-4	
1,2-Dichloroethane-d4 (S)	103	%	75-129		5000		03/21/14 16:12	17060-07-0	
Percent Moisture									
Analytical Method: ASTM D2974									
Percent Moisture	5.8	%	0.50	0.50	1		03/28/14 00:00		

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ANALYTICAL RESULTS

Project: BIG MO 2014 SOIL SAMPLING

Pace Project No.: 60165283

Sample: **WGK-BM-031814-SB-36-14** Lab ID: **60165283010** Collected: 03/18/14 15:50 Received: 03/20/14 00:45 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA									
Analytical Method: EPA 8260									
Benzene	3420000	ug/kg	153000	76600	50000		03/26/14 19:59	71-43-2	
Chlorobenzene	ND	ug/kg	15300	7660	5000		03/21/14 16:27	108-90-7	
1,4-Dichlorobenzene	ND	ug/kg	15300	7660	5000		03/21/14 16:27	106-46-7	
Ethylbenzene	ND	ug/kg	15300	7660	5000		03/21/14 16:27	100-41-4	
Toluene	ND	ug/kg	15300	7660	5000		03/21/14 16:27	108-88-3	
Xylene (Total)	ND	ug/kg	15300	7660	5000		03/21/14 16:27	1330-20-7	
Surrogates									
Toluene-d8 (S)	101	%	80-120		5000		03/21/14 16:27	2037-26-5	
4-Bromofluorobenzene (S)	96	%	76-123		5000		03/21/14 16:27	460-00-4	
1,2-Dichloroethane-d4 (S)	102	%	75-129		5000		03/21/14 16:27	17060-07-0	
Percent Moisture									
Analytical Method: ASTM D2974									
Percent Moisture	3.2	%	0.50	0.50	1		03/28/14 00:00		

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ANALYTICAL RESULTS

Project: BIG MO 2014 SOIL SAMPLING

Pace Project No.: 60165283

Sample: WGK-BM-031814-SB-36-11.5-12 **Lab ID:** 60165283011 Collected: 03/18/14 16:45 Received: 03/20/14 00:45 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA									
Analytical Method: EPA 8260									
Benzene	2800000	ug/kg	89800	44900	25000		03/26/14 20:15	71-43-2	
Chlorobenzene	ND	ug/kg	18000	8980	5000		03/21/14 16:42	108-90-7	
1,4-Dichlorobenzene	ND	ug/kg	18000	8980	5000		03/21/14 16:42	106-46-7	
Ethylbenzene	ND	ug/kg	18000	8980	5000		03/21/14 16:42	100-41-4	
Toluene	ND	ug/kg	18000	8980	5000		03/21/14 16:42	108-88-3	
Xylene (Total)	ND	ug/kg	18000	8980	5000		03/21/14 16:42	1330-20-7	
Surrogates									
Toluene-d8 (S)	100	%	80-120		5000		03/21/14 16:42	2037-26-5	
4-Bromofluorobenzene (S)	97	%	76-123		5000		03/21/14 16:42	460-00-4	
1,2-Dichloroethane-d4 (S)	97	%	75-129		5000		03/21/14 16:42	17060-07-0	
Percent Moisture									
Analytical Method: ASTM D2974									
Percent Moisture	14.5	%	0.50	0.50	1		03/28/14 00:00		

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ANALYTICAL RESULTS

Project: BIG MO 2014 SOIL SAMPLING

Pace Project No.: 60165283

Sample: W GK-BM-031814-SB-DUP-06 **Lab ID:** 60165283012 **Collected:** 03/18/14 16:00 **Received:** 03/20/14 00:45 **Matrix:** Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA									
Analytical Method: EPA 8260									
Benzene	2440000	ug/kg	168000	84100	50000		03/26/14 20:30	71-43-2	
Chlorobenzene	ND	ug/kg	16800	8410	5000		03/21/14 21:18	108-90-7	
1,4-Dichlorobenzene	ND	ug/kg	16800	8410	5000		03/21/14 21:18	106-46-7	
Ethylbenzene	ND	ug/kg	16800	8410	5000		03/21/14 21:18	100-41-4	
Toluene	ND	ug/kg	16800	8410	5000		03/21/14 21:18	108-88-3	
Xylene (Total)	ND	ug/kg	16800	8410	5000		03/21/14 21:18	1330-20-7	
Surrogates									
Toluene-d8 (S)	101	%	80-120		5000		03/21/14 21:18	2037-26-5	
4-Bromofluorobenzene (S)	97	%	76-123		5000		03/21/14 21:18	460-00-4	
1,2-Dichloroethane-d4 (S)	100	%	75-129		5000		03/21/14 21:18	17060-07-0	
Percent Moisture									
Analytical Method: ASTM D2974									
Percent Moisture	12.4	%	0.50	0.50	1		03/28/14 00:00		

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ANALYTICAL RESULTS

Project: BIG MO 2014 SOIL SAMPLING

Pace Project No.: 60165283

Sample: **WGK-BM-031814-SB-38-10** Lab ID: **60165283013** Collected: 03/18/14 17:18 Received: 03/20/14 00:45 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA									
Analytical Method: EPA 8260									
Benzene	13.0	ug/kg	3.0	1.5	1		03/25/14 16:17	71-43-2	
Chlorobenzene	ND	ug/kg	3.0	1.5	1		03/25/14 16:17	108-90-7	
1,4-Dichlorobenzene	1.8J	ug/kg	3.0	1.5	1		03/25/14 16:17	106-46-7	
Ethylbenzene	ND	ug/kg	3.0	1.5	1		03/25/14 16:17	100-41-4	
Toluene	ND	ug/kg	3.0	1.5	1		03/25/14 16:17	108-88-3	
Xylene (Total)	ND	ug/kg	3.0	1.5	1		03/25/14 16:17	1330-20-7	
Surrogates									
Toluene-d8 (S)	91	%	80-120		1		03/25/14 16:17	2037-26-5	1e
4-Bromofluorobenzene (S)	93	%	76-123		1		03/25/14 16:17	460-00-4	
1,2-Dichloroethane-d4 (S)	110	%	75-129		1		03/25/14 16:17	17060-07-0	
Percent Moisture									
Analytical Method: ASTM D2974									
Percent Moisture	5.7	%	0.50	0.50	1		03/28/14 00:00		

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ANALYTICAL RESULTS

Project: BIG MO 2014 SOIL SAMPLING

Pace Project No.: 60165283

Sample: **WGK-BM-031814-SB-38-12** Lab ID: **60165283014** Collected: 03/18/14 17:20 Received: 03/20/14 00:45 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA									
Analytical Method: EPA 8260									
Benzene	60.1	ug/kg	2.8	1.4	1		03/25/14 16:32	71-43-2	
Chlorobenzene	ND	ug/kg	2.8	1.4	1		03/25/14 16:32	108-90-7	
1,4-Dichlorobenzene	15.1	ug/kg	2.8	1.4	1		03/25/14 16:32	106-46-7	
Ethylbenzene	ND	ug/kg	2.8	1.4	1		03/25/14 16:32	100-41-4	
Toluene	ND	ug/kg	2.8	1.4	1		03/25/14 16:32	108-88-3	
Xylene (Total)	ND	ug/kg	2.8	1.4	1		03/25/14 16:32	1330-20-7	
Surrogates									
Toluene-d8 (S)	85	%	80-120		1		03/25/14 16:32	2037-26-5	1e
4-Bromofluorobenzene (S)	86	%	76-123		1		03/25/14 16:32	460-00-4	
1,2-Dichloroethane-d4 (S)	81	%	75-129		1		03/25/14 16:32	17060-07-0	
Percent Moisture									
Analytical Method: ASTM D2974									
Percent Moisture	6.0	%	0.50	0.50	1		03/28/14 00:00		

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ANALYTICAL RESULTS

Project: BIG MO 2014 SOIL SAMPLING

Pace Project No.: 60165283

Sample: W GK-BM-031814-SB-38-13.7 **Lab ID:** 60165283015 **Collected:** 03/18/14 17:22 **Received:** 03/20/14 00:45 **Matrix:** Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA									
Analytical Method: EPA 8260									
Benzene	33.7	ug/kg	3.2	1.6	1		03/25/14 16:47	71-43-2	
Chlorobenzene	ND	ug/kg	3.2	1.6	1		03/25/14 16:47	108-90-7	
1,4-Dichlorobenzene	8.3	ug/kg	3.2	1.6	1		03/25/14 16:47	106-46-7	
Ethylbenzene	ND	ug/kg	3.2	1.6	1		03/25/14 16:47	100-41-4	
Toluene	ND	ug/kg	3.2	1.6	1		03/25/14 16:47	108-88-3	
Xylene (Total)	ND	ug/kg	3.2	1.6	1		03/25/14 16:47	1330-20-7	
Surrogates									
Toluene-d8 (S)	87	%	80-120		1		03/25/14 16:47	2037-26-5	1e
4-Bromofluorobenzene (S)	87	%	76-123		1		03/25/14 16:47	460-00-4	
1,2-Dichloroethane-d4 (S)	100	%	75-129		1		03/25/14 16:47	17060-07-0	
Percent Moisture									
Analytical Method: ASTM D2974									
Percent Moisture	8.8	%	0.50	0.50	1		03/28/14 00:00		

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ANALYTICAL RESULTS

Project: BIG MO 2014 SOIL SAMPLING

Pace Project No.: 60165283

Sample: W GK-BM-031814-SB-38-11.5-12 **Lab ID:** 60165283016 **Collected:** 03/18/14 17:45 **Received:** 03/20/14 00:45 **Matrix:** Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA									
Analytical Method: EPA 8260									
Benzene	54.0	ug/kg	3.7	1.8	1		03/25/14 17:03	71-43-2	
Chlorobenzene	18.6	ug/kg	3.7	1.8	1		03/25/14 17:03	108-90-7	
1,4-Dichlorobenzene	87.5	ug/kg	3.7	1.8	1		03/25/14 17:03	106-46-7	
Ethylbenzene	ND	ug/kg	3.7	1.8	1		03/25/14 17:03	100-41-4	
Toluene	ND	ug/kg	3.7	1.8	1		03/25/14 17:03	108-88-3	
Xylene (Total)	ND	ug/kg	3.7	1.8	1		03/25/14 17:03	1330-20-7	
Surrogates									
Toluene-d8 (S)	76	%	80-120		1		03/25/14 17:03	2037-26-5	1e,S0
4-Bromofluorobenzene (S)	90	%	76-123		1		03/25/14 17:03	460-00-4	
1,2-Dichloroethane-d4 (S)	103	%	75-129		1		03/25/14 17:03	17060-07-0	
Percent Moisture									
Analytical Method: ASTM D2974									
Percent Moisture	7.4	%	0.50	0.50	1		03/28/14 00:00		

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ANALYTICAL RESULTS

Project: BIG MO 2014 SOIL SAMPLING

Pace Project No.: 60165283

Sample: **WGK-BM-031914-TB-04** Lab ID: **60165283017** Collected: 03/19/14 00:00 Received: 03/20/14 00:45 Matrix: Solid

Results reported on a "wet-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA									
Analytical Method: EPA 8260									
Benzene	ND	ug/kg	5.0	2.5	1		03/22/14 00:53	71-43-2	
Chlorobenzene	ND	ug/kg	5.0	2.5	1		03/22/14 00:53	108-90-7	
1,4-Dichlorobenzene	ND	ug/kg	5.0	2.5	1		03/22/14 00:53	106-46-7	
Ethylbenzene	ND	ug/kg	5.0	2.5	1		03/22/14 00:53	100-41-4	
Toluene	ND	ug/kg	5.0	2.5	1		03/22/14 00:53	108-88-3	
Xylene (Total)	ND	ug/kg	5.0	2.5	1		03/22/14 00:53	1330-20-7	
Surrogates									
Toluene-d8 (S)	101	%	80-120		1		03/22/14 00:53	2037-26-5	
4-Bromofluorobenzene (S)	97	%	76-123		1		03/22/14 00:53	460-00-4	
1,2-Dichloroethane-d4 (S)	100	%	75-129		1		03/22/14 00:53	17060-07-0	

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ANALYTICAL RESULTS

Project: BIG MO 2014 SOIL SAMPLING

Pace Project No.: 60165283

Sample: W GK-BM-031914-SB-63-8 **Lab ID:** 60165283018 Collected: 03/19/14 08:38 Received: 03/20/14 00:45 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA									
Analytical Method: EPA 8260									
Benzene	2.7J	ug/kg	3.3	1.6	1		03/26/14 17:21	71-43-2	
Chlorobenzene	ND	ug/kg	3.3	1.6	1		03/26/14 17:21	108-90-7	
1,4-Dichlorobenzene	ND	ug/kg	3.3	1.6	1		03/26/14 17:21	106-46-7	
Ethylbenzene	ND	ug/kg	3.3	1.6	1		03/26/14 17:21	100-41-4	
Toluene	ND	ug/kg	3.3	1.6	1		03/26/14 17:21	108-88-3	
Xylene (Total)	ND	ug/kg	3.3	1.6	1		03/26/14 17:21	1330-20-7	
Surrogates									
Toluene-d8 (S)	96	%	80-120		1		03/26/14 17:21	2037-26-5	
4-Bromofluorobenzene (S)	95	%	76-123		1		03/26/14 17:21	460-00-4	
1,2-Dichloroethane-d4 (S)	103	%	75-129		1		03/26/14 17:21	17060-07-0	
Percent Moisture									
Analytical Method: ASTM D2974									
Percent Moisture	3.3	%	0.50	0.50	1		03/28/14 00:00		

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ANALYTICAL RESULTS

Project: BIG MO 2014 SOIL SAMPLING

Pace Project No.: 60165283

Sample: W GK-BM-031914-SB-63-10 **Lab ID:** 60165283019 Collected: 03/19/14 08:47 Received: 03/20/14 00:45 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA									
Analytical Method: EPA 8260									
Benzene	563	ug/kg	153	76.6	50		03/25/14 17:33	71-43-2	
Chlorobenzene	ND	ug/kg	153	76.6	50		03/25/14 17:33	108-90-7	
1,4-Dichlorobenzene	ND	ug/kg	153	76.6	50		03/25/14 17:33	106-46-7	
Ethylbenzene	ND	ug/kg	153	76.6	50		03/25/14 17:33	100-41-4	
Toluene	ND	ug/kg	153	76.6	50		03/25/14 17:33	108-88-3	
Xylene (Total)	ND	ug/kg	153	76.6	50		03/25/14 17:33	1330-20-7	
Surrogates									
Toluene-d8 (S)	100	%	80-120		50		03/25/14 17:33	2037-26-5	
4-Bromofluorobenzene (S)	97	%	76-123		50		03/25/14 17:33	460-00-4	
1,2-Dichloroethane-d4 (S)	97	%	75-129		50		03/25/14 17:33	17060-07-0	
Percent Moisture									
Analytical Method: ASTM D2974									
Percent Moisture	3.4	%	0.50	0.50	1		03/28/14 00:00		

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ANALYTICAL RESULTS

Project: BIG MO 2014 SOIL SAMPLING

Pace Project No.: 60165283

Sample: **WGK-BM-031914-SB-63-12** Lab ID: **60165283020** Collected: 03/19/14 08:54 Received: 03/20/14 00:45 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA									
Analytical Method: EPA 8260									
Benzene	20.4	ug/kg	3.1	1.6	1		03/25/14 17:48	71-43-2	
Chlorobenzene	ND	ug/kg	3.1	1.6	1		03/25/14 17:48	108-90-7	
1,4-Dichlorobenzene	1.6J	ug/kg	3.1	1.6	1		03/25/14 17:48	106-46-7	
Ethylbenzene	ND	ug/kg	3.1	1.6	1		03/25/14 17:48	100-41-4	
Toluene	ND	ug/kg	3.1	1.6	1		03/25/14 17:48	108-88-3	
Xylene (Total)	ND	ug/kg	3.1	1.6	1		03/25/14 17:48	1330-20-7	
Surrogates									
Toluene-d8 (S)	97	%	80-120		1		03/25/14 17:48	2037-26-5	1e
4-Bromofluorobenzene (S)	96	%	76-123		1		03/25/14 17:48	460-00-4	
1,2-Dichloroethane-d4 (S)	108	%	75-129		1		03/25/14 17:48	17060-07-0	
Percent Moisture									
Analytical Method: ASTM D2974									
Percent Moisture	3.6	%	0.50	0.50	1		03/28/14 00:00		

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ANALYTICAL RESULTS

Project: BIG MO 2014 SOIL SAMPLING

Pace Project No.: 60165283

Sample: **WGK-BM-031914-SB-63-14** Lab ID: **60165283021** Collected: 03/19/14 08:58 Received: 03/20/14 00:45 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA									
Analytical Method: EPA 8260									
Benzene	4.8	ug/kg	3.0	1.5	1		03/25/14 18:04	71-43-2	
Chlorobenzene	4.4	ug/kg	3.0	1.5	1		03/25/14 18:04	108-90-7	
1,4-Dichlorobenzene	4.0	ug/kg	3.0	1.5	1		03/25/14 18:04	106-46-7	
Ethylbenzene	ND	ug/kg	3.0	1.5	1		03/25/14 18:04	100-41-4	
Toluene	ND	ug/kg	3.0	1.5	1		03/25/14 18:04	108-88-3	
Xylene (Total)	ND	ug/kg	3.0	1.5	1		03/25/14 18:04	1330-20-7	
Surrogates									
Toluene-d8 (S)	93	%	80-120		1		03/25/14 18:04	2037-26-5	
4-Bromofluorobenzene (S)	94	%	76-123		1		03/25/14 18:04	460-00-4	
1,2-Dichloroethane-d4 (S)	98	%	75-129		1		03/25/14 18:04	17060-07-0	
Percent Moisture									
Analytical Method: ASTM D2974									
Percent Moisture	8.2	%	0.50	0.50	1		03/28/14 00:00		

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ANALYTICAL RESULTS

Project: BIG MO 2014 SOIL SAMPLING

Pace Project No.: 60165283

Sample: WGK-BM-031914-SB-DUP-07 **Lab ID:** 60165283022 **Collected:** 03/19/14 08:00 **Received:** 03/20/14 00:45 **Matrix:** Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA									
Analytical Method: EPA 8260									
Benzene	20.8	ug/kg	3.1	1.6	1		03/25/14 18:19	71-43-2	
Chlorobenzene	ND	ug/kg	3.1	1.6	1		03/25/14 18:19	108-90-7	
1,4-Dichlorobenzene	ND	ug/kg	3.1	1.6	1		03/25/14 18:19	106-46-7	
Ethylbenzene	ND	ug/kg	3.1	1.6	1		03/25/14 18:19	100-41-4	
Toluene	ND	ug/kg	3.1	1.6	1		03/25/14 18:19	108-88-3	
Xylene (Total)	ND	ug/kg	3.1	1.6	1		03/25/14 18:19	1330-20-7	
Surrogates									
Toluene-d8 (S)	95	%	80-120		1		03/25/14 18:19	2037-26-5	1e
4-Bromofluorobenzene (S)	96	%	76-123		1		03/25/14 18:19	460-00-4	
1,2-Dichloroethane-d4 (S)	100	%	75-129		1		03/25/14 18:19	17060-07-0	
Percent Moisture									
Analytical Method: ASTM D2974									
Percent Moisture	2.7	%	0.50	0.50	1		03/28/14 00:00		

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ANALYTICAL RESULTS

Project: BIG MO 2014 SOIL SAMPLING

Pace Project No.: 60165283

Sample: **WGK-BM-031914-SB-68-7.5** Lab ID: **60165283023** Collected: 03/19/14 09:28 Received: 03/20/14 00:45 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA									
Analytical Method: EPA 8260									
Benzene	5.6	ug/kg	3.2	1.6	1		03/25/14 18:35	71-43-2	
Chlorobenzene	ND	ug/kg	3.2	1.6	1		03/25/14 18:35	108-90-7	
1,4-Dichlorobenzene	ND	ug/kg	3.2	1.6	1		03/25/14 18:35	106-46-7	
Ethylbenzene	ND	ug/kg	3.2	1.6	1		03/25/14 18:35	100-41-4	
Toluene	ND	ug/kg	3.2	1.6	1		03/25/14 18:35	108-88-3	
Xylene (Total)	ND	ug/kg	3.2	1.6	1		03/25/14 18:35	1330-20-7	
Surrogates									
Toluene-d8 (S)	82	%	80-120		1		03/25/14 18:35	2037-26-5	1e
4-Bromofluorobenzene (S)	47	%	76-123		1		03/25/14 18:35	460-00-4	S0
1,2-Dichloroethane-d4 (S)	108	%	75-129		1		03/25/14 18:35	17060-07-0	
Percent Moisture									
Analytical Method: ASTM D2974									
Percent Moisture	3.2	%	0.50	0.50	1		03/28/14 00:00		

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ANALYTICAL RESULTS

Project: BIG MO 2014 SOIL SAMPLING

Pace Project No.: 60165283

Sample: W GK-BM-031914-SB-68-10.5 **Lab ID:** 60165283024 Collected: 03/19/14 09:40 Received: 03/20/14 00:45 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA									
Analytical Method: EPA 8260									
Benzene	22.1	ug/kg	3.3	1.6	1		03/25/14 18:50	71-43-2	
Chlorobenzene	1.9J	ug/kg	3.3	1.6	1		03/25/14 18:50	108-90-7	
1,4-Dichlorobenzene	3.7	ug/kg	3.3	1.6	1		03/25/14 18:50	106-46-7	
Ethylbenzene	ND	ug/kg	3.3	1.6	1		03/25/14 18:50	100-41-4	
Toluene	ND	ug/kg	3.3	1.6	1		03/25/14 18:50	108-88-3	
Xylene (Total)	ND	ug/kg	3.3	1.6	1		03/25/14 18:50	1330-20-7	
Surrogates									
Toluene-d8 (S)	84	%	80-120		1		03/25/14 18:50	2037-26-5	1e
4-Bromofluorobenzene (S)	88	%	76-123		1		03/25/14 18:50	460-00-4	
1,2-Dichloroethane-d4 (S)	96	%	75-129		1		03/25/14 18:50	17060-07-0	
Percent Moisture									
Analytical Method: ASTM D2974									
Percent Moisture	14.5	%	0.50	0.50	1		03/28/14 00:00		

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ANALYTICAL RESULTS

Project: BIG MO 2014 SOIL SAMPLING

Pace Project No.: 60165283

Sample: **WGK-BM-031914-SB-68-12** Lab ID: **60165283025** Collected: 03/19/14 09:42 Received: 03/20/14 00:45 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA									
Analytical Method: EPA 8260									
Benzene	ND	ug/kg	3.0	1.5	1		03/25/14 19:05	71-43-2	
Chlorobenzene	ND	ug/kg	3.0	1.5	1		03/25/14 19:05	108-90-7	
1,4-Dichlorobenzene	37.0	ug/kg	3.0	1.5	1		03/25/14 19:05	106-46-7	
Ethylbenzene	ND	ug/kg	3.0	1.5	1		03/25/14 19:05	100-41-4	
Toluene	ND	ug/kg	3.0	1.5	1		03/25/14 19:05	108-88-3	
Xylene (Total)	ND	ug/kg	3.0	1.5	1		03/25/14 19:05	1330-20-7	
Surrogates									
Toluene-d8 (S)	92	%	80-120		1		03/25/14 19:05	2037-26-5	1e
4-Bromofluorobenzene (S)	96	%	76-123		1		03/25/14 19:05	460-00-4	
1,2-Dichloroethane-d4 (S)	93	%	75-129		1		03/25/14 19:05	17060-07-0	
Percent Moisture									
Analytical Method: ASTM D2974									
Percent Moisture	2.1	%	0.50	0.50	1		03/28/14 00:00		

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ANALYTICAL RESULTS

Project: BIG MO 2014 SOIL SAMPLING

Pace Project No.: 60165283

Sample: W GK-BM-031914-SB-68-13.9 **Lab ID:** 60165283026 Collected: 03/19/14 09:44 Received: 03/20/14 00:45 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA									
Analytical Method: EPA 8260									
Benzene	5550	ug/kg	155	77.7	50		03/25/14 19:20	71-43-2	M1
Chlorobenzene	835	ug/kg	155	77.7	50		03/25/14 19:20	108-90-7	
1,4-Dichlorobenzene	140J	ug/kg	155	77.7	50		03/25/14 19:20	106-46-7	
Ethylbenzene	ND	ug/kg	155	77.7	50		03/25/14 19:20	100-41-4	
Toluene	ND	ug/kg	155	77.7	50		03/25/14 19:20	108-88-3	
Xylene (Total)	ND	ug/kg	155	77.7	50		03/25/14 19:20	1330-20-7	
Surrogates									
Toluene-d8 (S)	99	%	80-120		50		03/25/14 19:20	2037-26-5	
4-Bromofluorobenzene (S)	98	%	76-123		50		03/25/14 19:20	460-00-4	
1,2-Dichloroethane-d4 (S)	99	%	75-129		50		03/25/14 19:20	17060-07-0	
Percent Moisture									
Analytical Method: ASTM D2974									
Percent Moisture	3.4	%	0.50	0.50	1		03/28/14 00:00		

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ANALYTICAL RESULTS

Project: BIG MO 2014 SOIL SAMPLING

Pace Project No.: 60165283

Sample: W GK-BM-031914-SB-68-13-13.5 **Lab ID:** 60165283027 **Collected:** 03/19/14 10:08 **Received:** 03/20/14 00:45 **Matrix:** Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA									
Analytical Method: EPA 8260									
Benzene	125	ug/kg	3.3	1.6	1		03/25/14 20:07	71-43-2	
Chlorobenzene	183	ug/kg	3.3	1.6	1		03/25/14 20:07	108-90-7	
1,4-Dichlorobenzene	162	ug/kg	3.3	1.6	1		03/25/14 20:07	106-46-7	
Ethylbenzene	18.7	ug/kg	3.3	1.6	1		03/25/14 20:07	100-41-4	
Toluene	3.5	ug/kg	3.3	1.6	1		03/25/14 20:07	108-88-3	
Xylene (Total)	15.2	ug/kg	3.3	1.6	1		03/25/14 20:07	1330-20-7	
Surrogates									
Toluene-d8 (S)	78	%	80-120		1		03/25/14 20:07	2037-26-5	1e,S0
4-Bromofluorobenzene (S)	103	%	76-123		1		03/25/14 20:07	460-00-4	
1,2-Dichloroethane-d4 (S)	75	%	75-129		1		03/25/14 20:07	17060-07-0	
Percent Moisture									
Analytical Method: ASTM D2974									
Percent Moisture	5.6	%	0.50	0.50	1		03/28/14 00:00		

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ANALYTICAL RESULTS

Project: BIG MO 2014 SOIL SAMPLING

Pace Project No.: 60165283

Sample: WGK-BM-031914-SB-68-
DUP-08 **Lab ID:** 60165283028 **Collected:** 03/19/14 10:13 **Received:** 03/20/14 00:45 **Matrix:** Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA									
Analytical Method: EPA 8260									
Benzene	1930	ug/kg	170	84.8	50		03/26/14 17:36	71-43-2	
Chlorobenzene	292	ug/kg	170	84.8	50		03/26/14 17:36	108-90-7	
1,4-Dichlorobenzene	338	ug/kg	170	84.8	50		03/26/14 17:36	106-46-7	
Ethylbenzene	ND	ug/kg	3.2	1.6	1		03/25/14 20:22	100-41-4	
Toluene	ND	ug/kg	3.2	1.6	1		03/25/14 20:22	108-88-3	
Xylene (Total)	4.0	ug/kg	3.2	1.6	1		03/25/14 20:22	1330-20-7	
Surrogates									
Toluene-d8 (S)	77	%	80-120		1		03/25/14 20:22	2037-26-5	1e,S0
4-Bromofluorobenzene (S)	89	%	76-123		1		03/25/14 20:22	460-00-4	
1,2-Dichloroethane-d4 (S)	104	%	75-129		1		03/25/14 20:22	17060-07-0	
Percent Moisture									
Analytical Method: ASTM D2974									
Percent Moisture	5.3	%	0.50	0.50	1		03/28/14 00:00		

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ANALYTICAL RESULTS

Project: BIG MO 2014 SOIL SAMPLING

Pace Project No.: 60165283

Sample: **WGK-BM-031914-SB-80-7.5** Lab ID: **60165283029** Collected: 03/19/14 10:45 Received: 03/20/14 00:45 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA									
Analytical Method: EPA 8260									
Benzene	2.2J	ug/kg	3.8	1.9	1		03/25/14 20:37	71-43-2	
Chlorobenzene	2.5J	ug/kg	3.8	1.9	1		03/25/14 20:37	108-90-7	
1,4-Dichlorobenzene	ND	ug/kg	3.8	1.9	1		03/25/14 20:37	106-46-7	
Ethylbenzene	ND	ug/kg	3.8	1.9	1		03/25/14 20:37	100-41-4	
Toluene	ND	ug/kg	3.8	1.9	1		03/25/14 20:37	108-88-3	
Xylene (Total)	ND	ug/kg	3.8	1.9	1		03/25/14 20:37	1330-20-7	
Surrogates									
Toluene-d8 (S)	95	%	80-120		1		03/25/14 20:37	2037-26-5	1e
4-Bromofluorobenzene (S)	89	%	76-123		1		03/25/14 20:37	460-00-4	
1,2-Dichloroethane-d4 (S)	96	%	75-129		1		03/25/14 20:37	17060-07-0	
Percent Moisture									
Analytical Method: ASTM D2974									
Percent Moisture	6.2	%	0.50	0.50	1		03/28/14 00:00		

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ANALYTICAL RESULTS

Project: BIG MO 2014 SOIL SAMPLING

Pace Project No.: 60165283

Sample: **WGK-BM-031914-SB-80-10** Lab ID: **60165283030** Collected: 03/19/14 10:54 Received: 03/20/14 00:45 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA									
Analytical Method: EPA 8260									
Benzene	ND	ug/kg	3.3	1.6	1		03/25/14 20:53	71-43-2	
Chlorobenzene	4.4	ug/kg	3.3	1.6	1		03/25/14 20:53	108-90-7	
1,4-Dichlorobenzene	ND	ug/kg	3.3	1.6	1		03/25/14 20:53	106-46-7	
Ethylbenzene	ND	ug/kg	3.3	1.6	1		03/25/14 20:53	100-41-4	
Toluene	ND	ug/kg	3.3	1.6	1		03/25/14 20:53	108-88-3	
Xylene (Total)	ND	ug/kg	3.3	1.6	1		03/25/14 20:53	1330-20-7	
Surrogates									
Toluene-d8 (S)	96	%	80-120		1		03/25/14 20:53	2037-26-5	1e
4-Bromofluorobenzene (S)	89	%	76-123		1		03/25/14 20:53	460-00-4	
1,2-Dichloroethane-d4 (S)	89	%	75-129		1		03/25/14 20:53	17060-07-0	
Percent Moisture									
Analytical Method: ASTM D2974									
Percent Moisture	5.5	%	0.50	0.50	1		03/28/14 00:00		

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ANALYTICAL RESULTS

Project: BIG MO 2014 SOIL SAMPLING

Pace Project No.: 60165283

Sample: **WGK-BM-031914-SB-80-12** Lab ID: **60165283031** Collected: 03/19/14 10:56 Received: 03/20/14 00:45 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA									
Analytical Method: EPA 8260									
Benzene	ND	ug/kg	160	80.2	50		03/27/14 20:58	71-43-2	
Chlorobenzene	1260	ug/kg	160	80.2	50		03/27/14 20:58	108-90-7	
1,4-Dichlorobenzene	ND	ug/kg	160	80.2	50		03/27/14 20:58	106-46-7	
Ethylbenzene	ND	ug/kg	160	80.2	50		03/27/14 20:58	100-41-4	
Toluene	ND	ug/kg	160	80.2	50		03/27/14 20:58	108-88-3	
Xylene (Total)	ND	ug/kg	160	80.2	50		03/27/14 20:58	1330-20-7	
Surrogates									
Toluene-d8 (S)	100	%	80-120		50		03/27/14 20:58	2037-26-5	
4-Bromofluorobenzene (S)	101	%	76-123		50		03/27/14 20:58	460-00-4	
1,2-Dichloroethane-d4 (S)	98	%	75-129		50		03/27/14 20:58	17060-07-0	
Percent Moisture									
Analytical Method: ASTM D2974									
Percent Moisture	3.4	%	0.50	0.50	1		03/28/14 00:00		

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ANALYTICAL RESULTS

Project: BIG MO 2014 SOIL SAMPLING

Pace Project No.: 60165283

Sample: **WGK-BM-031914-SB-80-14** Lab ID: **60165283032** Collected: 03/19/14 10:58 Received: 03/20/14 00:45 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA									
Analytical Method: EPA 8260									
Benzene	ND	ug/kg	3.1	1.6	1		03/28/14 10:05	71-43-2	
Chlorobenzene	ND	ug/kg	3.1	1.6	1		03/28/14 10:05	108-90-7	
1,4-Dichlorobenzene	ND	ug/kg	3.1	1.6	1		03/28/14 10:05	106-46-7	
Ethylbenzene	ND	ug/kg	3.1	1.6	1		03/28/14 10:05	100-41-4	
Toluene	ND	ug/kg	3.1	1.6	1		03/28/14 10:05	108-88-3	
Xylene (Total)	ND	ug/kg	3.1	1.6	1		03/28/14 10:05	1330-20-7	
Surrogates									
Toluene-d8 (S)	101	%	80-120		1		03/28/14 10:05	2037-26-5	
4-Bromofluorobenzene (S)	98	%	76-123		1		03/28/14 10:05	460-00-4	
1,2-Dichloroethane-d4 (S)	98	%	75-129		1		03/28/14 10:05	17060-07-0	
Percent Moisture									
Analytical Method: ASTM D2974									
Percent Moisture	10.7	%	0.50	0.50	1		03/28/14 00:00		

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ANALYTICAL RESULTS

Project: BIG MO 2014 SOIL SAMPLING

Pace Project No.: 60165283

Sample: **WGK-BM-031914-SB-79-7.5** Lab ID: **60165283033** Collected: 03/19/14 12:06 Received: 03/20/14 00:45 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA									
Analytical Method: EPA 8260									
Benzene	ND	ug/kg	3.0	1.5	1		03/28/14 10:21	71-43-2	
Chlorobenzene	ND	ug/kg	3.0	1.5	1		03/28/14 10:21	108-90-7	
1,4-Dichlorobenzene	ND	ug/kg	3.0	1.5	1		03/28/14 10:21	106-46-7	
Ethylbenzene	ND	ug/kg	3.0	1.5	1		03/28/14 10:21	100-41-4	
Toluene	ND	ug/kg	3.0	1.5	1		03/28/14 10:21	108-88-3	
Xylene (Total)	ND	ug/kg	3.0	1.5	1		03/28/14 10:21	1330-20-7	
Surrogates									
Toluene-d8 (S)	102	%	80-120		1		03/28/14 10:21	2037-26-5	
4-Bromofluorobenzene (S)	101	%	76-123		1		03/28/14 10:21	460-00-4	
1,2-Dichloroethane-d4 (S)	102	%	75-129		1		03/28/14 10:21	17060-07-0	
Percent Moisture									
Analytical Method: ASTM D2974									
Percent Moisture	5.7	%	0.50	0.50	1		03/28/14 00:00		

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ANALYTICAL RESULTS

Project: BIG MO 2014 SOIL SAMPLING

Pace Project No.: 60165283

Sample: **WGK-BM-031914-SB-79-10** Lab ID: **60165283034** Collected: 03/19/14 12:10 Received: 03/20/14 00:45 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA									
Analytical Method: EPA 8260									
Benzene	2.0J	ug/kg	3.2	1.6	1		03/28/14 10:36	71-43-2	
Chlorobenzene	ND	ug/kg	3.2	1.6	1		03/28/14 10:36	108-90-7	
1,4-Dichlorobenzene	ND	ug/kg	3.2	1.6	1		03/28/14 10:36	106-46-7	
Ethylbenzene	ND	ug/kg	3.2	1.6	1		03/28/14 10:36	100-41-4	
Toluene	ND	ug/kg	3.2	1.6	1		03/28/14 10:36	108-88-3	
Xylene (Total)	ND	ug/kg	3.2	1.6	1		03/28/14 10:36	1330-20-7	
Surrogates									
Toluene-d8 (S)	101	%	80-120		1		03/28/14 10:36	2037-26-5	
4-Bromofluorobenzene (S)	99	%	76-123		1		03/28/14 10:36	460-00-4	
1,2-Dichloroethane-d4 (S)	100	%	75-129		1		03/28/14 10:36	17060-07-0	
Percent Moisture									
Analytical Method: ASTM D2974									
Percent Moisture	3.9	%	0.50	0.50	1		03/28/14 00:00		

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ANALYTICAL RESULTS

Project: BIG MO 2014 SOIL SAMPLING

Pace Project No.: 60165283

Sample: **WGK-BM-031914-SB-79-12** Lab ID: **60165283035** Collected: 03/19/14 12:12 Received: 03/20/14 00:45 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA									
Analytical Method: EPA 8260									
Benzene	ND	ug/kg	3.1	1.5	1		03/28/14 10:52	71-43-2	
Chlorobenzene	ND	ug/kg	3.1	1.5	1		03/28/14 10:52	108-90-7	
1,4-Dichlorobenzene	ND	ug/kg	3.1	1.5	1		03/28/14 10:52	106-46-7	
Ethylbenzene	ND	ug/kg	3.1	1.5	1		03/28/14 10:52	100-41-4	
Toluene	ND	ug/kg	3.1	1.5	1		03/28/14 10:52	108-88-3	
Xylene (Total)	ND	ug/kg	3.1	1.5	1		03/28/14 10:52	1330-20-7	
Surrogates									
Toluene-d8 (S)	101	%	80-120		1		03/28/14 10:52	2037-26-5	
4-Bromofluorobenzene (S)	100	%	76-123		1		03/28/14 10:52	460-00-4	
1,2-Dichloroethane-d4 (S)	103	%	75-129		1		03/28/14 10:52	17060-07-0	
Percent Moisture									
Analytical Method: ASTM D2974									
Percent Moisture	3.9	%	0.50	0.50	1		03/28/14 00:00		

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ANALYTICAL RESULTS

Project: BIG MO 2014 SOIL SAMPLING

Pace Project No.: 60165283

Sample: WGK-BM-031914-SB-79-13.8 **Lab ID:** 60165283036 Collected: 03/19/14 12:14 Received: 03/20/14 00:45 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA									
Analytical Method: EPA 8260									
Benzene	ND	ug/kg	2.9	1.4	1		03/28/14 11:07	71-43-2	
Chlorobenzene	ND	ug/kg	2.9	1.4	1		03/28/14 11:07	108-90-7	
1,4-Dichlorobenzene	ND	ug/kg	2.9	1.4	1		03/28/14 11:07	106-46-7	
Ethylbenzene	ND	ug/kg	2.9	1.4	1		03/28/14 11:07	100-41-4	
Toluene	ND	ug/kg	2.9	1.4	1		03/28/14 11:07	108-88-3	
Xylene (Total)	ND	ug/kg	2.9	1.4	1		03/28/14 11:07	1330-20-7	
Surrogates									
Toluene-d8 (S)	102	%	80-120		1		03/28/14 11:07	2037-26-5	
4-Bromofluorobenzene (S)	101	%	76-123		1		03/28/14 11:07	460-00-4	
1,2-Dichloroethane-d4 (S)	104	%	75-129		1		03/28/14 11:07	17060-07-0	
Percent Moisture									
Analytical Method: ASTM D2974									
Percent Moisture	4.0	%	0.50	0.50	1		03/28/14 00:00		

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ANALYTICAL RESULTS

Project: BIG MO 2014 SOIL SAMPLING

Pace Project No.: 60165283

Sample: **WGK-BM-031914-SB-83-10** Lab ID: **60165283037** Collected: 03/19/14 12:50 Received: 03/20/14 00:45 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA									
Analytical Method: EPA 8260									
Benzene	4.7	ug/kg	3.2	1.6	1		03/28/14 11:23	71-43-2	
Chlorobenzene	ND	ug/kg	3.2	1.6	1		03/28/14 11:23	108-90-7	
1,4-Dichlorobenzene	ND	ug/kg	3.2	1.6	1		03/28/14 11:23	106-46-7	
Ethylbenzene	ND	ug/kg	3.2	1.6	1		03/28/14 11:23	100-41-4	
Toluene	ND	ug/kg	3.2	1.6	1		03/28/14 11:23	108-88-3	
Xylene (Total)	ND	ug/kg	3.2	1.6	1		03/28/14 11:23	1330-20-7	
Surrogates									
Toluene-d8 (S)	102	%	80-120		1		03/28/14 11:23	2037-26-5	
4-Bromofluorobenzene (S)	100	%	76-123		1		03/28/14 11:23	460-00-4	
1,2-Dichloroethane-d4 (S)	101	%	75-129		1		03/28/14 11:23	17060-07-0	
Percent Moisture									
Analytical Method: ASTM D2974									
Percent Moisture	4.4	%	0.50	0.50	1		03/28/14 00:00		

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ANALYTICAL RESULTS

Project: BIG MO 2014 SOIL SAMPLING

Pace Project No.: 60165283

Sample: **WGK-BM-031914-SB-83-12** Lab ID: **60165283038** Collected: 03/19/14 12:52 Received: 03/20/14 00:45 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA									
Analytical Method: EPA 8260									
Benzene	ND	ug/kg	3.3	1.6	1		03/28/14 11:38	71-43-2	
Chlorobenzene	ND	ug/kg	3.3	1.6	1		03/28/14 11:38	108-90-7	
1,4-Dichlorobenzene	ND	ug/kg	3.3	1.6	1		03/28/14 11:38	106-46-7	
Ethylbenzene	ND	ug/kg	3.3	1.6	1		03/28/14 11:38	100-41-4	
Toluene	ND	ug/kg	3.3	1.6	1		03/28/14 11:38	108-88-3	
Xylene (Total)	ND	ug/kg	3.3	1.6	1		03/28/14 11:38	1330-20-7	
Surrogates									
Toluene-d8 (S)	102	%	80-120		1		03/28/14 11:38	2037-26-5	
4-Bromofluorobenzene (S)	102	%	76-123		1		03/28/14 11:38	460-00-4	
1,2-Dichloroethane-d4 (S)	104	%	75-129		1		03/28/14 11:38	17060-07-0	
Percent Moisture									
Analytical Method: ASTM D2974									
Percent Moisture	5.1	%	0.50	0.50	1		03/28/14 00:00		

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ANALYTICAL RESULTS

Project: BIG MO 2014 SOIL SAMPLING

Pace Project No.: 60165283

Sample: **WGK-BM-031914-SB-83-14** Lab ID: **60165283039** Collected: 03/19/14 12:54 Received: 03/20/14 00:45 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA									
Analytical Method: EPA 8260									
Benzene	ND	ug/kg	3.3	1.6	1		03/28/14 11:54	71-43-2	
Chlorobenzene	ND	ug/kg	3.3	1.6	1		03/28/14 11:54	108-90-7	
1,4-Dichlorobenzene	ND	ug/kg	3.3	1.6	1		03/28/14 11:54	106-46-7	
Ethylbenzene	ND	ug/kg	3.3	1.6	1		03/28/14 11:54	100-41-4	
Toluene	ND	ug/kg	3.3	1.6	1		03/28/14 11:54	108-88-3	
Xylene (Total)	ND	ug/kg	3.3	1.6	1		03/28/14 11:54	1330-20-7	
Surrogates									
Toluene-d8 (S)	101	%	80-120		1		03/28/14 11:54	2037-26-5	
4-Bromofluorobenzene (S)	101	%	76-123		1		03/28/14 11:54	460-00-4	
1,2-Dichloroethane-d4 (S)	105	%	75-129		1		03/28/14 11:54	17060-07-0	
Percent Moisture									
Analytical Method: ASTM D2974									
Percent Moisture	4.9	%	0.50	0.50	1		03/28/14 00:00		

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ANALYTICAL RESULTS

Project: BIG MO 2014 SOIL SAMPLING

Pace Project No.: 60165283

Sample: WGK-BM-031914-SB-DUP-09 **Lab ID:** 60165283040 **Collected:** 03/19/14 12:30 **Received:** 03/20/14 00:45 **Matrix:** Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA									
Analytical Method: EPA 8260									
Benzene	4.3	ug/kg	3.6	1.8	1		03/31/14 13:55	71-43-2	
Chlorobenzene	ND	ug/kg	3.6	1.8	1		03/31/14 13:55	108-90-7	
1,4-Dichlorobenzene	ND	ug/kg	3.6	1.8	1		03/31/14 13:55	106-46-7	
Ethylbenzene	ND	ug/kg	3.6	1.8	1		03/31/14 13:55	100-41-4	
Toluene	ND	ug/kg	3.6	1.8	1		03/31/14 13:55	108-88-3	
Xylene (Total)	ND	ug/kg	3.6	1.8	1		03/31/14 13:55	1330-20-7	
Surrogates									
Toluene-d8 (S)	105	%	80-120		1		03/31/14 13:55	2037-26-5	
4-Bromofluorobenzene (S)	101	%	76-123		1		03/31/14 13:55	460-00-4	
1,2-Dichloroethane-d4 (S)	101	%	75-129		1		03/31/14 13:55	17060-07-0	
Percent Moisture									
Analytical Method: ASTM D2974									
Percent Moisture	4.3	%	0.50	0.50	1		03/28/14 00:00		

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ANALYTICAL RESULTS

Project: BIG MO 2014 SOIL SAMPLING

Pace Project No.: 60165283

Sample: **WGK-BM-031914-SB-28-7.5** Lab ID: **60165283041** Collected: 03/19/14 14:30 Received: 03/20/14 00:45 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA									
Analytical Method: EPA 8260									
Benzene	2510	ug/kg	163	81.6	50		03/27/14 23:33	71-43-2	
Chlorobenzene	104000	ug/kg	3260	1630	1000		03/30/14 04:39	108-90-7	
1,4-Dichlorobenzene	135J	ug/kg	163	81.6	50		03/27/14 23:33	106-46-7	
Ethylbenzene	ND	ug/kg	163	81.6	50		03/27/14 23:33	100-41-4	
Toluene	206	ug/kg	163	81.6	50		03/27/14 23:33	108-88-3	
Xylene (Total)	ND	ug/kg	163	81.6	50		03/27/14 23:33	1330-20-7	
Surrogates									
Toluene-d8 (S)	101	%	80-120		50		03/27/14 23:33	2037-26-5	
4-Bromofluorobenzene (S)	104	%	76-123		50		03/27/14 23:33	460-00-4	
1,2-Dichloroethane-d4 (S)	99	%	75-129		50		03/27/14 23:33	17060-07-0	
Percent Moisture									
Analytical Method: ASTM D2974									
Percent Moisture	7.5	%	0.50	0.50	1		03/28/14 00:00		

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ANALYTICAL RESULTS

Project: BIG MO 2014 SOIL SAMPLING

Pace Project No.: 60165283

Sample: WGK-BM-031914-SB-28-10 **Lab ID:** 60165283042 Collected: 03/19/14 14:38 Received: 03/20/14 00:45 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA									
Analytical Method: EPA 8260									
Benzene	ND	ug/kg	179	89.7	50		03/27/14 23:48	71-43-2	
Chlorobenzene	14300	ug/kg	359	179	100		03/28/14 12:25	108-90-7	
1,4-Dichlorobenzene	ND	ug/kg	179	89.7	50		03/27/14 23:48	106-46-7	
Ethylbenzene	ND	ug/kg	179	89.7	50		03/27/14 23:48	100-41-4	
Toluene	ND	ug/kg	179	89.7	50		03/27/14 23:48	108-88-3	
Xylene (Total)	ND	ug/kg	179	89.7	50		03/27/14 23:48	1330-20-7	
Surrogates									
Toluene-d8 (S)	100	%	80-120		50		03/27/14 23:48	2037-26-5	
4-Bromofluorobenzene (S)	101	%	76-123		50		03/27/14 23:48	460-00-4	
1,2-Dichloroethane-d4 (S)	98	%	75-129		50		03/27/14 23:48	17060-07-0	
Percent Moisture									
Analytical Method: ASTM D2974									
Percent Moisture	3.9	%	0.50	0.50	1		04/01/14 00:00		

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ANALYTICAL RESULTS

Project: BIG MO 2014 SOIL SAMPLING

Pace Project No.: 60165283

Sample: **WGK-BM-031914-SB-28-12** Lab ID: **60165283043** Collected: 03/19/14 14:40 Received: 03/20/14 00:45 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA									
Analytical Method: EPA 8260									
Benzene	157J	ug/kg	172	85.8	50		03/28/14 00:04	71-43-2	
Chlorobenzene	15400	ug/kg	343	172	100		03/28/14 12:40	108-90-7	
1,4-Dichlorobenzene	ND	ug/kg	172	85.8	50		03/28/14 00:04	106-46-7	
Ethylbenzene	ND	ug/kg	172	85.8	50		03/28/14 00:04	100-41-4	
Toluene	ND	ug/kg	172	85.8	50		03/28/14 00:04	108-88-3	
Xylene (Total)	ND	ug/kg	172	85.8	50		03/28/14 00:04	1330-20-7	
Surrogates									
Toluene-d8 (S)	102	%	80-120		50		03/28/14 00:04	2037-26-5	
4-Bromofluorobenzene (S)	102	%	76-123		50		03/28/14 00:04	460-00-4	
1,2-Dichloroethane-d4 (S)	99	%	75-129		50		03/28/14 00:04	17060-07-0	
Percent Moisture									
Analytical Method: ASTM D2974									
Percent Moisture	5.0	%	0.50	0.50	1		04/01/14 00:00		

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ANALYTICAL RESULTS

Project: BIG MO 2014 SOIL SAMPLING

Pace Project No.: 60165283

Sample: W GK-BM-031914-SB-28-13.8 **Lab ID:** 60165283044 Collected: 03/19/14 14:42 Received: 03/20/14 00:45 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA									
Analytical Method: EPA 8260									
Benzene	1360	ug/kg	150	75.1	50		03/28/14 00:19	71-43-2	
Chlorobenzene	83500	ug/kg	1500	751	500		03/28/14 12:56	108-90-7	
1,4-Dichlorobenzene	123J	ug/kg	150	75.1	50		03/28/14 00:19	106-46-7	
Ethylbenzene	ND	ug/kg	150	75.1	50		03/28/14 00:19	100-41-4	
Toluene	ND	ug/kg	150	75.1	50		03/28/14 00:19	108-88-3	
Xylene (Total)	ND	ug/kg	150	75.1	50		03/28/14 00:19	1330-20-7	
Surrogates									
Toluene-d8 (S)	101	%	80-120		50		03/28/14 00:19	2037-26-5	
4-Bromofluorobenzene (S)	106	%	76-123		50		03/28/14 00:19	460-00-4	
1,2-Dichloroethane-d4 (S)	98	%	75-129		50		03/28/14 00:19	17060-07-0	
Percent Moisture									
Analytical Method: ASTM D2974									
Percent Moisture	6.4	%	0.50	0.50	1		04/01/14 00:00		

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ANALYTICAL RESULTS

Project: BIG MO 2014 SOIL SAMPLING

Pace Project No.: 60165283

Sample: W GK-BM-031914-SB-27-3 **Lab ID:** 60165283045 Collected: 03/19/14 15:12 Received: 03/20/14 00:45 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA									
Analytical Method: EPA 8260									
Benzene	201	ug/kg	183	91.4	50		03/28/14 13:11	71-43-2	
Chlorobenzene	1120	ug/kg	183	91.4	50		03/28/14 13:11	108-90-7	
1,4-Dichlorobenzene	ND	ug/kg	183	91.4	50		03/28/14 13:11	106-46-7	
Ethylbenzene	ND	ug/kg	183	91.4	50		03/28/14 13:11	100-41-4	
Toluene	ND	ug/kg	183	91.4	50		03/28/14 13:11	108-88-3	
Xylene (Total)	ND	ug/kg	183	91.4	50		03/28/14 13:11	1330-20-7	
Surrogates									
Toluene-d8 (S)	101	%	80-120		50		03/28/14 13:11	2037-26-5	
4-Bromofluorobenzene (S)	101	%	76-123		50		03/28/14 13:11	460-00-4	
1,2-Dichloroethane-d4 (S)	95	%	75-129		50		03/28/14 13:11	17060-07-0	
Percent Moisture									
Analytical Method: ASTM D2974									
Percent Moisture	2.4	%	0.50	0.50	1		04/01/14 00:00		

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ANALYTICAL RESULTS

Project: BIG MO 2014 SOIL SAMPLING

Pace Project No.: 60165283

Sample: **WGK-BM-031914-SB-27-8** Lab ID: **60165283046** Collected: 03/19/14 15:16 Received: 03/20/14 00:45 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA									
Analytical Method: EPA 8260									
Benzene	9180	ug/kg	183	91.4	50		03/28/14 00:50	71-43-2	
Chlorobenzene	3660	ug/kg	183	91.4	50		03/28/14 00:50	108-90-7	
1,4-Dichlorobenzene	ND	ug/kg	183	91.4	50		03/28/14 00:50	106-46-7	
Ethylbenzene	ND	ug/kg	183	91.4	50		03/28/14 00:50	100-41-4	
Toluene	93.2J	ug/kg	183	91.4	50		03/28/14 00:50	108-88-3	
Xylene (Total)	ND	ug/kg	183	91.4	50		03/28/14 00:50	1330-20-7	
Surrogates									
Toluene-d8 (S)	101	%	80-120		50		03/28/14 00:50	2037-26-5	
4-Bromofluorobenzene (S)	100	%	76-123		50		03/28/14 00:50	460-00-4	
1,2-Dichloroethane-d4 (S)	100	%	75-129		50		03/28/14 00:50	17060-07-0	
Percent Moisture									
Analytical Method: ASTM D2974									
Percent Moisture	5.1	%	0.50	0.50	1		04/01/14 00:00		

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ANALYTICAL RESULTS

Project: BIG MO 2014 SOIL SAMPLING

Pace Project No.: 60165283

Sample: **WGK-BM-031914-SB-27-10** Lab ID: **60165283047** Collected: 03/19/14 15:20 Received: 03/20/14 00:45 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA									
Analytical Method: EPA 8260									
Benzene	357	ug/kg	172	86.1	50		03/28/14 01:06	71-43-2	
Chlorobenzene	2300	ug/kg	172	86.1	50		03/28/14 01:06	108-90-7	
1,4-Dichlorobenzene	ND	ug/kg	172	86.1	50		03/28/14 01:06	106-46-7	
Ethylbenzene	ND	ug/kg	172	86.1	50		03/28/14 01:06	100-41-4	
Toluene	ND	ug/kg	172	86.1	50		03/28/14 01:06	108-88-3	
Xylene (Total)	ND	ug/kg	172	86.1	50		03/28/14 01:06	1330-20-7	
Surrogates									
Toluene-d8 (S)	101	%	80-120		50		03/28/14 01:06	2037-26-5	
4-Bromofluorobenzene (S)	103	%	76-123		50		03/28/14 01:06	460-00-4	
1,2-Dichloroethane-d4 (S)	98	%	75-129		50		03/28/14 01:06	17060-07-0	
Percent Moisture									
Analytical Method: ASTM D2974									
Percent Moisture	4.4	%	0.50	0.50	1		04/01/14 00:00		

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ANALYTICAL RESULTS

Project: BIG MO 2014 SOIL SAMPLING

Pace Project No.: 60165283

Sample: **WGK-BM-031914-SB-27-12** Lab ID: **60165283048** Collected: 03/19/14 15:22 Received: 03/20/14 00:45 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA									
Analytical Method: EPA 8260									
Benzene	128J	ug/kg	178	88.9	50		03/28/14 01:21	71-43-2	
Chlorobenzene	862	ug/kg	178	88.9	50		03/28/14 01:21	108-90-7	
1,4-Dichlorobenzene	ND	ug/kg	178	88.9	50		03/28/14 01:21	106-46-7	
Ethylbenzene	ND	ug/kg	178	88.9	50		03/28/14 01:21	100-41-4	
Toluene	ND	ug/kg	178	88.9	50		03/28/14 01:21	108-88-3	
Xylene (Total)	ND	ug/kg	178	88.9	50		03/28/14 01:21	1330-20-7	
Surrogates									
Toluene-d8 (S)	100	%	80-120		50		03/28/14 01:21	2037-26-5	
4-Bromofluorobenzene (S)	98	%	76-123		50		03/28/14 01:21	460-00-4	
1,2-Dichloroethane-d4 (S)	98	%	75-129		50		03/28/14 01:21	17060-07-0	
Percent Moisture									
Analytical Method: ASTM D2974									
Percent Moisture	13.3	%	0.50	0.50	1		04/01/14 00:00		

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ANALYTICAL RESULTS

Project: BIG MO 2014 SOIL SAMPLING

Pace Project No.: 60165283

Sample: WGK-BM-031914-SB-28-11.5-12 **Lab ID:** 60165283049 **Collected:** 03/19/14 15:54 **Received:** 03/20/14 00:45 **Matrix:** Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA									
Analytical Method: EPA 8260									
Benzene	ND	ug/kg	172	86.2	50		03/28/14 01:37	71-43-2	
Chlorobenzene	6090	ug/kg	172	86.2	50		03/28/14 01:37	108-90-7	
1,4-Dichlorobenzene	ND	ug/kg	172	86.2	50		03/28/14 01:37	106-46-7	
Ethylbenzene	ND	ug/kg	172	86.2	50		03/28/14 01:37	100-41-4	
Toluene	ND	ug/kg	172	86.2	50		03/28/14 01:37	108-88-3	
Xylene (Total)	ND	ug/kg	172	86.2	50		03/28/14 01:37	1330-20-7	
Surrogates									
Toluene-d8 (S)	100	%	80-120		50		03/28/14 01:37	2037-26-5	
4-Bromofluorobenzene (S)	102	%	76-123		50		03/28/14 01:37	460-00-4	
1,2-Dichloroethane-d4 (S)	97	%	75-129		50		03/28/14 01:37	17060-07-0	
Percent Moisture									
Analytical Method: ASTM D2974									
Percent Moisture	4.0	%	0.50	0.50	1		04/01/14 00:00		

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ANALYTICAL RESULTS

Project: BIG MO 2014 SOIL SAMPLING

Pace Project No.: 60165283

Sample: W GK-BM-031914-SB-28-7.2-7.5 **Lab ID:** 60165283050 Collected: 03/19/14 15:56 Received: 03/20/14 00:45 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA									
Analytical Method: EPA 8260									
Benzene	1260	ug/kg	160	80.2	50		03/28/14 01:52	71-43-2	
Chlorobenzene	144000	ug/kg	6420	3210	2000		03/30/14 04:55	108-90-7	
1,4-Dichlorobenzene	241	ug/kg	160	80.2	50		03/28/14 01:52	106-46-7	
Ethylbenzene	ND	ug/kg	160	80.2	50		03/28/14 01:52	100-41-4	
Toluene	192	ug/kg	160	80.2	50		03/28/14 01:52	108-88-3	
Xylene (Total)	ND	ug/kg	160	80.2	50		03/28/14 01:52	1330-20-7	
Surrogates									
Toluene-d8 (S)	102	%	80-120		50		03/28/14 01:52	2037-26-5	
4-Bromofluorobenzene (S)	106	%	76-123		50		03/28/14 01:52	460-00-4	
1,2-Dichloroethane-d4 (S)	97	%	75-129		50		03/28/14 01:52	17060-07-0	
Percent Moisture									
Analytical Method: ASTM D2974									
Percent Moisture	9.9	%	0.50	0.50	1		04/01/14 00:00		

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ANALYTICAL RESULTS

Project: BIG MO 2014 SOIL SAMPLING

Pace Project No.: 60165283

Sample: WGK-BM-031914-SB-27-13.8 **Lab ID:** 60165283051 Collected: 03/19/14 15:54 Received: 03/20/14 00:45 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA									
Analytical Method: EPA 8260									
Benzene	ND	ug/kg	181	90.3	50		03/29/14 05:40	71-43-2	
Chlorobenzene	ND	ug/kg	181	90.3	50		03/29/14 05:40	108-90-7	
1,4-Dichlorobenzene	ND	ug/kg	181	90.3	50		03/29/14 05:40	106-46-7	
Ethylbenzene	ND	ug/kg	181	90.3	50		03/29/14 05:40	100-41-4	
Toluene	ND	ug/kg	181	90.3	50		03/29/14 05:40	108-88-3	
Xylene (Total)	ND	ug/kg	181	90.3	50		03/29/14 05:40	1330-20-7	
Surrogates									
Toluene-d8 (S)	104	%	80-120		50		03/29/14 05:40	2037-26-5	
4-Bromofluorobenzene (S)	100	%	76-123		50		03/29/14 05:40	460-00-4	
1,2-Dichloroethane-d4 (S)	99	%	75-129		50		03/29/14 05:40	17060-07-0	
Percent Moisture									
Analytical Method: ASTM D2974									
Percent Moisture	6.3	%	0.50	0.50	1		04/01/14 00:00		

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ANALYTICAL RESULTS

Project: BIG MO 2014 SOIL SAMPLING

Pace Project No.: 60165283

Sample: W GK-BM-031914-SB-27-11-11.5 **Lab ID:** 60165283052 **Collected:** 03/19/14 16:16 **Received:** 03/20/14 00:45 **Matrix:** Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA									
Analytical Method: EPA 8260									
Benzene	878	ug/kg	175	87.5	50		03/28/14 14:44	71-43-2	
Chlorobenzene	559	ug/kg	175	87.5	50		03/28/14 14:44	108-90-7	
1,4-Dichlorobenzene	ND	ug/kg	175	87.5	50		03/28/14 14:44	106-46-7	
Ethylbenzene	ND	ug/kg	175	87.5	50		03/28/14 14:44	100-41-4	
Toluene	ND	ug/kg	175	87.5	50		03/28/14 14:44	108-88-3	
Xylene (Total)	ND	ug/kg	175	87.5	50		03/28/14 14:44	1330-20-7	
Surrogates									
Toluene-d8 (S)	102	%	80-120		50		03/28/14 14:44	2037-26-5	
4-Bromofluorobenzene (S)	102	%	76-123		50		03/28/14 14:44	460-00-4	
1,2-Dichloroethane-d4 (S)	100	%	75-129		50		03/28/14 14:44	17060-07-0	
Percent Moisture									
Analytical Method: ASTM D2974									
Percent Moisture	4.4	%	0.50	0.50	1		04/01/14 00:00		

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ANALYTICAL RESULTS

Project: BIG MO 2014 SOIL SAMPLING

Pace Project No.: 60165283

Sample: W GK-BM-031914-SB-27-7.6-8 **Lab ID:** 60165283053 **Collected:** 03/19/14 16:12 **Received:** 03/20/14 00:45 **Matrix:** Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA									
Analytical Method: EPA 8260									
Benzene	175000	ug/kg	7440	3720	2000		03/30/14 05:41	71-43-2	
Chlorobenzene	102000	ug/kg	7440	3720	2000		03/30/14 05:41	108-90-7	
1,4-Dichlorobenzene	ND	ug/kg	7440	3720	2000		03/30/14 05:41	106-46-7	
Ethylbenzene	ND	ug/kg	7440	3720	2000		03/30/14 05:41	100-41-4	
Toluene	ND	ug/kg	7440	3720	2000		03/30/14 05:41	108-88-3	
Xylene (Total)	ND	ug/kg	7440	3720	2000		03/30/14 05:41	1330-20-7	
Surrogates									
Toluene-d8 (S)	105	%	80-120		2000		03/30/14 05:41	2037-26-5	
4-Bromofluorobenzene (S)	102	%	76-123		2000		03/30/14 05:41	460-00-4	
1,2-Dichloroethane-d4 (S)	101	%	75-129		2000		03/30/14 05:41	17060-07-0	
Percent Moisture									
Analytical Method: ASTM D2974									
Percent Moisture	5.1	%	0.50	0.50	1		04/01/14 00:00		

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ANALYTICAL RESULTS

Project: BIG MO 2014 SOIL SAMPLING

Pace Project No.: 60165283

Sample: WGK-BM-031914-SB-DUP-10 **Lab ID:** 60165283054 **Collected:** 03/19/14 16:00 **Received:** 03/20/14 00:45 **Matrix:** Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA									
Analytical Method: EPA 8260									
Benzene	68900	ug/kg	1880	940	500		03/28/14 17:03	71-43-2	
Chlorobenzene	49600	ug/kg	1880	940	500		03/28/14 17:03	108-90-7	
1,4-Dichlorobenzene	ND	ug/kg	188	94.0	50		03/28/14 03:41	106-46-7	
Ethylbenzene	ND	ug/kg	188	94.0	50		03/28/14 03:41	100-41-4	
Toluene	831	ug/kg	188	94.0	50		03/28/14 03:41	108-88-3	
Xylene (Total)	ND	ug/kg	188	94.0	50		03/28/14 03:41	1330-20-7	
Surrogates									
Toluene-d8 (S)	101	%	80-120		50		03/28/14 03:41	2037-26-5	
4-Bromofluorobenzene (S)	101	%	76-123		50		03/28/14 03:41	460-00-4	
1,2-Dichloroethane-d4 (S)	97	%	75-129		50		03/28/14 03:41	17060-07-0	
Percent Moisture									
Analytical Method: ASTM D2974									
Percent Moisture	5.2	%	0.50	0.50	1		04/01/14 00:00		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BIG MO 2014 SOIL SAMPLING

Pace Project No.: 60165283

Sample: **WGK-BM-031914-TB-05** Lab ID: **60165283055** Collected: 03/19/14 00:00 Received: 03/20/14 00:45 Matrix: Solid

Results reported on a "wet-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA									
Analytical Method: EPA 8260									
Benzene	ND	ug/kg	5.0	2.5	1		03/25/14 21:08	71-43-2	
Chlorobenzene	ND	ug/kg	5.0	2.5	1		03/25/14 21:08	108-90-7	
1,4-Dichlorobenzene	ND	ug/kg	5.0	2.5	1		03/25/14 21:08	106-46-7	
Ethylbenzene	ND	ug/kg	5.0	2.5	1		03/25/14 21:08	100-41-4	
Toluene	ND	ug/kg	5.0	2.5	1		03/25/14 21:08	108-88-3	
Xylene (Total)	ND	ug/kg	5.0	2.5	1		03/25/14 21:08	1330-20-7	
Surrogates									
Toluene-d8 (S)	101	%	80-120		1		03/25/14 21:08	2037-26-5	
4-Bromofluorobenzene (S)	95	%	76-123		1		03/25/14 21:08	460-00-4	
1,2-Dichloroethane-d4 (S)	98	%	75-129		1		03/25/14 21:08	17060-07-0	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BIG MO 2014 SOIL SAMPLING

Pace Project No.: 60165283

Sample: WGK-BM-031814-TB-03 **Lab ID: 60165283056** Collected: 03/18/14 00:00 Received: 03/20/14 00:45 Matrix: Solid

Results reported on a "wet-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA									
Analytical Method: EPA 8260									
Benzene	ND	ug/kg	5.0	2.5	1		03/22/14 00:23	71-43-2	
Chlorobenzene	ND	ug/kg	5.0	2.5	1		03/22/14 00:23	108-90-7	
1,4-Dichlorobenzene	ND	ug/kg	5.0	2.5	1		03/22/14 00:23	106-46-7	
Ethylbenzene	ND	ug/kg	5.0	2.5	1		03/22/14 00:23	100-41-4	
Toluene	ND	ug/kg	5.0	2.5	1		03/22/14 00:23	108-88-3	
Xylene (Total)	ND	ug/kg	5.0	2.5	1		03/22/14 00:23	1330-20-7	
Surrogates									
Toluene-d8 (S)	99 %		80-120		1		03/22/14 00:23	2037-26-5	
4-Bromofluorobenzene (S)	96 %		76-123		1		03/22/14 00:23	460-00-4	
1,2-Dichloroethane-d4 (S)	99 %		75-129		1		03/22/14 00:23	17060-07-0	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BIG MO 2014 SOIL SAMPLING

Pace Project No.: 60165283

QC Batch:	MSV/60224	Analysis Method:	EPA 8260
QC Batch Method:	EPA 8260	Analysis Description:	8260 MSV 5035A Volatile Organics
Associated Lab Samples:	60165283001, 60165283002, 60165283007, 60165283008, 60165283009, 60165283010, 60165283011		

METHOD BLANK: 1347971

Matrix: Solid

Associated Lab Samples: 60165283001, 60165283002, 60165283007, 60165283008, 60165283009, 60165283010, 60165283011

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,4-Dichlorobenzene	ug/kg	ND	5.0	03/21/14 11:04	
Benzene	ug/kg	ND	5.0	03/21/14 11:04	
Chlorobenzene	ug/kg	ND	5.0	03/21/14 11:04	
Ethylbenzene	ug/kg	ND	5.0	03/21/14 11:04	
Toluene	ug/kg	ND	5.0	03/21/14 11:04	
Xylene (Total)	ug/kg	ND	5.0	03/21/14 11:04	
1,2-Dichloroethane-d4 (S)	%	94	75-129	03/21/14 11:04	
4-Bromofluorobenzene (S)	%	95	76-123	03/21/14 11:04	
Toluene-d8 (S)	%	100	80-120	03/21/14 11:04	

LABORATORY CONTROL SAMPLE: 1347972

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,4-Dichlorobenzene	ug/kg	100	98.0	98	80-120	
Benzene	ug/kg	100	103	103	80-120	
Chlorobenzene	ug/kg	100	100	100	80-120	
Ethylbenzene	ug/kg	100	105	105	80-120	
Toluene	ug/kg	100	102	102	79-120	
Xylene (Total)	ug/kg	300	313	104	79-120	
1,2-Dichloroethane-d4 (S)	%			98	75-129	
4-Bromofluorobenzene (S)	%			102	76-123	
Toluene-d8 (S)	%			99	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1347973 1347974

Parameter	Units	60165127052 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1,4-Dichlorobenzene	ug/kg	198	2990	2990	2930	2890	91	90	10-144	1	48	
Benzene	ug/kg	3290	2990	2990	6100	5920	94	88	22-144	3	38	
Chlorobenzene	ug/kg	83.6J	2990	2990	2830	2820	92	91	10-145	0	46	
Ethylbenzene	ug/kg	ND	2990	2990	2740	2730	91	91	10-154	0	42	
Toluene	ug/kg	ND	2990	2990	2630	2560	88	85	11-150	3	40	
Xylene (Total)	ug/kg	ND	8990	8990	8310	8190	93	91	10-154	2	41	
1,2-Dichloroethane-d4 (S)	%						94	92	75-129			
4-Bromofluorobenzene (S)	%						99	99	76-123			
Toluene-d8 (S)	%						98	99	80-120			

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QUALITY CONTROL DATA

Project: BIG MO 2014 SOIL SAMPLING

Pace Project No.: 60165283

QC Batch:	MSV/60242	Analysis Method:	EPA 8260
QC Batch Method:	EPA 8260	Analysis Description:	8260 MSV 5035A Volatile Organics
Associated Lab Samples:	60165283012		

METHOD BLANK: 1348334 Matrix: Solid

Associated Lab Samples: 60165283012

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,4-Dichlorobenzene	ug/kg	ND	5.0	03/21/14 17:43	
Chlorobenzene	ug/kg	ND	5.0	03/21/14 17:43	
Ethylbenzene	ug/kg	ND	5.0	03/21/14 17:43	
Toluene	ug/kg	ND	5.0	03/21/14 17:43	
Xylene (Total)	ug/kg	ND	5.0	03/21/14 17:43	
1,2-Dichloroethane-d4 (S)	%	99	75-129	03/21/14 17:43	
4-Bromofluorobenzene (S)	%	96	76-123	03/21/14 17:43	
Toluene-d8 (S)	%	99	80-120	03/21/14 17:43	

LABORATORY CONTROL SAMPLE: 1348335

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,4-Dichlorobenzene	ug/kg	100	103	103	80-120	
Chlorobenzene	ug/kg	100	106	106	80-120	
Ethylbenzene	ug/kg	100	109	109	80-120	
Toluene	ug/kg	100	103	103	79-120	
Xylene (Total)	ug/kg	300	316	105	79-120	
1,2-Dichloroethane-d4 (S)	%			98	75-129	
4-Bromofluorobenzene (S)	%			98	76-123	
Toluene-d8 (S)	%			98	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1349467 1349468

Parameter	Units	60165127007 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1,4-Dichlorobenzene	ug/kg	252	3290	3290	3850	3790	109	107	10-144	2	48	
Chlorobenzene	ug/kg	96.9J	3290	3290	3820	3770	113	111	10-145	1	46	
Ethylbenzene	ug/kg	ND	3290	3290	3650	3630	110	109	10-154	1	42	
Toluene	ug/kg	ND	3290	3290	3410	3310	103	101	11-150	3	40	
Xylene (Total)	ug/kg	ND	9890	9890	10800	10700	110	108	10-154	2	41	
1,2-Dichloroethane-d4 (S)	%						103	102	75-129			
4-Bromofluorobenzene (S)	%						105	104	76-123			
Toluene-d8 (S)	%						99	98	80-120			

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QUALITY CONTROL DATA

Project: BIG MO 2014 SOIL SAMPLING

Pace Project No.: 60165283

QC Batch: MSV/60243

Analysis Method: EPA 8260

QC Batch Method: EPA 8260

Analysis Description: 8260 MSV 5035A Volatile Organics

Associated Lab Samples: 60165283017, 60165283056

METHOD BLANK: 1348338

Matrix: Solid

Associated Lab Samples: 60165283017, 60165283056

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,4-Dichlorobenzene	ug/kg	ND	5.0	03/21/14 22:35	
Benzene	ug/kg	ND	5.0	03/21/14 22:35	
Chlorobenzene	ug/kg	ND	5.0	03/21/14 22:35	
Ethylbenzene	ug/kg	ND	5.0	03/21/14 22:35	
Toluene	ug/kg	ND	5.0	03/21/14 22:35	
Xylene (Total)	ug/kg	ND	5.0	03/21/14 22:35	
1,2-Dichloroethane-d4 (S)	%	96	75-129	03/21/14 22:35	
4-Bromofluorobenzene (S)	%	95	76-123	03/21/14 22:35	
Toluene-d8 (S)	%	99	80-120	03/21/14 22:35	

LABORATORY CONTROL SAMPLE: 1348339

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,4-Dichlorobenzene	ug/kg	100	87.8	88	80-120	
Benzene	ug/kg	100	92.6	93	80-120	
Chlorobenzene	ug/kg	100	92.0	92	80-120	
Ethylbenzene	ug/kg	100	90.9	91	80-120	
Toluene	ug/kg	100	89.6	90	79-120	
Xylene (Total)	ug/kg	300	275	92	79-120	
1,2-Dichloroethane-d4 (S)	%			96	75-129	
4-Bromofluorobenzene (S)	%			99	76-123	
Toluene-d8 (S)	%			100	80-120	

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QUALITY CONTROL DATA

Project: BIG MO 2014 SOIL SAMPLING

QC Project No.: 60165283

QC Batch:	MSV/60282	Analysis Method:	EPA 8260
QC Batch Method:	EPA 8260	Analysis Description:	8260 MSV 5035A Volatile Organics
Associated Lab Samples:	60165283013, 60165283014, 60165283015, 60165283016, 60165283019, 60165283020, 60165283021, 60165283022, 60165283023, 60165283024, 60165283025, 60165283026, 60165283027, 60165283028, 60165283029, 60165283030, 60165283055		

METHOD BLANK: 1349307

Matrix: Solid

Associated Lab Samples: 60165283013, 60165283014, 60165283015, 60165283016, 60165283019, 60165283020, 60165283021, 60165283022, 60165283023, 60165283024, 60165283025, 60165283026, 60165283027, 60165283028, 60165283029, 60165283030, 60165283055

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,4-Dichlorobenzene	ug/kg	ND	5.0	03/25/14 15:39	
Benzene	ug/kg	ND	5.0	03/25/14 15:39	
Chlorobenzene	ug/kg	ND	5.0	03/25/14 15:39	
Ethylbenzene	ug/kg	ND	5.0	03/25/14 15:39	
Toluene	ug/kg	ND	5.0	03/25/14 15:39	
Xylene (Total)	ug/kg	ND	5.0	03/25/14 15:39	
1,2-Dichloroethane-d4 (S)	%	98	75-129	03/25/14 15:39	
4-Bromofluorobenzene (S)	%	98	76-123	03/25/14 15:39	
Toluene-d8 (S)	%	100	80-120	03/25/14 15:39	

LABORATORY CONTROL SAMPLE: 1349308

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,4-Dichlorobenzene	ug/kg	100	95.8	96	80-120	
Benzene	ug/kg	100	101	101	80-120	
Chlorobenzene	ug/kg	100	98.4	98	80-120	
Ethylbenzene	ug/kg	100	101	101	80-120	
Toluene	ug/kg	100	101	101	79-120	
Xylene (Total)	ug/kg	300	297	99	79-120	
1,2-Dichloroethane-d4 (S)	%			97	75-129	
4-Bromofluorobenzene (S)	%			100	76-123	
Toluene-d8 (S)	%			101	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1349309

1349310

Parameter	Units	60165283026 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1,4-Dichlorobenzene	ug/kg	140J	5170	5170	6300	7010	119	133	10-144	11	48	
Benzene	ug/kg	5550	5170	5170	14900	16200	181	205	22-144	8	38	M1
Chlorobenzene	ug/kg	835	5170	5170	7470	8270	128	144	10-145	10	46	
Ethylbenzene	ug/kg	ND	5170	5170	6090	6810	118	132	10-154	11	42	
Toluene	ug/kg	ND	5170	5170	5970	6840	115	132	11-150	14	40	
Xylene (Total)	ug/kg	ND	15500	15500	18100	20300	117	131	10-154	12	41	
1,2-Dichloroethane-d4 (S)	%						96	97	75-129			
4-Bromofluorobenzene (S)	%						98	98	76-123			
Toluene-d8 (S)	%						101	101	80-120			

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QUALITY CONTROL DATA

Project: BIG MO 2014 SOIL SAMPLING

Pace Project No.: 60165283

QC Batch:	MSV/60319	Analysis Method:	EPA 8260
QC Batch Method:	EPA 8260	Analysis Description:	8260 MSV 5035A Volatile Organics
Associated Lab Samples:	60165283004, 60165283005, 60165283006		

METHOD BLANK: 1349984 Matrix: Solid

Associated Lab Samples: 60165283004, 60165283005, 60165283006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,4-Dichlorobenzene	ug/kg	ND	5.0	03/26/14 11:23	
Benzene	ug/kg	ND	5.0	03/26/14 11:23	
Chlorobenzene	ug/kg	ND	5.0	03/26/14 11:23	
Ethylbenzene	ug/kg	ND	5.0	03/26/14 11:23	
Toluene	ug/kg	ND	5.0	03/26/14 11:23	
Xylene (Total)	ug/kg	ND	5.0	03/26/14 11:23	
1,2-Dichloroethane-d4 (S)	%	92	75-129	03/26/14 11:23	
4-Bromofluorobenzene (S)	%	96	76-123	03/26/14 11:23	
Toluene-d8 (S)	%	101	80-120	03/26/14 11:23	

LABORATORY CONTROL SAMPLE: 1349985

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,4-Dichlorobenzene	ug/kg	100	105	105	80-120	
Benzene	ug/kg	100	107	107	80-120	
Chlorobenzene	ug/kg	100	109	109	80-120	
Ethylbenzene	ug/kg	100	107	107	80-120	
Toluene	ug/kg	100	105	105	79-120	
Xylene (Total)	ug/kg	300	311	104	79-120	
1,2-Dichloroethane-d4 (S)	%			95	75-129	
4-Bromofluorobenzene (S)	%			99	76-123	
Toluene-d8 (S)	%			102	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1349986 1349987

Parameter	Units	60165283006 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1,4-Dichlorobenzene	ug/kg	ND	14500	14500	15400	16800	103	113	10-144	9	48	
Benzene	ug/kg	36700	14500	14500	50900	52400	98	108	22-144	3	38	
Chlorobenzene	ug/kg	ND	14500	14500	15800	17000	106	115	10-145	7	46	
Ethylbenzene	ug/kg	ND	14500	14500	15700	16500	108	114	10-154	5	42	
Toluene	ug/kg	ND	14500	14500	14800	15800	102	109	11-150	7	40	
Xylene (Total)	ug/kg	ND	43600	43600	45400	48500	104	111	10-154	7	41	
1,2-Dichloroethane-d4 (S)	%						92	94	75-129			
4-Bromofluorobenzene (S)	%						101	101	76-123			
Toluene-d8 (S)	%						102	101	80-120			

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QUALITY CONTROL DATA

Project: BIG MO 2014 SOIL SAMPLING

Pace Project No.: 60165283

QC Batch:	MSV/60320	Analysis Method:	EPA 8260
QC Batch Method:	EPA 8260	Analysis Description:	8260 MSV 5035A Volatile Organics
Associated Lab Samples:	60165283031, 60165283032, 60165283033, 60165283034, 60165283035, 60165283036, 60165283037, 60165283038, 60165283039, 60165283041, 60165283042, 60165283043, 60165283044, 60165283045, 60165283046, 60165283047, 60165283048, 60165283049, 60165283050		

METHOD BLANK: 1349991

Matrix: Solid

Associated Lab Samples: 60165283032, 60165283033, 60165283034, 60165283035, 60165283036, 60165283037, 60165283038, 60165283039, 60165283041, 60165283042, 60165283043, 60165283044, 60165283045

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,4-Dichlorobenzene	ug/kg	ND	5.0	03/28/14 09:50	
Benzene	ug/kg	ND	5.0	03/28/14 09:50	
Chlorobenzene	ug/kg	ND	5.0	03/28/14 09:50	
Ethylbenzene	ug/kg	ND	5.0	03/28/14 09:50	
Toluene	ug/kg	ND	5.0	03/28/14 09:50	
Xylene (Total)	ug/kg	ND	5.0	03/28/14 09:50	
1,2-Dichloroethane-d4 (S)	%	98	75-129	03/28/14 09:50	
4-Bromofluorobenzene (S)	%	100	76-123	03/28/14 09:50	
Toluene-d8 (S)	%	100	80-120	03/28/14 09:50	

METHOD BLANK: 1352940

Matrix: Solid

Associated Lab Samples: 60165283041, 60165283050

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chlorobenzene	ug/kg	ND	5.0	03/30/14 04:24	
1,2-Dichloroethane-d4 (S)	%	97	75-129	03/30/14 04:24	
4-Bromofluorobenzene (S)	%	98	76-123	03/30/14 04:24	
Toluene-d8 (S)	%	102	80-120	03/30/14 04:24	

METHOD BLANK: 1352946

Matrix: Solid

Associated Lab Samples: 60165283031, 60165283041, 60165283042, 60165283043, 60165283044, 60165283046, 60165283047, 60165283048, 60165283049, 60165283050

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,4-Dichlorobenzene	ug/kg	ND	5.0	03/27/14 20:43	
Benzene	ug/kg	ND	5.0	03/27/14 20:43	
Chlorobenzene	ug/kg	ND	5.0	03/27/14 20:43	
Ethylbenzene	ug/kg	ND	5.0	03/27/14 20:43	
Toluene	ug/kg	ND	5.0	03/27/14 20:43	
Xylene (Total)	ug/kg	ND	5.0	03/27/14 20:43	
1,2-Dichloroethane-d4 (S)	%	99	75-129	03/27/14 20:43	
4-Bromofluorobenzene (S)	%	100	76-123	03/27/14 20:43	
Toluene-d8 (S)	%	101	80-120	03/27/14 20:43	

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QUALITY CONTROL DATA

Project: BIG MO 2014 SOIL SAMPLING

Pace Project No.: 60165283

LABORATORY CONTROL SAMPLE: 1349992

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,4-Dichlorobenzene	ug/kg	100	103	103	80-120	
Benzene	ug/kg	100	106	106	80-120	
Chlorobenzene	ug/kg	100	106	106	80-120	
Ethylbenzene	ug/kg	100	107	107	80-120	
Toluene	ug/kg	100	102	102	79-120	
Xylene (Total)	ug/kg	300	316	105	79-120	
1,2-Dichloroethane-d4 (S)	%			99	75-129	
4-Bromofluorobenzene (S)	%			103	76-123	
Toluene-d8 (S)	%			100	80-120	

LABORATORY CONTROL SAMPLE: 1352941

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chlorobenzene	ug/kg	100	92.3	92	80-120	
1,2-Dichloroethane-d4 (S)	%			100	75-129	
4-Bromofluorobenzene (S)	%			101	76-123	
Toluene-d8 (S)	%			105	80-120	

LABORATORY CONTROL SAMPLE: 1352947

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,4-Dichlorobenzene	ug/kg	100	90.5	90	80-120	
Benzene	ug/kg	100	91.9	92	80-120	
Chlorobenzene	ug/kg	100	91.5	92	80-120	
Ethylbenzene	ug/kg	100	88.5	88	80-120	
Toluene	ug/kg	100	87.0	87	79-120	
Xylene (Total)	ug/kg	300	265	88	79-120	
1,2-Dichloroethane-d4 (S)	%			100	75-129	
4-Bromofluorobenzene (S)	%			103	76-123	
Toluene-d8 (S)	%			99	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1349993 1349994

Parameter	Units	60165283050		MS		MSD		MS		MSD		% Rec Limits	RPD	Max RPD	Qual
		Result	Conc.	Spike Conc.	Conc.	Result	Conc.	Result	Conc.	Result	Conc.				
1,4-Dichlorobenzene	ug/kg	241	3210	3210	2970	3120	85	90	10-144	5	48				
Benzene	ug/kg	1260	3210	3210	4290	4320	94	96	22-144	1	38				
Chlorobenzene	ug/kg	144000	129000	129000	257000	247000	88	80	10-145	4	46				
Ethylbenzene	ug/kg	ND	3210	3210	2910	2910	91	91	10-154	0	42				
Toluene	ug/kg	192	3210	3210	2920	3010	85	88	11-150	3	40				
Xylene (Total)	ug/kg	ND	9620	9620	8470	8760	88	91	10-154	3	41				

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QUALITY CONTROL DATA

Project: BIG MO 2014 SOIL SAMPLING

Pace Project No.: 60165283

QC Batch: MSV/60334 Analysis Method: EPA 8260
QC Batch Method: EPA 8260 Analysis Description: 8260 MSV 5035A Volatile Organics
Associated Lab Samples: 60165283002, 60165283003, 60165283009, 60165283010, 60165283011, 60165283012

METHOD BLANK: 1350418 Matrix: Solid
Associated Lab Samples: 60165283002, 60165283003, 60165283009, 60165283010, 60165283011, 60165283012

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,4-Dichlorobenzene	ug/kg	ND	5.0	03/26/14 18:42	
Benzene	ug/kg	ND	5.0	03/26/14 18:42	
Chlorobenzene	ug/kg	ND	5.0	03/26/14 18:42	
Ethylbenzene	ug/kg	ND	5.0	03/26/14 18:42	
Toluene	ug/kg	ND	5.0	03/26/14 18:42	
Xylene (Total)	ug/kg	ND	5.0	03/26/14 18:42	
1,2-Dichloroethane-d4 (S)	%	92	75-129	03/26/14 18:42	
4-Bromofluorobenzene (S)	%	95	76-123	03/26/14 18:42	
Toluene-d8 (S)	%	101	80-120	03/26/14 18:42	

LABORATORY CONTROL SAMPLE: 1350419

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,4-Dichlorobenzene	ug/kg	100	99.6	100	80-120	
Benzene	ug/kg	100	101	101	80-120	
Chlorobenzene	ug/kg	100	104	104	80-120	
Ethylbenzene	ug/kg	100	101	101	80-120	
Toluene	ug/kg	100	98.7	99	79-120	
Xylene (Total)	ug/kg	300	294	98	79-120	
1,2-Dichloroethane-d4 (S)	%			91	75-129	
4-Bromofluorobenzene (S)	%			98	76-123	
Toluene-d8 (S)	%			100	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1350420 1350421

Parameter	Units	60165283003 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1,4-Dichlorobenzene	ug/kg	ND	16300	16300	16500	18400	101	113	10-144	11	48	
Benzene	ug/kg	1150	16300	16300	17200	20900	99	121	22-144	19	38	
Chlorobenzene	ug/kg	ND	16300	16300	16900	19800	104	122	10-145	16	46	
Ethylbenzene	ug/kg	ND	16300	16300	16100	19300	99	119	10-154	18	42	
Toluene	ug/kg	ND	16300	16300	15500	18900	95	116	11-150	20	40	
Xylene (Total)	ug/kg	ND	48800	48800	48000	55900	98	115	10-154	15	41	
1,2-Dichloroethane-d4 (S)	%						93	93	75-129			
4-Bromofluorobenzene (S)	%						105	104	76-123			
Toluene-d8 (S)	%						100	103	80-120			

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QUALITY CONTROL DATA

Project: BIG MO 2014 SOIL SAMPLING

Pace Project No.: 60165283

QC Batch: MSV/60335

Analysis Method: EPA 8260

QC Batch Method: EPA 8260

Analysis Description: 8260 MSV 5035A Volatile Organics

Associated Lab Samples: 60165283054

METHOD BLANK: 1350434

Matrix: Solid

Associated Lab Samples: 60165283054

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,4-Dichlorobenzene	ug/kg	ND	5.0	03/28/14 03:25	
Ethylbenzene	ug/kg	ND	5.0	03/28/14 03:25	
Toluene	ug/kg	ND	5.0	03/28/14 03:25	
Xylene (Total)	ug/kg	ND	5.0	03/28/14 03:25	
1,2-Dichloroethane-d4 (S)	%	100	75-129	03/28/14 03:25	
4-Bromofluorobenzene (S)	%	99	76-123	03/28/14 03:25	
Toluene-d8 (S)	%	100	80-120	03/28/14 03:25	

METHOD BLANK: 1353031

Matrix: Solid

Associated Lab Samples: 60165283054

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Benzene	ug/kg	ND	5.0	03/28/14 16:32	
Chlorobenzene	ug/kg	ND	5.0	03/28/14 16:32	
1,2-Dichloroethane-d4 (S)	%	100	75-129	03/28/14 16:32	
4-Bromofluorobenzene (S)	%	100	76-123	03/28/14 16:32	
Toluene-d8 (S)	%	102	80-120	03/28/14 16:32	

LABORATORY CONTROL SAMPLE: 1350435

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,4-Dichlorobenzene	ug/kg	100	86.0	86	80-120	
Ethylbenzene	ug/kg	100	87.6	88	80-120	
Toluene	ug/kg	100	84.0	84	79-120	
Xylene (Total)	ug/kg	300	256	85	79-120	
1,2-Dichloroethane-d4 (S)	%			98	75-129	
4-Bromofluorobenzene (S)	%			100	76-123	
Toluene-d8 (S)	%			99	80-120	

LABORATORY CONTROL SAMPLE: 1353032

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Benzene	ug/kg	100	102	102	80-120	
Chlorobenzene	ug/kg	100	99.7	100	80-120	
1,2-Dichloroethane-d4 (S)	%			100	75-129	
4-Bromofluorobenzene (S)	%			103	76-123	
Toluene-d8 (S)	%			102	80-120	

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QUALITY CONTROL DATA

Project: BIG MO 2014 SOIL SAMPLING

Pace Project No.: 60165283

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1350436 1350437											
Parameter	Units	60165384014		MS	MSD	MS		MSD	% Rec		Max
		Result	Conc.	Spike	Spike	Result	Result	% Rec	% Rec	Limits	RPD
1,4-Dichlorobenzene	ug/kg	ND	33700	33700	33700	28800	29100	85	86	10-144	1
Benzene	ug/kg	34500	33700	33700	33700	67700	63100	98	85	22-144	7
Chlorobenzene	ug/kg	39200	33700	33700	33700	71800	66800	97	82	10-145	7
Ethylbenzene	ug/kg	ND	33700	33700	33700	30500	29600	89	87	10-154	3
Toluene	ug/kg	ND	33700	33700	33700	29200	29100	87	86	11-150	0
Xylene (Total)	ug/kg	7010	101000	101000	101000	96500	93700	89	86	10-154	3
1,2-Dichloroethane-d4 (S)	%							97	98	75-129	
4-Bromofluorobenzene (S)	%							103	109	76-123	
Toluene-d8 (S)	%							101	102	80-120	

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QUALITY CONTROL DATA

Project: BIG MO 2014 SOIL SAMPLING

Pace Project No.: 60165283

QC Batch:	MSV/60345	Analysis Method:	EPA 8260
QC Batch Method:	EPA 8260	Analysis Description:	8260 MSV 5035A Volatile Organics
Associated Lab Samples:	60165283018, 60165283028		

METHOD BLANK: 1350508 Matrix: Solid

Associated Lab Samples: 60165283018, 60165283028

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,4-Dichlorobenzene	ug/kg	ND	5.0	03/26/14 16:50	
Benzene	ug/kg	ND	5.0	03/26/14 16:50	
Chlorobenzene	ug/kg	ND	5.0	03/26/14 16:50	
Ethylbenzene	ug/kg	ND	5.0	03/26/14 16:50	
Toluene	ug/kg	ND	5.0	03/26/14 16:50	
Xylene (Total)	ug/kg	ND	5.0	03/26/14 16:50	
1,2-Dichloroethane-d4 (S)	%	97	75-129	03/26/14 16:50	
4-Bromofluorobenzene (S)	%	96	76-123	03/26/14 16:50	
Toluene-d8 (S)	%	102	80-120	03/26/14 16:50	

LABORATORY CONTROL SAMPLE: 1350509

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,4-Dichlorobenzene	ug/kg	100	113	113	80-120	
Benzene	ug/kg	100	110	110	80-120	
Chlorobenzene	ug/kg	100	114	114	80-120	
Ethylbenzene	ug/kg	100	114	114	80-120	
Toluene	ug/kg	100	116	116	79-120	
Xylene (Total)	ug/kg	300	342	114	79-120	
1,2-Dichloroethane-d4 (S)	%			100	75-129	
4-Bromofluorobenzene (S)	%			98	76-123	
Toluene-d8 (S)	%			101	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1350510 1350511

Parameter	Units	60165384021 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1,4-Dichlorobenzene	ug/kg	ND	2700	2700	3050	3380	113	125	10-144	10	48	
Benzene	ug/kg	ND	2700	2700	2900	3200	107	119	22-144	10	38	
Chlorobenzene	ug/kg	797	2700	2700	3880	4160	114	124	10-145	7	46	
Ethylbenzene	ug/kg	ND	2700	2700	3040	3420	113	127	10-154	12	42	
Toluene	ug/kg	ND	2700	2700	3080	3440	114	128	11-150	11	40	
Xylene (Total)	ug/kg	ND	8090	8090	9120	10100	113	125	10-154	10	41	
1,2-Dichloroethane-d4 (S)	%						94	97	75-129			
4-Bromofluorobenzene (S)	%						96	98	76-123			
Toluene-d8 (S)	%						100	102	80-120			

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QUALITY CONTROL DATA

Project: BIG MO 2014 SOIL SAMPLING

Pace Project No.: 60165283

QC Batch:	MSV/60374	Analysis Method:	EPA 8260
QC Batch Method:	EPA 8260	Analysis Description:	8260 MSV 5035A Volatile Organics
Associated Lab Samples: 60165283052, 60165283053			

METHOD BLANK: 1351053 Matrix: Solid

Associated Lab Samples: 60165283052

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,4-Dichlorobenzene	ug/kg	ND	5.0	03/28/14 09:50	
Benzene	ug/kg	ND	5.0	03/28/14 09:50	
Chlorobenzene	ug/kg	ND	5.0	03/28/14 09:50	
Ethylbenzene	ug/kg	ND	5.0	03/28/14 09:50	
Toluene	ug/kg	ND	5.0	03/28/14 09:50	
Xylene (Total)	ug/kg	ND	5.0	03/28/14 09:50	
1,2-Dichloroethane-d4 (S)	%	98	75-129	03/28/14 09:50	
4-Bromofluorobenzene (S)	%	100	76-123	03/28/14 09:50	
Toluene-d8 (S)	%	100	80-120	03/28/14 09:50	

METHOD BLANK: 1352965 Matrix: Solid

Associated Lab Samples: 60165283053

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,4-Dichlorobenzene	ug/kg	ND	5.0	03/30/14 04:24	
Benzene	ug/kg	ND	5.0	03/30/14 04:24	
Chlorobenzene	ug/kg	ND	5.0	03/30/14 04:24	
Ethylbenzene	ug/kg	ND	5.0	03/30/14 04:24	
Toluene	ug/kg	ND	5.0	03/30/14 04:24	
Xylene (Total)	ug/kg	ND	5.0	03/30/14 04:24	
1,2-Dichloroethane-d4 (S)	%	97	75-129	03/30/14 04:24	
4-Bromofluorobenzene (S)	%	98	76-123	03/30/14 04:24	
Toluene-d8 (S)	%	102	80-120	03/30/14 04:24	

LABORATORY CONTROL SAMPLE: 1351054

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,4-Dichlorobenzene	ug/kg	100	103	103	80-120	
Benzene	ug/kg	100	106	106	80-120	
Chlorobenzene	ug/kg	100	106	106	80-120	
Ethylbenzene	ug/kg	100	107	107	80-120	
Toluene	ug/kg	100	102	102	79-120	
Xylene (Total)	ug/kg	300	316	105	79-120	
1,2-Dichloroethane-d4 (S)	%			99	75-129	
4-Bromofluorobenzene (S)	%			103	76-123	
Toluene-d8 (S)	%			100	80-120	

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QUALITY CONTROL DATA

Project: BIG MO 2014 SOIL SAMPLING
Pace Project No.: 60165283

LABORATORY CONTROL SAMPLE: 1352966

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,4-Dichlorobenzene	ug/kg	100	85.2	85	80-120	
Benzene	ug/kg	100	102	102	80-120	
Chlorobenzene	ug/kg	100	92.3	92	80-120	
Ethylbenzene	ug/kg	100	91.0	91	80-120	
Toluene	ug/kg	100	96.3	96	79-120	
Xylene (Total)	ug/kg	300	265	88	79-120	
1,2-Dichloroethane-d4 (S)	%			100	75-129	
4-Bromofluorobenzene (S)	%			101	76-123	
Toluene-d8 (S)	%			105	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1351055 1351056

Parameter	Units	60165283053		MS		MSD		MS		MSD		MS		MSD		% Rec		Max	
		Result	Conc.	Spike Conc.	Conc.	Result	Conc.	Result	Conc.	Result	Conc.	% Rec	Conc.	% Rec	Conc.	Limits	RPD	RPD	Qual
1,4-Dichlorobenzene	ug/kg	ND	149000	149000	149000	113000	126000	76	85	10-144	11	48							
Benzene	ug/kg	175000	149000	149000	149000	286000	291000	75	78	22-144	2	38							
Chlorobenzene	ug/kg	102000	149000	149000	149000	212000	226000	74	83	10-145	6	46							
Ethylbenzene	ug/kg	ND	149000	149000	149000	116000	127000	78	85	10-154	9	42							
Toluene	ug/kg	ND	149000	149000	149000	123000	135000	81	89	11-150	10	40							
Xylene (Total)	ug/kg	ND	447000	447000	447000	336000	378000	75	85	10-154	12	41							
1,2-Dichloroethane-d4 (S)	%							109	99	75-129									
4-Bromofluorobenzene (S)	%							100	101	76-123									
Toluene-d8 (S)	%							105	103	80-120									

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QUALITY CONTROL DATA

Project: BIG MO 2014 SOIL SAMPLING

Pace Project No.: 60165283

QC Batch:	MSV/60428	Analysis Method:	EPA 8260
QC Batch Method:	EPA 8260	Analysis Description:	8260 MSV 5035A Volatile Organics
Associated Lab Samples:	60165283004		

METHOD BLANK: 1352549 Matrix: Solid

Associated Lab Samples: 60165283004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Benzene	ug/kg	ND	5.0	03/29/14 21:58	
1,2-Dichloroethane-d4 (S)	%	97	75-129	03/29/14 21:58	
4-Bromofluorobenzene (S)	%	101	76-123	03/29/14 21:58	
Toluene-d8 (S)	%	104	80-120	03/29/14 21:58	

LABORATORY CONTROL SAMPLE: 1352550

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Benzene	ug/kg	100	96.3	96	80-120	
1,2-Dichloroethane-d4 (S)	%			102	75-129	
4-Bromofluorobenzene (S)	%			100	76-123	
Toluene-d8 (S)	%			104	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1352551 1352552

Parameter	Units	60165959001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Benzene	ug/kg	ND	99.4	100	79.9	82.8	80	83	22-144	4	38	
1,2-Dichloroethane-d4 (S)	%						100	101	75-129			
4-Bromofluorobenzene (S)	%						100	100	76-123			
Toluene-d8 (S)	%						102	104	80-120			

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QUALITY CONTROL DATA

Project: BIG MO 2014 SOIL SAMPLING

Pace Project No.: 60165283

QC Batch:	MSV/60438	Analysis Method:	EPA 8260
QC Batch Method:	EPA 8260	Analysis Description:	8260 MSV 5035A Volatile Organics
Associated Lab Samples:	60165283040		

METHOD BLANK: 1352818 Matrix: Solid

Associated Lab Samples: 60165283040

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,4-Dichlorobenzene	ug/kg	ND	5.0	03/31/14 10:50	
Benzene	ug/kg	ND	5.0	03/31/14 10:50	
Chlorobenzene	ug/kg	ND	5.0	03/31/14 10:50	
Ethylbenzene	ug/kg	ND	5.0	03/31/14 10:50	
Toluene	ug/kg	ND	5.0	03/31/14 10:50	
Xylene (Total)	ug/kg	ND	5.0	03/31/14 10:50	
1,2-Dichloroethane-d4 (S)	%	97	75-129	03/31/14 10:50	
4-Bromofluorobenzene (S)	%	98	76-123	03/31/14 10:50	
Toluene-d8 (S)	%	104	80-120	03/31/14 10:50	

LABORATORY CONTROL SAMPLE: 1352819

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,4-Dichlorobenzene	ug/kg	100	85.3	85	80-120	
Benzene	ug/kg	100	94.2	94	80-120	
Chlorobenzene	ug/kg	100	85.1	85	80-120	
Ethylbenzene	ug/kg	100	89.5	90	80-120	
Toluene	ug/kg	100	92.3	92	79-120	
Xylene (Total)	ug/kg	300	258	86	79-120	
1,2-Dichloroethane-d4 (S)	%			98	75-129	
4-Bromofluorobenzene (S)	%			101	76-123	
Toluene-d8 (S)	%			102	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1352820 1352821

Parameter	Units	60165959009 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1,4-Dichlorobenzene	ug/kg	ND	100	98	78.4	88.2	78	90	10-144	12	48	
Benzene	ug/kg	ND	100	98	90.4	99.3	90	101	22-144	9	38	
Chlorobenzene	ug/kg	ND	100	98	81.8	90.0	82	92	10-145	9	46	
Ethylbenzene	ug/kg	ND	100	98	72.4	79.6	71	80	10-154	10	42	
Toluene	ug/kg	ND	100	98	79.2	86.0	79	88	11-150	8	40	
Xylene (Total)	ug/kg	ND	300	294	200	216	67	74	10-154	8	41	
1,2-Dichloroethane-d4 (S)	%						111	100	75-129			
4-Bromofluorobenzene (S)	%						88	85	76-123			
Toluene-d8 (S)	%						93	93	80-120			

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QUALITY CONTROL DATA

Project: BIG MO 2014 SOIL SAMPLING

Pace Project No.: 60165283

QC Batch: MSV/60505

Analysis Method: EPA 8260

QC Batch Method: EPA 8260

Analysis Description: 8260 MSV 5035A Volatile Organics

Associated Lab Samples: 60165283051

METHOD BLANK: 1353828

Matrix: Solid

Associated Lab Samples: 60165283051

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,4-Dichlorobenzene	ug/kg	ND	5.0	03/29/14 04:23	
Benzene	ug/kg	ND	5.0	03/29/14 04:23	
Chlorobenzene	ug/kg	ND	5.0	03/29/14 04:23	
Ethylbenzene	ug/kg	ND	5.0	03/29/14 04:23	
Toluene	ug/kg	ND	5.0	03/29/14 04:23	
Xylene (Total)	ug/kg	ND	5.0	03/29/14 04:23	
1,2-Dichloroethane-d4 (S)	%	99	75-129	03/29/14 04:23	
4-Bromofluorobenzene (S)	%	103	76-123	03/29/14 04:23	
Toluene-d8 (S)	%	102	80-120	03/29/14 04:23	

LABORATORY CONTROL SAMPLE: 1353829

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,4-Dichlorobenzene	ug/kg	100	89.4	89	80-120	
Benzene	ug/kg	100	99.7	100	80-120	
Chlorobenzene	ug/kg	100	97.6	98	80-120	
Ethylbenzene	ug/kg	100	93.5	94	80-120	
Toluene	ug/kg	100	95.0	95	79-120	
Xylene (Total)	ug/kg	300	279	93	79-120	
1,2-Dichloroethane-d4 (S)	%			98	75-129	
4-Bromofluorobenzene (S)	%			101	76-123	
Toluene-d8 (S)	%			102	80-120	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BIG MO 2014 SOIL SAMPLING

Pace Project No.: 60165283

QC Batch:	PMST/9515	Analysis Method:	ASTM D2974
QC Batch Method:	ASTM D2974	Analysis Description:	Dry Weight/Percent Moisture
Associated Lab Samples:	60165283001, 60165283002, 60165283003, 60165283004, 60165283005, 60165283006, 60165283007, 60165283008, 60165283009, 60165283010, 60165283011, 60165283012, 60165283013, 60165283014, 60165283015, 60165283016, 60165283018, 60165283019, 60165283020, 60165283021		

METHOD BLANK: 1351453

Matrix: Solid

Associated Lab Samples: 60165283001, 60165283002, 60165283003, 60165283004, 60165283005, 60165283006, 60165283007, 60165283008, 60165283009, 60165283010, 60165283011, 60165283012, 60165283013, 60165283014, 60165283015, 60165283016, 60165283018, 60165283019, 60165283020, 60165283021

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Percent Moisture	%	ND	0.50	03/28/14 00:00	

SAMPLE DUPLICATE: 1351454

Parameter	Units	60165283001 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	25.8	25.4	2	20	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BIG MO 2014 SOIL SAMPLING

Pace Project No.: 60165283

QC Batch:	PMST/9516	Analysis Method:	ASTM D2974
QC Batch Method:	ASTM D2974	Analysis Description:	Dry Weight/Percent Moisture
Associated Lab Samples:	60165283022, 60165283023, 60165283024, 60165283025, 60165283026, 60165283027, 60165283028, 60165283029, 60165283030, 60165283031, 60165283032, 60165283033, 60165283034, 60165283035, 60165283036, 60165283037, 60165283038, 60165283039, 60165283040, 60165283041		

METHOD BLANK: 1351682

Matrix: Solid

Associated Lab Samples: 60165283022, 60165283023, 60165283024, 60165283025, 60165283026, 60165283027, 60165283028, 60165283029, 60165283030, 60165283031, 60165283032, 60165283033, 60165283034, 60165283035, 60165283036, 60165283037, 60165283038, 60165283039, 60165283040, 60165283041

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Percent Moisture	%	ND	0.50	03/28/14 00:00	

SAMPLE DUPLICATE: 1351683

Parameter	Units	60165283022 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	2.7	2.5	11	20	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BIG MO 2014 SOIL SAMPLING

Pace Project No.: 60165283

QC Batch:	PMST/9527	Analysis Method:	ASTM D2974
QC Batch Method:	ASTM D2974	Analysis Description:	Dry Weight/Percent Moisture
Associated Lab Samples:	60165283042, 60165283043, 60165283044, 60165283045, 60165283046, 60165283047, 60165283048, 60165283049, 60165283050, 60165283051, 60165283052, 60165283053, 60165283054		

METHOD BLANK: 1353756

Matrix: Solid

Associated Lab Samples: 60165283042, 60165283043, 60165283044, 60165283045, 60165283046, 60165283047, 60165283048, 60165283049, 60165283050, 60165283051, 60165283052, 60165283053, 60165283054

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Percent Moisture	%	ND	0.50	04/01/14 00:00	

SAMPLE DUPLICATE: 1353757

Parameter	Units	60165283042 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	3.9	4.2	9	20	

REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: BIG MO 2014 SOIL SAMPLING
Pace Project No.: 60165283

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PRL - Pace Reporting Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

LABORATORIES

PASI-K Pace Analytical Services - Kansas City

BATCH QUALIFIERS

Batch: MSV/60243

[M5] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

Batch: MSV/60505

[M5] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

ANALYTE QUALIFIERS

1e The internal standard response is below criteria. Results may be biased high. Insufficient sample remained for re-analysis.

M1 Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

S0 Surrogate recovery outside laboratory control limits.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: BIG MO 2014 SOIL SAMPLING

Pace Project No.: 60165283

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60165283001	WGK-BM-031814-SB-64-3	EPA 8260	MSV/60224		
60165283002	WGK-BM-031814-SB-64-3-3.4	EPA 8260	MSV/60224		
60165283002	WGK-BM-031814-SB-64-3-3.4	EPA 8260	MSV/60334		
60165283003	WGK-BM-031814-SB-64-8.2	EPA 8260	MSV/60334		
60165283004	WGK-BM-031814-SB-64-10	EPA 8260	MSV/60319		
60165283004	WGK-BM-031814-SB-64-10	EPA 8260	MSV/60428		
60165283005	WGK-BM-031814-SB-64-12	EPA 8260	MSV/60319		
60165283006	WGK-BM-031814-SB-64-13.5-13.8	EPA 8260	MSV/60319		
60165283007	WGK-BM-031814-SB-DUP-05	EPA 8260	MSV/60224		
60165283008	WGK-BM-031814-SB-36-3	EPA 8260	MSV/60224		
60165283009	WGK-BM-031814-SB-36-10	EPA 8260	MSV/60224		
60165283009	WGK-BM-031814-SB-36-10	EPA 8260	MSV/60334		
60165283010	WGK-BM-031814-SB-36-14	EPA 8260	MSV/60224		
60165283010	WGK-BM-031814-SB-36-14	EPA 8260	MSV/60334		
60165283011	WGK-BM-031814-SB-36-11.5-12	EPA 8260	MSV/60224		
60165283011	WGK-BM-031814-SB-36-11.5-12	EPA 8260	MSV/60334		
60165283012	WGK-BM-031814-SB-DUP-06	EPA 8260	MSV/60242		
60165283012	WGK-BM-031814-SB-DUP-06	EPA 8260	MSV/60334		
60165283013	WGK-BM-031814-SB-38-10	EPA 8260	MSV/60282		
60165283014	WGK-BM-031814-SB-38-12	EPA 8260	MSV/60282		
60165283015	WGK-BM-031814-SB-38-13.7	EPA 8260	MSV/60282		
60165283016	WGK-BM-031814-SB-38-11.5-12	EPA 8260	MSV/60282		
60165283017	WGK-BM-031914-TB-04	EPA 8260	MSV/60243		
60165283018	WGK-BM-031914-SB-63-8	EPA 8260	MSV/60345		
60165283019	WGK-BM-031914-SB-63-10	EPA 8260	MSV/60282		
60165283020	WGK-BM-031914-SB-63-12	EPA 8260	MSV/60282		
60165283021	WGK-BM-031914-SB-63-14	EPA 8260	MSV/60282		
60165283022	WGK-BM-031914-SB-DUP-07	EPA 8260	MSV/60282		
60165283023	WGK-BM-031914-SB-68-7.5	EPA 8260	MSV/60282		
60165283024	WGK-BM-031914-SB-68-10.5	EPA 8260	MSV/60282		
60165283025	WGK-BM-031914-SB-68-12	EPA 8260	MSV/60282		
60165283026	WGK-BM-031914-SB-68-13.9	EPA 8260	MSV/60282		
60165283027	WGK-BM-031914-SB-68-13-13.5	EPA 8260	MSV/60282		
60165283028	WGK-BM-031914-SB-68-DUP-08	EPA 8260	MSV/60282		
60165283028	WGK-BM-031914-SB-68-DUP-08	EPA 8260	MSV/60345		
60165283029	WGK-BM-031914-SB-80-7.5	EPA 8260	MSV/60282		
60165283030	WGK-BM-031914-SB-80-10	EPA 8260	MSV/60282		
60165283031	WGK-BM-031914-SB-80-12	EPA 8260	MSV/60320		
60165283032	WGK-BM-031914-SB-80-14	EPA 8260	MSV/60320		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: BIG MO 2014 SOIL SAMPLING

Pace Project No.: 60165283

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60165283033	WGK-BM-031914-SB-79-7.5	EPA 8260	MSV/60320		
60165283034	WGK-BM-031914-SB-79-10	EPA 8260	MSV/60320		
60165283035	WGK-BM-031914-SB-79-12	EPA 8260	MSV/60320		
60165283036	WGK-BM-031914-SB-79-13.8	EPA 8260	MSV/60320		
60165283037	WGK-BM-031914-SB-83-10	EPA 8260	MSV/60320		
60165283038	WGK-BM-031914-SB-83-12	EPA 8260	MSV/60320		
60165283039	WGK-BM-031914-SB-83-14	EPA 8260	MSV/60320		
60165283040	WGK-BM-031914-SB-DUP-09	EPA 8260	MSV/60438		
60165283041	WGK-BM-031914-SB-28-7.5	EPA 8260	MSV/60320		
60165283042	WGK-BM-031914-SB-28-10	EPA 8260	MSV/60320		
60165283043	WGK-BM-031914-SB-28-12	EPA 8260	MSV/60320		
60165283044	WGK-BM-031914-SB-28-13.8	EPA 8260	MSV/60320		
60165283045	WGK-BM-031914-SB-27-3	EPA 8260	MSV/60320		
60165283046	WGK-BM-031914-SB-27-8	EPA 8260	MSV/60320		
60165283047	WGK-BM-031914-SB-27-10	EPA 8260	MSV/60320		
60165283048	WGK-BM-031914-SB-27-12	EPA 8260	MSV/60320		
60165283049	WGK-BM-031914-SB-28-11.5-12	EPA 8260	MSV/60320		
60165283050	WGK-BM-031914-SB-28-7.2-7.5	EPA 8260	MSV/60320		
60165283051	WGK-BM-031914-SB-27-13.8	EPA 8260	MSV/60505		
60165283052	WGK-BM-031914-SB-27-11-11.5	EPA 8260	MSV/60374		
60165283053	WGK-BM-031914-SB-27-7.6-8	EPA 8260	MSV/60374		
60165283054	WGK-BM-031914-SB-DUP-10	EPA 8260	MSV/60335		
60165283055	WGK-BM-031914-TB-05	EPA 8260	MSV/60282		
60165283056	WGK-BM-031814-TB-03	EPA 8260	MSV/60243		
60165283001	WGK-BM-031814-SB-64-3	ASTM D2974	PMST/9515		
60165283002	WGK-BM-031814-SB-64-3-3.4	ASTM D2974	PMST/9515		
60165283003	WGK-BM-031814-SB-64-8.2	ASTM D2974	PMST/9515		
60165283004	WGK-BM-031814-SB-64-10	ASTM D2974	PMST/9515		
60165283005	WGK-BM-031814-SB-64-12	ASTM D2974	PMST/9515		
60165283006	WGK-BM-031814-SB-64-13.5-13.8	ASTM D2974	PMST/9515		
60165283007	WGK-BM-031814-SB-DUP-05	ASTM D2974	PMST/9515		
60165283008	WGK-BM-031814-SB-36-3	ASTM D2974	PMST/9515		
60165283009	WGK-BM-031814-SB-36-10	ASTM D2974	PMST/9515		
60165283010	WGK-BM-031814-SB-36-14	ASTM D2974	PMST/9515		
60165283011	WGK-BM-031814-SB-36-11.5-12	ASTM D2974	PMST/9515		
60165283012	WGK-BM-031814-SB-DUP-06	ASTM D2974	PMST/9515		
60165283013	WGK-BM-031814-SB-38-10	ASTM D2974	PMST/9515		
60165283014	WGK-BM-031814-SB-38-12	ASTM D2974	PMST/9515		
60165283015	WGK-BM-031814-SB-38-13.7	ASTM D2974	PMST/9515		
60165283016	WGK-BM-031814-SB-38-11.5-12	ASTM D2974	PMST/9515		
60165283018	WGK-BM-031914-SB-63-8	ASTM D2974	PMST/9515		
60165283019	WGK-BM-031914-SB-63-10	ASTM D2974	PMST/9515		
60165283020	WGK-BM-031914-SB-63-12	ASTM D2974	PMST/9515		
60165283021	WGK-BM-031914-SB-63-14	ASTM D2974	PMST/9515		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: BIG MO 2014 SOIL SAMPLING

Pace Project No.: 60165283

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60165283022	WGK-BM-031914-SB-DUP-07	ASTM D2974	PMST/9516		
60165283023	WGK-BM-031914-SB-68-7.5	ASTM D2974	PMST/9516		
60165283024	WGK-BM-031914-SB-68-10.5	ASTM D2974	PMST/9516		
60165283025	WGK-BM-031914-SB-68-12	ASTM D2974	PMST/9516		
60165283026	WGK-BM-031914-SB-68-13.9	ASTM D2974	PMST/9516		
60165283027	WGK-BM-031914-SB-68-13-13.5	ASTM D2974	PMST/9516		
60165283028	WGK-BM-031914-SB-68-DUP-08	ASTM D2974	PMST/9516		
60165283029	WGK-BM-031914-SB-80-7.5	ASTM D2974	PMST/9516		
60165283030	WGK-BM-031914-SB-80-10	ASTM D2974	PMST/9516		
60165283031	WGK-BM-031914-SB-80-12	ASTM D2974	PMST/9516		
60165283032	WGK-BM-031914-SB-80-14	ASTM D2974	PMST/9516		
60165283033	WGK-BM-031914-SB-79-7.5	ASTM D2974	PMST/9516		
60165283034	WGK-BM-031914-SB-79-10	ASTM D2974	PMST/9516		
60165283035	WGK-BM-031914-SB-79-12	ASTM D2974	PMST/9516		
60165283036	WGK-BM-031914-SB-79-13.8	ASTM D2974	PMST/9516		
60165283037	WGK-BM-031914-SB-83-10	ASTM D2974	PMST/9516		
60165283038	WGK-BM-031914-SB-83-12	ASTM D2974	PMST/9516		
60165283039	WGK-BM-031914-SB-83-14	ASTM D2974	PMST/9516		
60165283040	WGK-BM-031914-SB-DUP-09	ASTM D2974	PMST/9516		
60165283041	WGK-BM-031914-SB-28-7.5	ASTM D2974	PMST/9516		
60165283042	WGK-BM-031914-SB-28-10	ASTM D2974	PMST/9527		
60165283043	WGK-BM-031914-SB-28-12	ASTM D2974	PMST/9527		
60165283044	WGK-BM-031914-SB-28-13.8	ASTM D2974	PMST/9527		
60165283045	WGK-BM-031914-SB-27-3	ASTM D2974	PMST/9527		
60165283046	WGK-BM-031914-SB-27-8	ASTM D2974	PMST/9527		
60165283047	WGK-BM-031914-SB-27-10	ASTM D2974	PMST/9527		
60165283048	WGK-BM-031914-SB-27-12	ASTM D2974	PMST/9527		
60165283049	WGK-BM-031914-SB-28-11.5-12	ASTM D2974	PMST/9527		
60165283050	WGK-BM-031914-SB-28-7.2-7.5	ASTM D2974	PMST/9527		
60165283051	WGK-BM-031914-SB-27-13.8	ASTM D2974	PMST/9527		
60165283052	WGK-BM-031914-SB-27-11-11.5	ASTM D2974	PMST/9527		
60165283053	WGK-BM-031914-SB-27-7.6-8	ASTM D2974	PMST/9527		
60165283054	WGK-BM-031914-SB-DUP-10	ASTM D2974	PMST/9527		

REPORT OF LABORATORY ANALYSIS

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Sample Condition Upon Receipt

WO#: 60165283



60165283

Client Name: XDD LLC

Courier: Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☐ Pace ☐ Other ☒ Xroad

Tracking #: _____ Pace Shipping Label Used? Yes ☐ No ☒

Custody Seal on Cooler/Box Present: Yes ☒ No ☐ Seals intact: Yes ☒ No ☐

Packing Material: Bubble Wrap ☐ Bubble Bags ☐ Foam ☒ None ☐ Other ☒ 2P/L

Thermometer Used: T-239 / T-194

Type of Ice: We Blue None ☐ Samples received on ice, cooling process has begun.
(circle one)

Cooler Temperature: 3.0/2.2/3.8

Temperature should be above freezing to 6°C

Date and initials of person examining contents: pv 3/20/14

Chain of Custody present:	☒ Yes ☐ No ☐ N/A	1.
Chain of Custody filled out:	☒ Yes ☐ No ☐ N/A	2.
Chain of Custody relinquished:	☒ Yes ☐ No ☐ N/A	3. <u>3 = TB03</u>
Sampler name & signature on COC:	☒ Yes ☐ No ☐ N/A	4. <u>4 = TB04</u>
Samples arrived within holding time:	☒ Yes ☐ No ☐ N/A	5. <u>5 = TB05</u>
Short Hold Time analyses (<72hr):	☒ Yes ☐ No ☐ N/A	6. <u>Kits</u>
Rush Turn Around Time requested:	☐ Yes ☒ No ☐ N/A	7.
Sufficient volume:	☒ Yes ☐ No ☐ N/A	8.
Correct containers used:	☒ Yes ☐ No ☐ N/A	9.
Pace containers used:	☒ Yes ☐ No ☐ N/A	10.
Containers intact:	☒ Yes ☐ No ☐ N/A	11. <u>pv 3/20/14</u>
Unpreserved 5035A soils frozen w/in 48hrs?	☒ Yes ☐ No ☐ N/A	12.
Filtered volume received for dissolved tests?	☐ Yes ☐ No ☒ N/A	13.
Sample labels match COC:	☒ Yes ☐ No ☐ N/A	14.
Includes date/time/ID/analyses Matrix: <u>SL</u>		15.
All containers needing preservation have been checked.	☐ Yes ☐ No ☒ N/A	16.
All containers needing preservation are found to be in compliance with EPA recommendation.	☐ Yes ☐ No ☒ N/A	17.
Exceptions: <u>VOA</u> coliform, TOC, O&G, WI-DRO (water), Phenolics	☒ Yes ☐ No	Initial when completed
Trip Blank present:	☒ Yes ☐ No ☐ N/A	Lot # of added preservative
Pace Trip Blank lot # (if purchased): <u>051313-3</u>		
Headspace in VOA vials (>6mm):	☐ Yes ☐ No ☒ N/A	
Project sampled in USDA Regulated Area:	☐ Yes ☐ No ☒ N/A	17. List State:

Client Notification/ Resolution:

Copy COC to Client? Y / N

Field Data Required? Y / N

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: _____

Date: 3/20/14

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.



Section A

Required Client Information:

Company: XOO, LLC Report To: Ann Stanisevski
 Address: 22 Main Unit 3 Copy To: ajohnn@eastman.com
 Email To: Stanisw@exd-ic.com Purchase Order No.: 60011737
 Phone: 781-100 Fax: 781-100 Project Name: Big Mo 2014 Soil Sample
 Requested Due Date/TAT: _____ Project Number: _____

Section B

Required Project Information:

Attention: Bill Johnson
 Company Name: Eastman
 Address: _____
 Pace Quote Reference: #00011737
 Pace Project Manager: _____
 Pace Profile #: _____

Section C

Invoice Information:

Page: 1 of 5
1795421
 REGULATORY AGENCY
☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER
☐ UST ☐ RCRA ☐ OTHER
 Site Location: _____
 STATE: IL

Section D Required Client Information				Matrix Codes MATRIX / CODE				Matrix Codes MATRIX / CODE				Matrix Codes MATRIX / CODE				Matrix Codes MATRIX / CODE				Matrix Codes MATRIX / CODE				Matrix Codes MATRIX / CODE				Matrix Codes MATRIX / CODE				Matrix Codes MATRIX / CODE				Matrix Codes MATRIX / CODE				Matrix Codes MATRIX / CODE				Matrix Codes MATRIX / CODE				Matrix Codes MATRIX / CODE				Matrix Codes MATRIX / CODE				Matrix Codes MATRIX / CODE				Matrix Codes MATRIX / CODE				Matrix Codes MATRIX / CODE				Matrix Codes MATRIX / CODE				Matrix Codes MATRIX / CODE				Matrix Codes MATRIX / CODE				Matrix Codes MATRIX / CODE				Matrix Codes MATRIX / CODE				Matrix Codes MATRIX / CODE				Matrix Codes MATRIX / CODE				Matrix Codes MATRIX / CODE				Matrix Codes MATRIX / CODE				Matrix Codes MATRIX / CODE				Matrix Codes MATRIX / CODE				Matrix Codes MATRIX / CODE				Matrix Codes MATRIX / CODE				Matrix Codes MATRIX / CODE				Matrix Codes MATRIX / CODE				Matrix Codes MATRIX / 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TEMP IN °C: 3.9

SAMPLER NAME AND SIGNATURE: Ann Stanisevski

PRINT Name of SAMPLER: Ann Stanisevski

SIGNATURE of SAMPLER: [Signature]

DATE Signed (MM/DD/YY): 3/19/14

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.



Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:	
Company:	Report To:	Company Name:	Attention:	Page: <u>3</u> of <u>5</u>	1795423
Address:	Copy To:	Address:			
Email To:	Purchase Order No.:	Pace Quote Reference:			
Phone:	Project Name:	Pace Project Manager:			
Requested Due Date/TAT:	Project Number:	Pace Profile #:			

Section D Required Client Information		Matrix Codes MATRIX / CODE		COLLECTED		SAMPLE TYPE (G=GRAB C=COMP)		MATRIX CODE (see valid codes to left)		RELINQUISHED BY / AFFILIATION		ADDITIONAL COMMENTS		Requested Analysis Filtered (Y/N)		Pace Project No. / Lab I.D.	
ITEM #	Sample ID (A-Z, 0-9 / -)	Drinking Water DW	Water WT	Waste Water WW	Product P	Soil/Solid SL	Oil OL	Wipe WP	Air AR	Tissue TS	Other OT	DATE	TIME	DATE	TIME	DATE	TIME
1	WGL-8M-051114-SB-68-12											3/19/14	1705	3/19/14	1705		10/19/14 1800 075
2	WGL-8M-051114-SB-68-13											3/19/14	1705	3/19/14	1705		10/19/14 1800 075
3	WGL-8M-051114-SB-68-14											3/19/14	1705	3/19/14	1705		10/19/14 1800 075
4	WGL-8M-051114-SB-68-15											3/19/14	1705	3/19/14	1705		10/19/14 1800 075
5	WGL-8M-051114-SB-68-16											3/19/14	1705	3/19/14	1705		10/19/14 1800 075
6	WGL-8M-051114-SB-68-17											3/19/14	1705	3/19/14	1705		10/19/14 1800 075
7	WGL-8M-051114-SB-68-18											3/19/14	1705	3/19/14	1705		10/19/14 1800 075
8	WGL-8M-051114-SB-68-19											3/19/14	1705	3/19/14	1705		10/19/14 1800 075
9	WGL-8M-051114-SB-68-20											3/19/14	1705	3/19/14	1705		10/19/14 1800 075
10	WGL-8M-051114-SB-68-21											3/19/14	1705	3/19/14	1705		10/19/14 1800 075
11	WGL-8M-051114-SB-68-22											3/19/14	1705	3/19/14	1705		10/19/14 1800 075
12	WGL-8M-051114-SB-68-23											3/19/14	1705	3/19/14	1705		10/19/14 1800 075

Section E Required Project Information:		Section F Required Client Information:	
Company:	Report To:	Company Name:	Attention:
Address:	Copy To:	Address:	
Email To:	Purchase Order No.:	Pace Quote Reference:	
Phone:	Project Name:	Pace Project Manager:	
Requested Due Date/TAT:	Project Number:	Pace Profile #:	

ORIGINAL

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Section A Requested Client Information:		Section B Required Project Information:		Section C Invoice Information:	
Company:	Report To:	Company Name:	Attention:	Page: 4 of 5	1795424
Address:	Copy To:	Address:			
Email To:	Purchase Order No.:	Face Quote Reference:			
Phone:	Project Name:	Face Project Manager:			
	Project Number:	Face Profile #:			
Requested Due Date/TAT:				REGULATORY AGENCY ☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER ☐ UST ☐ RCRA ☐ OTHER	
				Site Location STATE:	

[illegible]

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.



Section A

Required Client Information:

Company:

Address:

Email To:

Phone:

Requested Due Date/TAT:

Section B

Required Project Information:

Report To:

Copy To:

Purchase Order No.:

Project Name:

Project Number:

Section C

Invoice Information:

Attention:

Company Name:

Address:

Pace Quote Reference:

Pace Project Manager:

Pace Profile #:

Page: 5 of 5

1795425

REGULATORY AGENCY

☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER

☐ UST ☐ RCRA ☐ OTHER

Site Location

STATE: IL

ITEM #	Section D Required Client Information	Matrix Codes MATRIX / CODE	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED		SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives	Analysis Test ↑	Y/N ↑	Requested Analysis Filtered (Y/N)		Pace Project No. / Lab I.D.
				COMPOSITE START	COMPOSITE END/GRAB								
1	W6K-BM-031914-SB-28-115-12	DW WT WW P SL OL WP AR TS OT	G	3/19/14	1534	3	2	Unpreserved	XXX				1069m 1069u 1068u 044
2	W6K-BM-031914-SB-28-115-12		G	3/19/14	1536	1	1	Na ₂ S ₂ O ₃	XXX				1069m 1069u 1068u 044
3	W6K-BM-031914-SB-29-130		G	3/19/14	1552	1	1	NaOH	XXX				1069m 1069u 1068u 044
4	W6K-BM-031914-SB-27-111-15		G	3/19/14	1606	1	1	HCl	XXX				1069m 1069u 1068u 044
5	W6K-BM-031914-SB-27-111-15		G	3/19/14	1612	1	1	HNO ₃	XXX				1069m 1069u 1068u 044
6	W6K-BM-031914-SB-27-111-15		G	3/19/14	1602	1	1	H ₂ SO ₄	XXX				1069m 1069u 1068u 044
7	W6K-BM-031914-TB-05		G	3/19/14	1602	1	1	Unpreserved	XXX				1069m 1069u 1068u 044
8	W6K-BM-031814-TB-03		G	3/19/14	1602	1	1	Unpreserved	XXX				1069m 1069u 1068u 044
9													
10													
11													
12													

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS		
							Received on	Sealed Cooler	Custody
VOL- BTEX, chlorobenzene	3/19/14	1705	1705	3/19/14	1715	1715	Y	Y	Y
1,4-dichlorobenzene	3/19/14	1740	1740	3/19/14	1745	1745	Y	Y	Y
							2-2	Y	Y
							3-8	Y	Y

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Don Stanisewski

SIGNATURE of SAMPLER: [Signature]

DATE Signed (MM/DD/YY): 3/19/14

Temp In °C: 3.8

Received on: 3/19/14

Sealed Cooler: Y

Custody: Y

Samples Intact: Y

October 2014 Soil Laboratory Reports

October 21, 2014

Erin Holmes
XDD, LLC
22 Marin Way #3
Stratham, NH 03885

RE: Project: BIG MO SVE
Pace Project No.: 60179851

Dear Erin Holmes:

Enclosed are the analytical results for sample(s) received by the laboratory on October 09, 2014. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Jamie Church
jamie.church@pacelabs.com
Project Manager

Enclosures

cc: William Johnson, Solutia, Inc.
Dennis Keane, XDD, LLC.



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: BIG MO SVE

Pace Project No.: 60179851

Kansas Certification IDs

9608 Loiret Boulevard, Lenexa, KS 66219

WY STR Certification #: 2456.01

Arkansas Certification #: 13-012-0

Illinois Certification #: 003097

Iowa Certification #: 118

Kansas/NELAP Certification #: E-10116

Louisiana Certification #: 03055

Nevada Certification #: KS000212008A

Oklahoma Certification #: 9205/9935

Texas Certification #: T104704407

Utah Certification #: KS00021

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: BIG MO SVE

Pace Project No.: 60179851

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60179851001	WGK-BIGMO-SB68-8.0-8.5	Solid	10/07/14 15:45	10/09/14 02:20
60179851002	WGK-BIGMO-SB63-2.7-3.1	Solid	10/07/14 13:45	10/09/14 02:20
60179851003	WGK-BIGMO-SB64-2.8	Solid	10/07/14 10:45	10/09/14 02:20
60179851004	WGK-BIGMO-SB64-4.5	Solid	10/07/14 10:55	10/09/14 02:20
60179851005	WGK-BIGMO-SB64-4.0-4.5	Solid	10/07/14 12:10	10/09/14 02:20
60179851006	WGK-BIGMO-SB64-4.5-5.0	Solid	10/07/14 12:20	10/09/14 02:20
60179851007	WGK-BIGMO-SB39-10.7	Solid	10/07/14 08:30	10/09/14 02:20
60179851008	WGK-BIGMO-SB39-15.0	Solid	10/07/14 08:45	10/09/14 02:20
60179851009	WGK-BIGMO-SB39-13.0	Solid	10/07/14 08:40	10/09/14 02:20
60179851010	WGK-BIGMO-SB39-7.0-9.4	Solid	10/07/14 08:50	10/09/14 02:20
60179851011	WGK-BIGMO-SB39-14.0-14.5	Solid	10/07/14 09:00	10/09/14 02:20

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: BIG MO SVE

Pace Project No.: 60179851

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60179851001	WGK-BIGMO-SB68-8.0-8.5	EPA 8260	JKL	9	PASI-K
		ASTM D2974	DWC	1	PASI-K
60179851002	WGK-BIGMO-SB63-2.7-3.1	EPA 8260	JKL	9	PASI-K
		ASTM D2974	DWC	1	PASI-K
60179851003	WGK-BIGMO-SB64-2.8	EPA 8260	JKL	9	PASI-K
		ASTM D2974	DWC	1	PASI-K
60179851004	WGK-BIGMO-SB64-4.5	EPA 8260	JKL	9	PASI-K
		ASTM D2974	DWC	1	PASI-K
60179851005	WGK-BIGMO-SB64-4.0-4.5	EPA 8260	JKL	9	PASI-K
		ASTM D2974	DWC	1	PASI-K
60179851006	WGK-BIGMO-SB64-4.5-5.0	EPA 8260	JKL	9	PASI-K
		ASTM D2974	DWC	1	PASI-K
60179851007	WGK-BIGMO-SB39-10.7	EPA 8260	JKL	9	PASI-K
		ASTM D2974	DWC	1	PASI-K
60179851008	WGK-BIGMO-SB39-15.0	EPA 8260	JKL	9	PASI-K
		ASTM D2974	DWC	1	PASI-K
60179851009	WGK-BIGMO-SB39-13.0	EPA 8260	JKL	9	PASI-K
		ASTM D2974	DWC	1	PASI-K
60179851010	WGK-BIGMO-SB39-7.0-9.4	EPA 8260	JKL	9	PASI-K
		ASTM D2974	DWC	1	PASI-K
60179851011	WGK-BIGMO-SB39-14.0-14.5	EPA 8260	JKL	9	PASI-K
		ASTM D2974	DWC	1	PASI-K

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: BIG MO SVE

Pace Project No.: 60179851

Method: EPA 8260

Description: 8260 MSV 5035A VOA

Client: XDD_SOLUTIONIA, LLC

Date: October 21, 2014

General Information:

11 samples were analyzed for EPA 8260. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

Surrogates:

All surrogates were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: MSV/65044

A matrix spike/matrix spike duplicate was not performed due to insufficient sample volume.

QC Batch: MSV/65109

A matrix spike/matrix spike duplicate was not performed due to insufficient sample volume.

Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

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ANALYTICAL RESULTS

Project: BIG MO SVE

Pace Project No.: 60179851

Sample: WGK-BIGMO-SB68-8.0-8.5 **Lab ID:** 60179851001 **Collected:** 10/07/14 15:45 **Received:** 10/09/14 02:20 **Matrix:** Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA									
Analytical Method: EPA 8260									
Benzene	3850	ug/kg	228	114	50		10/17/14 03:43	71-43-2	
Chlorobenzene	336	ug/kg	228	114	50		10/17/14 03:43	108-90-7	
1,4-Dichlorobenzene	1150	ug/kg	228	114	50		10/17/14 03:43	106-46-7	
Ethylbenzene	ND	ug/kg	228	114	50		10/17/14 03:43	100-41-4	
Toluene	ND	ug/kg	228	114	50		10/17/14 03:43	108-88-3	
Xylene (Total)	ND	ug/kg	228	114	50		10/17/14 03:43	1330-20-7	
Surrogates									
Toluene-d8 (S)	102	%	80-120		50		10/17/14 03:43	2037-26-5	
4-Bromofluorobenzene (S)	100	%	76-123		50		10/17/14 03:43	460-00-4	
1,2-Dichloroethane-d4 (S)	93	%	75-129		50		10/17/14 03:43	17060-07-0	
Percent Moisture									
Analytical Method: ASTM D2974									
Percent Moisture	13.7	%	0.50	0.50	1		10/15/14 00:00		

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ANALYTICAL RESULTS

Project: BIG MO SVE

Pace Project No.: 60179851

Sample: WGK-BIGMO-SB63-2.7-3.1 **Lab ID:** 60179851002 Collected: 10/07/14 13:45 Received: 10/09/14 02:20 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA									
Analytical Method: EPA 8260									
Benzene	34700	ug/kg	2520	1260	500		10/16/14 00:02	71-43-2	
Chlorobenzene	14100	ug/kg	2520	1260	500		10/16/14 00:02	108-90-7	
1,4-Dichlorobenzene	ND	ug/kg	2520	1260	500		10/16/14 00:02	106-46-7	
Ethylbenzene	ND	ug/kg	2520	1260	500		10/16/14 00:02	100-41-4	
Toluene	ND	ug/kg	2520	1260	500		10/16/14 00:02	108-88-3	
Xylene (Total)	ND	ug/kg	2520	1260	500		10/16/14 00:02	1330-20-7	
Surrogates									
Toluene-d8 (S)	101	%	80-120		500		10/16/14 00:02	2037-26-5	
4-Bromofluorobenzene (S)	98	%	76-123		500		10/16/14 00:02	460-00-4	
1,2-Dichloroethane-d4 (S)	95	%	75-129		500		10/16/14 00:02	17060-07-0	
Percent Moisture									
Analytical Method: ASTM D2974									
Percent Moisture	17.1	%	0.50	0.50	1		10/15/14 00:00		

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ANALYTICAL RESULTS

Project: BIG MO SVE

Pace Project No.: 60179851

Sample: WGK-BIGMO-SB64-2.8 **Lab ID:** 60179851003 Collected: 10/07/14 10:45 Received: 10/09/14 02:20 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA									
Analytical Method: EPA 8260									
Benzene	1090000	ug/kg	70200	35100	5000		10/17/14 03:58	71-43-2	
Chlorobenzene	ND	ug/kg	7020	3510	500		10/16/14 00:17	108-90-7	
1,4-Dichlorobenzene	ND	ug/kg	7020	3510	500		10/16/14 00:17	106-46-7	
Ethylbenzene	ND	ug/kg	7020	3510	500		10/16/14 00:17	100-41-4	
Toluene	ND	ug/kg	7020	3510	500		10/16/14 00:17	108-88-3	
Xylene (Total)	ND	ug/kg	7020	3510	500		10/16/14 00:17	1330-20-7	
Surrogates									
Toluene-d8 (S)	98	%	80-120		500		10/16/14 00:17	2037-26-5	
4-Bromofluorobenzene (S)	100	%	76-123		500		10/16/14 00:17	460-00-4	
1,2-Dichloroethane-d4 (S)	94	%	75-129		500		10/16/14 00:17	17060-07-0	
Percent Moisture									
Analytical Method: ASTM D2974									
Percent Moisture	43.3	%	0.50	0.50	1		10/15/14 00:00		

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ANALYTICAL RESULTS

Project: BIG MO SVE

Pace Project No.: 60179851

Sample: WGK-BIGMO-SB64-4.5 **Lab ID:** 60179851004 Collected: 10/07/14 10:55 Received: 10/09/14 02:20 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA									
Analytical Method: EPA 8260									
Benzene	3980000	ug/kg	388000	194000	50000		10/17/14 14:36	71-43-2	
Chlorobenzene	ND	ug/kg	3880	1940	500		10/16/14 00:33	108-90-7	
1,4-Dichlorobenzene	ND	ug/kg	3880	1940	500		10/16/14 00:33	106-46-7	
Ethylbenzene	ND	ug/kg	3880	1940	500		10/16/14 00:33	100-41-4	
Toluene	ND	ug/kg	3880	1940	500		10/16/14 00:33	108-88-3	
Xylene (Total)	ND	ug/kg	3880	1940	500		10/16/14 00:33	1330-20-7	
Surrogates									
Toluene-d8 (S)	99 %		80-120		500		10/16/14 00:33	2037-26-5	
4-Bromofluorobenzene (S)	99 %		76-123		500		10/16/14 00:33	460-00-4	
1,2-Dichloroethane-d4 (S)	96 %		75-129		500		10/16/14 00:33	17060-07-0	
Percent Moisture									
Analytical Method: ASTM D2974									
Percent Moisture	21.7	%	0.50	0.50	1		10/15/14 00:00		

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ANALYTICAL RESULTS

Project: BIG MO SVE

Pace Project No.: 60179851

Sample: WGK-BIGMO-SB64-4.0-4.5 **Lab ID:** 60179851005 Collected: 10/07/14 12:10 Received: 10/09/14 02:20 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA									
Analytical Method: EPA 8260									
Benzene	949000	ug/kg	48200	24100	5000		10/17/14 04:29	71-43-2	
Chlorobenzene	ND	ug/kg	4820	2410	500		10/16/14 00:48	108-90-7	
1,4-Dichlorobenzene	ND	ug/kg	4820	2410	500		10/16/14 00:48	106-46-7	
Ethylbenzene	ND	ug/kg	4820	2410	500		10/16/14 00:48	100-41-4	
Toluene	ND	ug/kg	4820	2410	500		10/16/14 00:48	108-88-3	
Xylene (Total)	ND	ug/kg	4820	2410	500		10/16/14 00:48	1330-20-7	
Surrogates									
Toluene-d8 (S)	100	%	80-120		500		10/16/14 00:48	2037-26-5	
4-Bromofluorobenzene (S)	99	%	76-123		500		10/16/14 00:48	460-00-4	
1,2-Dichloroethane-d4 (S)	109	%	75-129		500		10/16/14 00:48	17060-07-0	
Percent Moisture									
Analytical Method: ASTM D2974									
Percent Moisture	37.2	%	0.50	0.50	1		10/20/14 00:00		

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ANALYTICAL RESULTS

Project: BIG MO SVE

Pace Project No.: 60179851

Sample: WGK-BIGMO-SB64-4.5-5.0 **Lab ID:** 60179851006 Collected: 10/07/14 12:20 Received: 10/09/14 02:20 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA									
Analytical Method: EPA 8260									
Benzene	649000	ug/kg	38200	19100	5000		10/17/14 04:45	71-43-2	
Chlorobenzene	ND	ug/kg	3820	1910	500		10/16/14 01:03	108-90-7	
1,4-Dichlorobenzene	ND	ug/kg	3820	1910	500		10/16/14 01:03	106-46-7	
Ethylbenzene	ND	ug/kg	3820	1910	500		10/16/14 01:03	100-41-4	
Toluene	ND	ug/kg	3820	1910	500		10/16/14 01:03	108-88-3	
Xylene (Total)	ND	ug/kg	3820	1910	500		10/16/14 01:03	1330-20-7	
Surrogates									
Toluene-d8 (S)	100	%	80-120		500		10/16/14 01:03	2037-26-5	
4-Bromofluorobenzene (S)	101	%	76-123		500		10/16/14 01:03	460-00-4	
1,2-Dichloroethane-d4 (S)	109	%	75-129		500		10/16/14 01:03	17060-07-0	
Percent Moisture									
Analytical Method: ASTM D2974									
Percent Moisture	27.0	%	0.50	0.50	1		10/20/14 00:00		

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ANALYTICAL RESULTS

Project: BIG MO SVE

Pace Project No.: 60179851

Sample: WGK-BIGMO-SB39-10.7 **Lab ID:** 60179851007 Collected: 10/07/14 08:30 Received: 10/09/14 02:20 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA									
Analytical Method: EPA 8260									
Benzene	140000	ug/kg	3060	1530	500		10/16/14 01:18	71-43-2	
Chlorobenzene	ND	ug/kg	3060	1530	500		10/16/14 01:18	108-90-7	
1,4-Dichlorobenzene	ND	ug/kg	3060	1530	500		10/16/14 01:18	106-46-7	
Ethylbenzene	ND	ug/kg	3060	1530	500		10/16/14 01:18	100-41-4	
Toluene	ND	ug/kg	3060	1530	500		10/16/14 01:18	108-88-3	
Xylene (Total)	ND	ug/kg	3060	1530	500		10/16/14 01:18	1330-20-7	
Surrogates									
Toluene-d8 (S)	100	%	80-120		500		10/16/14 01:18	2037-26-5	
4-Bromofluorobenzene (S)	101	%	76-123		500		10/16/14 01:18	460-00-4	
1,2-Dichloroethane-d4 (S)	93	%	75-129		500		10/16/14 01:18	17060-07-0	
Percent Moisture									
Analytical Method: ASTM D2974									
Percent Moisture	24.8	%	0.50	0.50	1		10/20/14 00:00		

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ANALYTICAL RESULTS

Project: BIG MO SVE

Pace Project No.: 60179851

Sample: WGK-BIGMO-SB39-15.0 **Lab ID:** 60179851008 Collected: 10/07/14 08:45 Received: 10/09/14 02:20 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA									
Analytical Method: EPA 8260									
Benzene	123000	ug/kg	2840	1420	500		10/16/14 01:34	71-43-2	
Chlorobenzene	ND	ug/kg	2840	1420	500		10/16/14 01:34	108-90-7	
1,4-Dichlorobenzene	ND	ug/kg	2840	1420	500		10/16/14 01:34	106-46-7	
Ethylbenzene	ND	ug/kg	2840	1420	500		10/16/14 01:34	100-41-4	
Toluene	ND	ug/kg	2840	1420	500		10/16/14 01:34	108-88-3	
Xylene (Total)	ND	ug/kg	2840	1420	500		10/16/14 01:34	1330-20-7	
Surrogates									
Toluene-d8 (S)	101	%	80-120		500		10/16/14 01:34	2037-26-5	
4-Bromofluorobenzene (S)	100	%	76-123		500		10/16/14 01:34	460-00-4	
1,2-Dichloroethane-d4 (S)	111	%	75-129		500		10/16/14 01:34	17060-07-0	
Percent Moisture									
Analytical Method: ASTM D2974									
Percent Moisture	22.4	%	0.50	0.50	1		10/20/14 00:00		

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ANALYTICAL RESULTS

Project: BIG MO SVE

Pace Project No.: 60179851

Sample: WGK-BIGMO-SB39-13.0 **Lab ID:** 60179851009 Collected: 10/07/14 08:40 Received: 10/09/14 02:20 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA									
Analytical Method: EPA 8260									
Benzene	13400	ug/kg	253	126	50		10/17/14 05:00	71-43-2	
Chlorobenzene	ND	ug/kg	253	126	50		10/17/14 05:00	108-90-7	
1,4-Dichlorobenzene	ND	ug/kg	253	126	50		10/17/14 05:00	106-46-7	
Ethylbenzene	ND	ug/kg	253	126	50		10/17/14 05:00	100-41-4	
Toluene	ND	ug/kg	253	126	50		10/17/14 05:00	108-88-3	
Xylene (Total)	ND	ug/kg	253	126	50		10/17/14 05:00	1330-20-7	
Surrogates									
Toluene-d8 (S)	101	%	80-120		50		10/17/14 05:00	2037-26-5	
4-Bromofluorobenzene (S)	97	%	76-123		50		10/17/14 05:00	460-00-4	
1,2-Dichloroethane-d4 (S)	93	%	75-129		50		10/17/14 05:00	17060-07-0	
Percent Moisture									
Analytical Method: ASTM D2974									
Percent Moisture	17.1	%	0.50	0.50	1		10/20/14 00:00		

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ANALYTICAL RESULTS

Project: BIG MO SVE

Pace Project No.: 60179851

Sample: WGK-BIGMO-SB39-7.0-9.4 **Lab ID:** 60179851010 Collected: 10/07/14 08:50 Received: 10/09/14 02:20 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA									
Analytical Method: EPA 8260									
Benzene	450	ug/kg	269	134	50		10/17/14 05:15	71-43-2	
Chlorobenzene	ND	ug/kg	269	134	50		10/17/14 05:15	108-90-7	
1,4-Dichlorobenzene	692	ug/kg	269	134	50		10/17/14 05:15	106-46-7	
Ethylbenzene	ND	ug/kg	269	134	50		10/17/14 05:15	100-41-4	
Toluene	ND	ug/kg	269	134	50		10/17/14 05:15	108-88-3	
Xylene (Total)	ND	ug/kg	269	134	50		10/17/14 05:15	1330-20-7	
Surrogates									
Toluene-d8 (S)	101	%	80-120		50		10/17/14 05:15	2037-26-5	
4-Bromofluorobenzene (S)	101	%	76-123		50		10/17/14 05:15	460-00-4	
1,2-Dichloroethane-d4 (S)	97	%	75-129		50		10/17/14 05:15	17060-07-0	
Percent Moisture									
Analytical Method: ASTM D2974									
Percent Moisture	15.5	%	0.50	0.50	1		10/20/14 00:00		

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ANALYTICAL RESULTS

Project: BIG MO SVE

Pace Project No.: 60179851

Sample: WGK-BIGMO-SB39-14.0-14.5 **Lab ID:** 60179851011 Collected: 10/07/14 09:00 Received: 10/09/14 02:20 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA									
Analytical Method: EPA 8260									
Benzene	6130000	ug/kg	238000	119000	50000		10/17/14 05:30	71-43-2	
Chlorobenzene	ND	ug/kg	2380	1190	500		10/16/14 02:20	108-90-7	
1,4-Dichlorobenzene	ND	ug/kg	2380	1190	500		10/16/14 02:20	106-46-7	
Ethylbenzene	ND	ug/kg	2380	1190	500		10/16/14 02:20	100-41-4	
Toluene	ND	ug/kg	2380	1190	500		10/16/14 02:20	108-88-3	
Xylene (Total)	ND	ug/kg	2380	1190	500		10/16/14 02:20	1330-20-7	
Surrogates									
Toluene-d8 (S)	98	%	80-120		500		10/16/14 02:20	2037-26-5	
4-Bromofluorobenzene (S)	100	%	76-123		500		10/16/14 02:20	460-00-4	
1,2-Dichloroethane-d4 (S)	116	%	75-129		500		10/16/14 02:20	17060-07-0	
Percent Moisture									
Analytical Method: ASTM D2974									
Percent Moisture	17.1	%	0.50	0.50	1		10/20/14 00:00		

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QUALITY CONTROL DATA

Project: BIG MO SVE

Pace Project No.: 60179851

QC Batch:	MSV/65044	Analysis Method:	EPA 8260
QC Batch Method:	EPA 8260	Analysis Description:	8260 MSV 5035A Volatile Organics
Associated Lab Samples:	60179851001, 60179851003, 60179851005, 60179851006, 60179851009, 60179851010, 60179851011		

METHOD BLANK:	1459161	Matrix:	Solid
Associated Lab Samples:	60179851001, 60179851003, 60179851005, 60179851006, 60179851009, 60179851010, 60179851011		

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,4-Dichlorobenzene	ug/kg	ND	5.0	10/17/14 00:09	
Benzene	ug/kg	ND	5.0	10/17/14 00:09	
Chlorobenzene	ug/kg	ND	5.0	10/17/14 00:09	
Ethylbenzene	ug/kg	ND	5.0	10/17/14 00:09	
Toluene	ug/kg	ND	5.0	10/17/14 00:09	
Xylene (Total)	ug/kg	ND	5.0	10/17/14 00:09	
1,2-Dichloroethane-d4 (S)	%	96	75-129	10/17/14 00:09	
4-Bromofluorobenzene (S)	%	99	76-123	10/17/14 00:09	
Toluene-d8 (S)	%	100	80-120	10/17/14 00:09	

LABORATORY CONTROL SAMPLE: 1459162

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,4-Dichlorobenzene	ug/kg	100	92.6	93	80-120	
Benzene	ug/kg	100	96.2	96	80-120	
Chlorobenzene	ug/kg	100	97.1	97	80-120	
Ethylbenzene	ug/kg	100	97.7	98	80-120	
Toluene	ug/kg	100	99.3	99	79-120	
Xylene (Total)	ug/kg	300	291	97	79-120	
1,2-Dichloroethane-d4 (S)	%			93	75-129	
4-Bromofluorobenzene (S)	%			103	76-123	
Toluene-d8 (S)	%			101	80-120	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

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QUALITY CONTROL DATA

Project: BIG MO SVE
Pace Project No.: 60179851

QC Batch:	MSV/65090	Analysis Method:	EPA 8260
QC Batch Method:	EPA 8260	Analysis Description:	8260 MSV 5035A Volatile Organics
Associated Lab Samples:	60179851002, 60179851003, 60179851004, 60179851005, 60179851006, 60179851007, 60179851008, 60179851011		

METHOD BLANK:	1460696	Matrix:	Solid
Associated Lab Samples:	60179851002, 60179851003, 60179851004, 60179851005, 60179851006, 60179851007, 60179851008, 60179851011		

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,4-Dichlorobenzene	ug/kg	ND	5.0	10/15/14 23:31	
Benzene	ug/kg	ND	5.0	10/15/14 23:31	
Chlorobenzene	ug/kg	ND	5.0	10/15/14 23:31	
Ethylbenzene	ug/kg	ND	5.0	10/15/14 23:31	
Toluene	ug/kg	ND	5.0	10/15/14 23:31	
Xylene (Total)	ug/kg	ND	5.0	10/15/14 23:31	
1,2-Dichloroethane-d4 (S)	%	94	75-129	10/15/14 23:31	
4-Bromofluorobenzene (S)	%	100	76-123	10/15/14 23:31	
Toluene-d8 (S)	%	99	80-120	10/15/14 23:31	

LABORATORY CONTROL SAMPLE: 1460697

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,4-Dichlorobenzene	ug/kg	100	96.3	96	80-120	
Benzene	ug/kg	100	96.5	96	80-120	
Chlorobenzene	ug/kg	100	100	100	80-120	
Ethylbenzene	ug/kg	100	101	101	80-120	
Toluene	ug/kg	100	99.2	99	79-120	
Xylene (Total)	ug/kg	300	302	101	79-120	
1,2-Dichloroethane-d4 (S)	%			93	75-129	
4-Bromofluorobenzene (S)	%			102	76-123	
Toluene-d8 (S)	%			100	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1460698 1460699

Parameter	Units	60179852002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	Max RPD	Qual
1,4-Dichlorobenzene	ug/kg	ND	67600	67600	54100	57000	80	84	10-144	5	48
Benzene	ug/kg	874000	67600	67600	868000	910000	54	116	22-144	5	38
Chlorobenzene	ug/kg	ND	67600	67600	58000	59900	86	89	10-145	3	46
Ethylbenzene	ug/kg	ND	67600	67600	58300	62000	86	92	10-154	6	42
Toluene	ug/kg	ND	67600	67600	56500	60300	83	89	11-150	6	40
Xylene (Total)	ug/kg	ND	203000	203000	173000	180000	85	89	10-154	4	41
1,2-Dichloroethane-d4 (S)	%						89	94	75-129		
4-Bromofluorobenzene (S)	%						102	101	76-123		
Toluene-d8 (S)	%						97	100	80-120		

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BIG MO SVE

Pace Project No.: 60179851

QC Batch: MSV/65109

Analysis Method: EPA 8260

QC Batch Method: EPA 8260

Analysis Description: 8260 MSV 5035A Volatile Organics

Associated Lab Samples: 60179851004

METHOD BLANK: 1461326

Matrix: Solid

Associated Lab Samples: 60179851004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Benzene	ug/kg	ND	5.0	10/17/14 13:19	
1,2-Dichloroethane-d4 (S)	%	97	75-129	10/17/14 13:19	
4-Bromofluorobenzene (S)	%	95	76-123	10/17/14 13:19	
Toluene-d8 (S)	%	100	80-120	10/17/14 13:19	

LABORATORY CONTROL SAMPLE: 1461327

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Benzene	ug/kg	100	106	106	80-120	
1,2-Dichloroethane-d4 (S)	%			93	75-129	
4-Bromofluorobenzene (S)	%			103	76-123	
Toluene-d8 (S)	%			103	80-120	

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QUALITY CONTROL DATA

Project: BIG MO SVE

Pace Project No.: 60179851

QC Batch: PMST/10117

Analysis Method: ASTM D2974

QC Batch Method: ASTM D2974

Analysis Description: Dry Weight/Percent Moisture

Associated Lab Samples: 60179851001, 60179851002, 60179851003, 60179851004

METHOD BLANK: 1460369

Matrix: Solid

Associated Lab Samples: 60179851001, 60179851002, 60179851003, 60179851004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Percent Moisture	%	ND	0.50	10/15/14 00:00	

SAMPLE DUPLICATE: 1460370

Parameter	Units	60180165012 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	30.7	30.1	2	20	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BIG MO SVE

Pace Project No.: 60179851

QC Batch: PMST/10132

Analysis Method: ASTM D2974

QC Batch Method: ASTM D2974

Analysis Description: Dry Weight/Percent Moisture

Associated Lab Samples: 60179851005, 60179851006, 60179851007, 60179851008, 60179851009, 60179851010, 60179851011

METHOD BLANK: 1463551

Matrix: Solid

Associated Lab Samples: 60179851005, 60179851006, 60179851007, 60179851008, 60179851009, 60179851010, 60179851011

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Percent Moisture	%	ND	0.50	10/20/14 00:00	

SAMPLE DUPLICATE: 1463552

Parameter	Units	60179851005 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	37.2	35.1	6	20	

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REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: BIG MO SVE
Pace Project No.: 60179851

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

LABORATORIES

PASI-K Pace Analytical Services - Kansas City

BATCH QUALIFIERS

Batch: MSV/65044

[M5] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

Batch: MSV/65109

[M5] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: BIG MO SVE

Pace Project No.: 60179851

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60179851001	WGK-BIGMO-SB68-8.0-8.5	EPA 8260	MSV/65044		
60179851002	WGK-BIGMO-SB63-2.7-3.1	EPA 8260	MSV/65090		
60179851003	WGK-BIGMO-SB64-2.8	EPA 8260	MSV/65044		
60179851003	WGK-BIGMO-SB64-2.8	EPA 8260	MSV/65090		
60179851004	WGK-BIGMO-SB64-4.5	EPA 8260	MSV/65090		
60179851004	WGK-BIGMO-SB64-4.5	EPA 8260	MSV/65109		
60179851005	WGK-BIGMO-SB64-4.0-4.5	EPA 8260	MSV/65044		
60179851005	WGK-BIGMO-SB64-4.0-4.5	EPA 8260	MSV/65090		
60179851006	WGK-BIGMO-SB64-4.5-5.0	EPA 8260	MSV/65044		
60179851006	WGK-BIGMO-SB64-4.5-5.0	EPA 8260	MSV/65090		
60179851007	WGK-BIGMO-SB39-10.7	EPA 8260	MSV/65090		
60179851008	WGK-BIGMO-SB39-15.0	EPA 8260	MSV/65090		
60179851009	WGK-BIGMO-SB39-13.0	EPA 8260	MSV/65044		
60179851010	WGK-BIGMO-SB39-7.0-9.4	EPA 8260	MSV/65044		
60179851011	WGK-BIGMO-SB39-14.0-14.5	EPA 8260	MSV/65044		
60179851011	WGK-BIGMO-SB39-14.0-14.5	EPA 8260	MSV/65090		
60179851001	WGK-BIGMO-SB68-8.0-8.5	ASTM D2974	PMST/10117		
60179851002	WGK-BIGMO-SB63-2.7-3.1	ASTM D2974	PMST/10117		
60179851003	WGK-BIGMO-SB64-2.8	ASTM D2974	PMST/10117		
60179851004	WGK-BIGMO-SB64-4.5	ASTM D2974	PMST/10117		
60179851005	WGK-BIGMO-SB64-4.0-4.5	ASTM D2974	PMST/10132		
60179851006	WGK-BIGMO-SB64-4.5-5.0	ASTM D2974	PMST/10132		
60179851007	WGK-BIGMO-SB39-10.7	ASTM D2974	PMST/10132		
60179851008	WGK-BIGMO-SB39-15.0	ASTM D2974	PMST/10132		
60179851009	WGK-BIGMO-SB39-13.0	ASTM D2974	PMST/10132		
60179851010	WGK-BIGMO-SB39-7.0-9.4	ASTM D2974	PMST/10132		
60179851011	WGK-BIGMO-SB39-14.0-14.5	ASTM D2974	PMST/10132		

REPORT OF LABORATORY ANALYSIS

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Sample Condition Upon Receipt

WO#: 60179851



60179851

Client Name: XDD

Courier: Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☒ Pace ☐ Other ☒ road

Tracking #: _____ Pace Shipping Label Used? Yes ☐ No ☐

Custody Seal on Cooler/Box Present: Yes ☒ No ☐ Seals intact: Yes ☒ No ☐

Packing Material: Bubble Wrap ☒ Bubble Bags ☐ Foam ☒ None ☐ Other ☐

Thermometer Used: T-239 / T-194

Type of Ice: Wet Blue None ☐ Samples received on ice, cooling process has begun.
(circle one)

Cooler Temperature: _____

Temperature should be above freezing to 6°C

Date and initials of person examining contents: 10/9/14

Chain of Custody present:	☒ Yes ☐ No ☐ N/A	1.
Chain of Custody filled out:	☒ Yes ☐ No ☐ N/A	2.
Chain of Custody relinquished:	☒ Yes ☐ No ☐ N/A	3.
Sampler name & signature on COC:	☒ Yes ☐ No ☐ N/A	4.
Samples arrived within holding time:	☒ Yes ☐ No ☐ N/A	5.
Short Hold Time analyses (<72hr):	☐ Yes ☐ No ☒ N/A	6.
Rush Turn Around Time requested:	☐ Yes ☐ No ☒ N/A	7.
Sufficient volume:	☒ Yes ☐ No ☐ N/A	8.
Correct containers used:	☒ Yes ☐ No ☐ N/A	
Pace containers used:	☒ Yes ☐ No ☐ N/A	9.
Containers intact:	☒ Yes ☐ No ☐ N/A	10.
Unpreserved 5035A soils frozen w/in 48hrs?	☒ Yes ☐ No ☐ N/A	11.
Filtered volume received for dissolved tests?	☐ Yes ☐ No ☒ N/A	12.
Sample labels match COC:	☒ Yes ☐ No ☐ N/A	
Includes date/time/ID/analyses	Matrix: <u>SL</u>	13.
All containers needing preservation have been checked.	☐ Yes ☐ No ☒ N/A	
All containers needing preservation are found to be in compliance with EPA recommendation.	☐ Yes ☐ No ☒ N/A	14.
Exceptions: <u>VOA</u> coliform, TOC, O&G, WI-DRO (water), Phenolics	☒ Yes ☐ No	Initial when completed
Trip Blank present:	☒ Yes ☐ No ☐ N/A	Lot # of added preservative
Pace Trip Blank lot # (if purchased): <u>072914-3</u>		<u>TB-4</u>
Headspace in VOA vials (>6mm):	☐ Yes ☒ No ☐ N/A	15.
		16.
Project sampled in USDA Regulated Area:	☐ Yes ☒ No ☐ N/A	17. List State:

Client Notification/ Resolution:

Copy COC to Client? Y / N

Field Data Required? Y / N

Person Contacted: _____

Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: _____

Date: _____

10/9/14

Jamie Church

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Page: 1 of 1																																																																																																																																																																																																						
Section A Required Client Information: Company: XDD, LLC Address: 22 Marin Way #3 Stratham, NH 03885 Email To: holmes@xdd-llc.com Phone: 603-418-3132 Fax: 603-776-2121 Requested Due Date/TAT: standard Section B Invoice Information: Report To: Erin Holmes Copy To: John Anderson Purchase Order No.: Project Name: BIG MO SVE Project Number: 11003.12.77 Section C Attention: Bill Johnson Company Name: Solutia Address: 6015316 Pace Quote Reference: Pace Project Manager: Jamie Church Pace Profile #: 5786																																																																																																																																																																																																						
REGULATORY AGENCY NPDES GROUND WATER DRINKING WATER UST RCRA OTHER																																																																																																																																																																																																						
Site Location STATE: IL																																																																																																																																																																																																						
Requested Analysis Filtered (Y/N)																																																																																																																																																																																																						
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2		W6K-B14MO-SB33-2.7-3.1			SLG	10/13	1345		3	2	Unpreserved	H ₂ SO ₄																																																																																																																																																																																										
3		W6K-B14MO-SB44-2.8			SLG	10/13	1045		3	2	Unpreserved	H ₂ SO ₄																																																																																																																																																																																										
4		W6K-B14MO-SB44-4.5			SLG	10/13	1045		3	2	Unpreserved	H ₂ SO ₄																																																																																																																																																																																										
5		W6K-B14MO-SB64-4.0-4.5			SLG	10/13	1210		3	2	Unpreserved	H ₂ SO ₄																																																																																																																																																																																										
6		W6K-B14MO-SB64-4.5-5.0			SLG	10/13	1220		3	2	Unpreserved	H ₂ SO ₄																																																																																																																																																																																										
7		W6K-B14MO-SB39-10.7			SLG	10/13	0830		3	2	Unpreserved	H ₂ SO ₄																																																																																																																																																																																										
8		W6K-B14MO-SB39-15.0			SLG	10/13	0845		3	2	Unpreserved	H ₂ SO ₄																																																																																																																																																																																										
9		W6K-B14MO-SB39-18.0			SLG	10/13	0840		3	2	Unpreserved	H ₂ SO ₄																																																																																																																																																																																										
10		W6K-B14MO-SB39-9.0-4.4			SLG	10/13	0850		3	2	Unpreserved	H ₂ SO ₄																																																																																																																																																																																										
11		W6K-B14MO-SB39-14.0-14.5			SLG	10/13	0900		3	2	Unpreserved	H ₂ SO ₄																																																																																																																																																																																										
12																																																																																																																																																																																																						
ADDITIONAL COMMENTS *BTX, chlorobenzene, 2,4-dichlorobenzene																																																																																																																																																																																																						
RELINQUISHED BY / AFFILIATION DATE 10/18/14 TIME 1200 SIGNATURE [Signature]																																																																																																																																																																																																						
ACCEPTED BY / AFFILIATION DATE 10/14/14 TIME 1700 SIGNATURE [Signature]																																																																																																																																																																																																						
SAMPLE CONDITIONS Temp in °C 2.2 Received on Ice (Y/N) Y Sealed Cooler (Y/N) Y Samples Intact (Y/N) Y																																																																																																																																																																																																						
SAMPLER NAME AND SIGNATURE PRINT Name of SAMPLER: JOHN ANDERSON SIGNATURE of SAMPLER: [Signature] DATE Signed (MM/DD/YYYY): 10/18/14																																																																																																																																																																																																						

October 24, 2014

Erin Holmes
XDD, LLC
22 Marin Way #3
Stratham, NH 03885

RE: Project: BIG MO SVE
Pace Project No.: 60179852

Dear Erin Holmes:

Enclosed are the analytical results for sample(s) received by the laboratory on October 09, 2014. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Jamie Church
jamie.church@pacelabs.com
Project Manager

Enclosures

cc: William Johnson, Solutia, Inc.
Dennis Keane, XDD, LLC.



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: BIG MO SVE

Pace Project No.: 60179852

Kansas Certification IDs

9608 Loiret Boulevard, Lenexa, KS 66219

WY STR Certification #: 2456.01

Arkansas Certification #: 13-012-0

Illinois Certification #: 003097

Iowa Certification #: 118

Kansas/NELAP Certification #: E-10116

Louisiana Certification #: 03055

Nevada Certification #: KS000212008A

Oklahoma Certification #: 9205/9935

Texas Certification #: T104704407

Utah Certification #: KS00021

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: BIG MO SVE

Pace Project No.: 60179852

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60179852001	WGK-BIGMO-SB36-12.0	Solid	10/07/14 09:50	10/09/14 02:20
60179852002	WGK-BIGMO-SB36-14.0	Solid	10/07/14 09:55	10/09/14 02:20
60179852003	WGK-BIGMO-SB36-13.5-14.0	Solid	10/07/14 10:00	10/09/14 02:20
60179852004	WGK-BIGMO-SB36-4.0-4.4	Solid	10/07/14 10:05	10/09/14 02:20
60179852005	WGK-BIGMO-SB36-12.5-13.0	Solid	10/07/14 10:15	10/09/14 02:20
60179852006	WGK-BIGMO-SB36-4.0	Solid	10/07/14 10:10	10/09/14 02:20
60179852007	WGK-BIGMO-SB-DUP-3	Solid	10/07/14 12:00	10/09/14 02:20
60179852008	WGK-BIGMO-SB-DUP-4	Solid	10/07/14 12:25	10/09/14 02:20
60179852009	WGK-BIGMO-SB34-9.1-9.3	Solid	10/06/14 13:20	10/09/14 02:20

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: BIG MO SVE

Pace Project No.: 60179852

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60179852001	WGK-BIGMO-SB36-12.0	EPA 8260	JKL	9	PASI-K
		ASTM D2974	DWC	1	PASI-K
60179852002	WGK-BIGMO-SB36-14.0	EPA 8260	JKL	9	PASI-K
		ASTM D2974	DWC	1	PASI-K
60179852003	WGK-BIGMO-SB36-13.5-14.0	EPA 8260	JKL	9	PASI-K
		ASTM D2974	DWC	1	PASI-K
60179852004	WGK-BIGMO-SB36-4.0-4.4	EPA 8260	JKL	9	PASI-K
		ASTM D2974	DWC	1	PASI-K
60179852005	WGK-BIGMO-SB36-12.5-13.0	EPA 8260	JKL	9	PASI-K
		ASTM D2974	DWC	1	PASI-K
60179852006	WGK-BIGMO-SB36-4.0	EPA 8260	JKL	9	PASI-K
		ASTM D2974	DWC	1	PASI-K
60179852007	WGK-BIGMO-SB-DUP-3	EPA 8260	JKL	9	PASI-K
		ASTM D2974	DWC	1	PASI-K
60179852008	WGK-BIGMO-SB-DUP-4	EPA 8260	JKL	9	PASI-K
		ASTM D2974	DWC	1	PASI-K
60179852009	WGK-BIGMO-SB34-9.1-9.3	EPA 8260	JKL	9	PASI-K
		ASTM D2974	DWC	1	PASI-K

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: BIG MO SVE

Pace Project No.: 60179852

Method: EPA 8260

Description: 8260 MSV 5035A VOA

Client: XDD_SOLUTIONIA, LLC

Date: October 24, 2014

General Information:

9 samples were analyzed for EPA 8260. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

Surrogates:

All surrogates were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: MSV/65109

A matrix spike/matrix spike duplicate was not performed due to insufficient sample volume.

QC Batch: MSV/65111

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 60180165021

M1: Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

- MS (Lab ID: 1461408)
 - Toluene
 - Xylene (Total)
- MSD (Lab ID: 1461409)
 - Ethylbenzene
 - Toluene

R1: RPD value was outside control limits.

- MSD (Lab ID: 1461409)
 - Xylene (Total)

Additional Comments:

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: BIG MO SVE

Pace Project No.: 60179852

Method: EPA 8260

Description: 8260 MSV 5035A VOA

Client: XDD_SOLUTION, LLC

Date: October 24, 2014

This data package has been reviewed for quality and completeness and is approved for release.

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BIG MO SVE

Pace Project No.: 60179852

Sample: WGK-BIGMO-SB36-12.0 **Lab ID:** 60179852001 Collected: 10/07/14 09:50 Received: 10/09/14 02:20 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA									
Analytical Method: EPA 8260									
Benzene	9080	ug/kg	540	270	100		10/17/14 09:20	71-43-2	
Chlorobenzene	ND	ug/kg	540	270	100		10/17/14 09:20	108-90-7	
1,4-Dichlorobenzene	ND	ug/kg	540	270	100		10/17/14 09:20	106-46-7	
Ethylbenzene	ND	ug/kg	540	270	100		10/17/14 09:20	100-41-4	
Toluene	718	ug/kg	540	270	100		10/17/14 09:20	108-88-3	
Xylene (Total)	ND	ug/kg	540	270	100		10/17/14 09:20	1330-20-7	
Surrogates									
Toluene-d8 (S)	101	%	80-120		100		10/17/14 09:20	2037-26-5	
4-Bromofluorobenzene (S)	106	%	76-123		100		10/17/14 09:20	460-00-4	
1,2-Dichloroethane-d4 (S)	115	%	75-129		100		10/17/14 09:20	17060-07-0	
Percent Moisture									
Analytical Method: ASTM D2974									
Percent Moisture	3.4	%	0.50	0.50	1		10/20/14 00:00		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BIG MO SVE

Pace Project No.: 60179852

Sample: WGK-BIGMO-SB36-14.0 **Lab ID:** 60179852002 Collected: 10/07/14 09:55 Received: 10/09/14 02:20 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA									
Analytical Method: EPA 8260									
Benzene	874000	ug/kg	33800	16900	5000		10/17/14 08:03	71-43-2	
Chlorobenzene	ND	ug/kg	3380	1690	500		10/16/14 03:05	108-90-7	
1,4-Dichlorobenzene	ND	ug/kg	3380	1690	500		10/16/14 03:05	106-46-7	
Ethylbenzene	ND	ug/kg	3380	1690	500		10/16/14 03:05	100-41-4	
Toluene	ND	ug/kg	3380	1690	500		10/16/14 03:05	108-88-3	
Xylene (Total)	ND	ug/kg	3380	1690	500		10/16/14 03:05	1330-20-7	
Surrogates									
Toluene-d8 (S)	100	%	80-120		500		10/16/14 03:05	2037-26-5	
4-Bromofluorobenzene (S)	98	%	76-123		500		10/16/14 03:05	460-00-4	
1,2-Dichloroethane-d4 (S)	93	%	75-129		500		10/16/14 03:05	17060-07-0	
Percent Moisture									
Analytical Method: ASTM D2974									
Percent Moisture	20.8	%	0.50	0.50	1		10/20/14 00:00		

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ANALYTICAL RESULTS

Project: BIG MO SVE

Pace Project No.: 60179852

Sample: WGK-BIGMO-SB36-13.5-14.0 **Lab ID:** 60179852003 Collected: 10/07/14 10:00 Received: 10/09/14 02:20 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA									
Analytical Method: EPA 8260									
Benzene	2310000	ug/kg	54800	27400	10000		10/17/14 08:19	71-43-2	
Chlorobenzene	ND	ug/kg	2740	1370	500		10/16/14 03:51	108-90-7	
1,4-Dichlorobenzene	ND	ug/kg	2740	1370	500		10/16/14 03:51	106-46-7	
Ethylbenzene	ND	ug/kg	2740	1370	500		10/16/14 03:51	100-41-4	
Toluene	ND	ug/kg	2740	1370	500		10/16/14 03:51	108-88-3	
Xylene (Total)	ND	ug/kg	2740	1370	500		10/16/14 03:51	1330-20-7	
Surrogates									
Toluene-d8 (S)	100	%	80-120		500		10/16/14 03:51	2037-26-5	
4-Bromofluorobenzene (S)	100	%	76-123		500		10/16/14 03:51	460-00-4	
1,2-Dichloroethane-d4 (S)	96	%	75-129		500		10/16/14 03:51	17060-07-0	
Percent Moisture									
Analytical Method: ASTM D2974									
Percent Moisture	23.9	%	0.50	0.50	1		10/20/14 00:00		

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ANALYTICAL RESULTS

Project: BIG MO SVE

Pace Project No.: 60179852

Sample: WGK-BIGMO-SB36-4.0-4.4 **Lab ID:** 60179852004 Collected: 10/07/14 10:05 Received: 10/09/14 02:20 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA									
Analytical Method: EPA 8260									
Benzene	1360000	ug/kg	32500	16200	5000		10/17/14 08:34	71-43-2	
Chlorobenzene	ND	ug/kg	3250	1620	500		10/16/14 04:07	108-90-7	
1,4-Dichlorobenzene	2580J	ug/kg	3250	1620	500		10/16/14 04:07	106-46-7	
Ethylbenzene	ND	ug/kg	3250	1620	500		10/16/14 04:07	100-41-4	
Toluene	ND	ug/kg	3250	1620	500		10/16/14 04:07	108-88-3	
Xylene (Total)	ND	ug/kg	3250	1620	500		10/16/14 04:07	1330-20-7	
Surrogates									
Toluene-d8 (S)	99	%	80-120		500		10/16/14 04:07	2037-26-5	
4-Bromofluorobenzene (S)	96	%	76-123		500		10/16/14 04:07	460-00-4	
1,2-Dichloroethane-d4 (S)	94	%	75-129		500		10/16/14 04:07	17060-07-0	
Percent Moisture									
Analytical Method: ASTM D2974									
Percent Moisture	23.4	%	0.50	0.50	1		10/20/14 00:00		

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ANALYTICAL RESULTS

Project: BIG MO SVE

Pace Project No.: 60179852

Sample: WGK-BIGMO-SB36-12.5-13.0 **Lab ID:** 60179852005 Collected: 10/07/14 10:15 Received: 10/09/14 02:20 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA									
Analytical Method: EPA 8260									
Benzene	73400	ug/kg	2940	1470	500		10/16/14 04:22	71-43-2	
Chlorobenzene	ND	ug/kg	2940	1470	500		10/16/14 04:22	108-90-7	
1,4-Dichlorobenzene	ND	ug/kg	2940	1470	500		10/16/14 04:22	106-46-7	
Ethylbenzene	ND	ug/kg	2940	1470	500		10/16/14 04:22	100-41-4	
Toluene	ND	ug/kg	2940	1470	500		10/16/14 04:22	108-88-3	
Xylene (Total)	ND	ug/kg	2940	1470	500		10/16/14 04:22	1330-20-7	
Surrogates									
Toluene-d8 (S)	100	%	80-120		500		10/16/14 04:22	2037-26-5	
4-Bromofluorobenzene (S)	101	%	76-123		500		10/16/14 04:22	460-00-4	
1,2-Dichloroethane-d4 (S)	93	%	75-129		500		10/16/14 04:22	17060-07-0	
Percent Moisture									
Analytical Method: ASTM D2974									
Percent Moisture	10.2	%	0.50	0.50	1		10/20/14 00:00		

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ANALYTICAL RESULTS

Project: BIG MO SVE

Pace Project No.: 60179852

Sample: W GK-BIGMO-SB36-4.0 **Lab ID:** 60179852006 Collected: 10/07/14 10:10 Received: 10/09/14 02:20 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA									
Analytical Method: EPA 8260									
Benzene	2560000	ug/kg	52700	26400	5000		10/17/14 08:50	71-43-2	
Chlorobenzene	4350J	ug/kg	5270	2640	500		10/16/14 04:37	108-90-7	
1,4-Dichlorobenzene	7010	ug/kg	5270	2640	500		10/16/14 04:37	106-46-7	
Ethylbenzene	ND	ug/kg	5270	2640	500		10/16/14 04:37	100-41-4	
Toluene	ND	ug/kg	5270	2640	500		10/16/14 04:37	108-88-3	
Xylene (Total)	ND	ug/kg	5270	2640	500		10/16/14 04:37	1330-20-7	
Surrogates									
Toluene-d8 (S)	100	%	80-120		500		10/16/14 04:37	2037-26-5	
4-Bromofluorobenzene (S)	97	%	76-123		500		10/16/14 04:37	460-00-4	
1,2-Dichloroethane-d4 (S)	91	%	75-129		500		10/16/14 04:37	17060-07-0	
Percent Moisture									
Analytical Method: ASTM D2974									
Percent Moisture	19.9	%	0.50	0.50	1		10/20/14 00:00		

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ANALYTICAL RESULTS

Project: BIG MO SVE

Pace Project No.: 60179852

Sample: WGK-BIGMO-SB-DUP-3 **Lab ID:** 60179852007 Collected: 10/07/14 12:00 Received: 10/09/14 02:20 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA									
Analytical Method: EPA 8260									
Benzene	1600000	ug/kg	29200	14600	5000		10/17/14 09:05	71-43-2	
Chlorobenzene	ND	ug/kg	2920	1460	500		10/16/14 04:53	108-90-7	
1,4-Dichlorobenzene	ND	ug/kg	2920	1460	500		10/16/14 04:53	106-46-7	
Ethylbenzene	ND	ug/kg	2920	1460	500		10/16/14 04:53	100-41-4	
Toluene	ND	ug/kg	2920	1460	500		10/16/14 04:53	108-88-3	
Xylene (Total)	ND	ug/kg	2920	1460	500		10/16/14 04:53	1330-20-7	
Surrogates									
Toluene-d8 (S)	99	%	80-120		500		10/16/14 04:53	2037-26-5	
4-Bromofluorobenzene (S)	101	%	76-123		500		10/16/14 04:53	460-00-4	
1,2-Dichloroethane-d4 (S)	93	%	75-129		500		10/16/14 04:53	17060-07-0	
Percent Moisture									
Analytical Method: ASTM D2974									
Percent Moisture	24.5	%	0.50	0.50	1		10/20/14 00:00		

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ANALYTICAL RESULTS

Project: BIG MO SVE

Pace Project No.: 60179852

Sample: WGK-BIGMO-SB-DUP-4 **Lab ID:** 60179852008 Collected: 10/07/14 12:25 Received: 10/09/14 02:20 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA									
Analytical Method: EPA 8260									
Benzene	9820	ug/kg	627	314	100		10/20/14 16:01	71-43-2	
Chlorobenzene	ND	ug/kg	627	314	100		10/20/14 16:01	108-90-7	
1,4-Dichlorobenzene	ND	ug/kg	627	314	100		10/20/14 16:01	106-46-7	
Ethylbenzene	ND	ug/kg	627	314	100		10/20/14 16:01	100-41-4	
Toluene	ND	ug/kg	627	314	100		10/20/14 16:01	108-88-3	
Xylene (Total)	ND	ug/kg	627	314	100		10/20/14 16:01	1330-20-7	
Surrogates									
Toluene-d8 (S)	102	%	80-120		100		10/20/14 16:01	2037-26-5	
4-Bromofluorobenzene (S)	100	%	76-123		100		10/20/14 16:01	460-00-4	
1,2-Dichloroethane-d4 (S)	97	%	75-129		100		10/20/14 16:01	17060-07-0	
Percent Moisture									
Analytical Method: ASTM D2974									
Percent Moisture	25.4	%	0.50	0.50	1		10/20/14 00:00		

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ANALYTICAL RESULTS

Project: BIG MO SVE

Pace Project No.: 60179852

Sample: WGK-BIGMO-SB34-9.1-9.3 **Lab ID:** 60179852009 Collected: 10/06/14 13:20 Received: 10/09/14 02:20 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA									
Analytical Method: EPA 8260									
Benzene	2.6J	ug/kg	5.2	2.6	1		10/17/14 14:51	71-43-2	
Chlorobenzene	ND	ug/kg	5.2	2.6	1		10/17/14 14:51	108-90-7	
1,4-Dichlorobenzene	ND	ug/kg	5.2	2.6	1		10/17/14 14:51	106-46-7	
Ethylbenzene	ND	ug/kg	5.2	2.6	1		10/17/14 14:51	100-41-4	
Toluene	ND	ug/kg	5.2	2.6	1		10/17/14 14:51	108-88-3	
Xylene (Total)	ND	ug/kg	5.2	2.6	1		10/17/14 14:51	1330-20-7	
Surrogates									
Toluene-d8 (S)	100	%	80-120		1		10/17/14 14:51	2037-26-5	
4-Bromofluorobenzene (S)	101	%	76-123		1		10/17/14 14:51	460-00-4	
1,2-Dichloroethane-d4 (S)	99	%	75-129		1		10/17/14 14:51	17060-07-0	
Percent Moisture									
Analytical Method: ASTM D2974									
Percent Moisture	25.4	%	0.50	0.50	1		10/20/14 00:00		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BIG MO SVE
Pace Project No.: 60179852

QC Batch: MSV/65090 Analysis Method: EPA 8260
QC Batch Method: EPA 8260 Analysis Description: 8260 MSV 5035A Volatile Organics
Associated Lab Samples: 60179852002, 60179852003, 60179852004, 60179852005, 60179852006, 60179852007

METHOD BLANK: 1460696 Matrix: Solid
Associated Lab Samples: 60179852002, 60179852003, 60179852004, 60179852005, 60179852006, 60179852007

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,4-Dichlorobenzene	ug/kg	ND	5.0	10/15/14 23:31	
Benzene	ug/kg	ND	5.0	10/15/14 23:31	
Chlorobenzene	ug/kg	ND	5.0	10/15/14 23:31	
Ethylbenzene	ug/kg	ND	5.0	10/15/14 23:31	
Toluene	ug/kg	ND	5.0	10/15/14 23:31	
Xylene (Total)	ug/kg	ND	5.0	10/15/14 23:31	
1,2-Dichloroethane-d4 (S)	%	94	75-129	10/15/14 23:31	
4-Bromofluorobenzene (S)	%	100	76-123	10/15/14 23:31	
Toluene-d8 (S)	%	99	80-120	10/15/14 23:31	

LABORATORY CONTROL SAMPLE: 1460697

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,4-Dichlorobenzene	ug/kg	100	96.3	96	80-120	
Benzene	ug/kg	100	96.5	96	80-120	
Chlorobenzene	ug/kg	100	100	100	80-120	
Ethylbenzene	ug/kg	100	101	101	80-120	
Toluene	ug/kg	100	99.2	99	79-120	
Xylene (Total)	ug/kg	300	302	101	79-120	
1,2-Dichloroethane-d4 (S)	%			93	75-129	
4-Bromofluorobenzene (S)	%			102	76-123	
Toluene-d8 (S)	%			100	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1460698 1460699

Parameter	Units	60179852002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1,4-Dichlorobenzene	ug/kg	ND	67600	67600	54100	57000	80	84	10-144	5	48	
Benzene	ug/kg	874000	67600	67600	868000	910000	54	116	22-144	5	38	
Chlorobenzene	ug/kg	ND	67600	67600	58000	59900	86	89	10-145	3	46	
Ethylbenzene	ug/kg	ND	67600	67600	58300	62000	86	92	10-154	6	42	
Toluene	ug/kg	ND	67600	67600	56500	60300	83	89	11-150	6	40	
Xylene (Total)	ug/kg	ND	203000	203000	173000	180000	85	89	10-154	4	41	
1,2-Dichloroethane-d4 (S)	%						89	94	75-129			
4-Bromofluorobenzene (S)	%						102	101	76-123			
Toluene-d8 (S)	%						97	100	80-120			

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BIG MO SVE

Pace Project No.: 60179852

QC Batch: MSV/65109

Analysis Method: EPA 8260

QC Batch Method: EPA 8260

Analysis Description: 8260 MSV 5035A Volatile Organics

Associated Lab Samples: 60179852009

METHOD BLANK: 1461326

Matrix: Solid

Associated Lab Samples: 60179852009

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,4-Dichlorobenzene	ug/kg	ND	5.0	10/17/14 13:19	
Benzene	ug/kg	ND	5.0	10/17/14 13:19	
Chlorobenzene	ug/kg	ND	5.0	10/17/14 13:19	
Ethylbenzene	ug/kg	ND	5.0	10/17/14 13:19	
Toluene	ug/kg	ND	5.0	10/17/14 13:19	
Xylene (Total)	ug/kg	ND	5.0	10/17/14 13:19	
1,2-Dichloroethane-d4 (S)	%	97	75-129	10/17/14 13:19	
4-Bromofluorobenzene (S)	%	95	76-123	10/17/14 13:19	
Toluene-d8 (S)	%	100	80-120	10/17/14 13:19	

LABORATORY CONTROL SAMPLE: 1461327

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,4-Dichlorobenzene	ug/kg	100	108	108	80-120	
Benzene	ug/kg	100	106	106	80-120	
Chlorobenzene	ug/kg	100	107	107	80-120	
Ethylbenzene	ug/kg	100	111	111	80-120	
Toluene	ug/kg	100	111	111	79-120	
Xylene (Total)	ug/kg	300	330	110	79-120	
1,2-Dichloroethane-d4 (S)	%			93	75-129	
4-Bromofluorobenzene (S)	%			103	76-123	
Toluene-d8 (S)	%			103	80-120	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BIG MO SVE
Pace Project No.: 60179852

QC Batch: MSV/65111 Analysis Method: EPA 8260
QC Batch Method: EPA 8260 Analysis Description: 8260 MSV 5035A Volatile Organics
Associated Lab Samples: 60179852001, 60179852002, 60179852003, 60179852004, 60179852006, 60179852007

METHOD BLANK: 1461330 Matrix: Solid
Associated Lab Samples: 60179852001, 60179852002, 60179852003, 60179852004, 60179852006, 60179852007

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,4-Dichlorobenzene	ug/kg	ND	5.0	10/17/14 06:01	
Benzene	ug/kg	ND	5.0	10/17/14 06:01	
Chlorobenzene	ug/kg	ND	5.0	10/17/14 06:01	
Ethylbenzene	ug/kg	ND	5.0	10/17/14 06:01	
Toluene	ug/kg	ND	5.0	10/17/14 06:01	
Xylene (Total)	ug/kg	ND	5.0	10/17/14 06:01	
1,2-Dichloroethane-d4 (S)	%	98	75-129	10/17/14 06:01	
4-Bromofluorobenzene (S)	%	100	76-123	10/17/14 06:01	
Toluene-d8 (S)	%	101	80-120	10/17/14 06:01	

LABORATORY CONTROL SAMPLE: 1461331

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,4-Dichlorobenzene	ug/kg	100	92.7	93	80-120	
Benzene	ug/kg	100	105	105	80-120	
Chlorobenzene	ug/kg	100	101	101	80-120	
Ethylbenzene	ug/kg	100	100	100	80-120	
Toluene	ug/kg	100	105	105	79-120	
Xylene (Total)	ug/kg	300	302	101	79-120	
1,2-Dichloroethane-d4 (S)	%			95	75-129	
4-Bromofluorobenzene (S)	%			100	76-123	
Toluene-d8 (S)	%			103	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1461408 1461409

Parameter	Units	60180165021 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1,4-Dichlorobenzene	ug/kg	ND	6450	6450	5430	7010	84	109	10-144	25	48	
Benzene	ug/kg	10600	6450	6450	14700	19800	63	142	22-144	30	38	
Chlorobenzene	ug/kg	ND	6450	6450	5840	7460	88	113	10-145	24	46	
Ethylbenzene	ug/kg	40800	6450	6450	50900	60500	62	210	10-154	17	42	M1
Toluene	ug/kg	85400	6450	6450	91900	106000	-63	151	11-150	14	40	M1
Xylene (Total)	ug/kg	195000	19300	19300	21800	252000	-1041	146	10-154	168	41	M1,R1
1,2-Dichloroethane-d4 (S)	%						88	109	75-129			
4-Bromofluorobenzene (S)	%						114	115	76-123			
Toluene-d8 (S)	%						104	102	80-120			

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QUALITY CONTROL DATA

Project: BIG MO SVE
Pace Project No.: 60179852

QC Batch:	MSV/65197	Analysis Method:	EPA 8260
QC Batch Method:	EPA 8260	Analysis Description:	8260 MSV 5035A Volatile Organics
Associated Lab Samples:	60179852008		

METHOD BLANK: 1463791 Matrix: Solid
Associated Lab Samples: 60179852008

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,4-Dichlorobenzene	ug/kg	ND	5.0	10/20/14 14:44	
Benzene	ug/kg	ND	5.0	10/20/14 14:44	
Chlorobenzene	ug/kg	ND	5.0	10/20/14 14:44	
Ethylbenzene	ug/kg	ND	5.0	10/20/14 14:44	
Toluene	ug/kg	ND	5.0	10/20/14 14:44	
Xylene (Total)	ug/kg	ND	5.0	10/20/14 14:44	
1,2-Dichloroethane-d4 (S)	%	95	75-129	10/20/14 14:44	
4-Bromofluorobenzene (S)	%	100	76-123	10/20/14 14:44	
Toluene-d8 (S)	%	101	80-120	10/20/14 14:44	

LABORATORY CONTROL SAMPLE: 1463792

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,4-Dichlorobenzene	ug/kg	100	105	105	80-120	
Benzene	ug/kg	100	98.7	99	80-120	
Chlorobenzene	ug/kg	100	104	104	80-120	
Ethylbenzene	ug/kg	100	105	105	80-120	
Toluene	ug/kg	100	103	103	79-120	
Xylene (Total)	ug/kg	300	314	105	79-120	
1,2-Dichloroethane-d4 (S)	%			94	75-129	
4-Bromofluorobenzene (S)	%			100	76-123	
Toluene-d8 (S)	%			100	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1463793 1463794

Parameter	Units	60179852008 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1,4-Dichlorobenzene	ug/kg	ND	12500	12500	11700	11600	94	92	10-144	1	48	
Benzene	ug/kg	9820	12500	12500	19600	20000	78	81	22-144	2	38	
Chlorobenzene	ug/kg	ND	12500	12500	12000	11400	96	91	10-145	5	46	
Ethylbenzene	ug/kg	ND	12500	12500	11800	11600	94	93	10-154	1	42	
Toluene	ug/kg	ND	12500	12500	11200	11300	89	90	11-150	1	40	
Xylene (Total)	ug/kg	ND	37600	37600	35200	34700	94	92	10-154	2	41	
1,2-Dichloroethane-d4 (S)	%						93	94	75-129			
4-Bromofluorobenzene (S)	%						100	102	76-123			
Toluene-d8 (S)	%						99	102	80-120			

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BIG MO SVE

Pace Project No.: 60179852

QC Batch:	PMST/10132	Analysis Method:	ASTM D2974
QC Batch Method:	ASTM D2974	Analysis Description:	Dry Weight/Percent Moisture
Associated Lab Samples:	60179852001, 60179852002, 60179852003, 60179852004, 60179852005, 60179852006, 60179852007, 60179852008, 60179852009		

METHOD BLANK:	1463551	Matrix:	Solid
Associated Lab Samples:	60179852001, 60179852002, 60179852003, 60179852004, 60179852005, 60179852006, 60179852007, 60179852008, 60179852009		

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Percent Moisture	%	ND	0.50	10/20/14 00:00	

SAMPLE DUPLICATE: 1463552

Parameter	Units	60179851005 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	37.2	35.1	6	20	

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REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: BIG MO SVE
Pace Project No.: 60179852

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

LABORATORIES

PASI-K Pace Analytical Services - Kansas City

BATCH QUALIFIERS

Batch: MSV/65109

[M5] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

ANALYTE QUALIFIERS

M1 Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

R1 RPD value was outside control limits.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: BIG MO SVE

Pace Project No.: 60179852

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60179852001	WGK-BIGMO-SB36-12.0	EPA 8260	MSV/65111		
60179852002	WGK-BIGMO-SB36-14.0	EPA 8260	MSV/65090		
60179852002	WGK-BIGMO-SB36-14.0	EPA 8260	MSV/65111		
60179852003	WGK-BIGMO-SB36-13.5-14.0	EPA 8260	MSV/65090		
60179852003	WGK-BIGMO-SB36-13.5-14.0	EPA 8260	MSV/65111		
60179852004	WGK-BIGMO-SB36-4.0-4.4	EPA 8260	MSV/65090		
60179852004	WGK-BIGMO-SB36-4.0-4.4	EPA 8260	MSV/65111		
60179852005	WGK-BIGMO-SB36-12.5-13.0	EPA 8260	MSV/65090		
60179852006	WGK-BIGMO-SB36-4.0	EPA 8260	MSV/65090		
60179852006	WGK-BIGMO-SB36-4.0	EPA 8260	MSV/65111		
60179852007	WGK-BIGMO-SB-DUP-3	EPA 8260	MSV/65090		
60179852007	WGK-BIGMO-SB-DUP-3	EPA 8260	MSV/65111		
60179852008	WGK-BIGMO-SB-DUP-4	EPA 8260	MSV/65197		
60179852009	WGK-BIGMO-SB34-9.1-9.3	EPA 8260	MSV/65109		
60179852001	WGK-BIGMO-SB36-12.0	ASTM D2974	PMST/10132		
60179852002	WGK-BIGMO-SB36-14.0	ASTM D2974	PMST/10132		
60179852003	WGK-BIGMO-SB36-13.5-14.0	ASTM D2974	PMST/10132		
60179852004	WGK-BIGMO-SB36-4.0-4.4	ASTM D2974	PMST/10132		
60179852005	WGK-BIGMO-SB36-12.5-13.0	ASTM D2974	PMST/10132		
60179852006	WGK-BIGMO-SB36-4.0	ASTM D2974	PMST/10132		
60179852007	WGK-BIGMO-SB-DUP-3	ASTM D2974	PMST/10132		
60179852008	WGK-BIGMO-SB-DUP-4	ASTM D2974	PMST/10132		
60179852009	WGK-BIGMO-SB34-9.1-9.3	ASTM D2974	PMST/10132		

REPORT OF LABORATORY ANALYSIS

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Sample Condition Upon Receipt

WO#: 60179852



60179852

Client Name: XDDCourier: Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☒ Pace ☐ Other ☒ ReadyTracking #: _____ Pace Shipping Label Used? Yes ☐ No ☐Custody Seal on Cooler/Box Present: Yes ☒ No ☐ Seals intact: Yes ☒ No ☐Packing Material: Bubble Wrap ☒ Bubble Bags ☐ Foam ☒ None ☐ Other ☐Thermometer Used: T-239 / T-194Type of Ice: Wet ☐ Blue ☐ None ☐ Samples received on ice, cooling process has begun.
(circle one)Cooler Temperature: 5.0 LDate and initials of person examining contents: GW 10/9/14

Temperature should be above freezing to 6°C

Chain of Custody present:	☒ Yes ☐ No ☐ N/A	1.
Chain of Custody filled out:	☒ Yes ☐ No ☐ N/A	2.
Chain of Custody relinquished:	☒ Yes ☐ No ☐ N/A	3.
Sampler name & signature on COC:	☒ Yes ☐ No ☐ N/A	4.
Samples arrived within holding time:	☒ Yes ☐ No ☐ N/A	5.
Short Hold Time analyses (<72hr):	☐ Yes ☒ No ☐ N/A	6.
Rush Turn Around Time requested:	☐ Yes ☒ No ☐ N/A	7.
Sufficient volume:	☒ Yes ☐ No ☐ N/A	8.
Correct containers used:	☒ Yes ☐ No ☐ N/A	
Pace containers used:	☒ Yes ☐ No ☐ N/A	9.
Containers intact:	☒ Yes ☐ No ☐ N/A	10.
Unpreserved 5035A soils frozen w/in 48hrs?	☒ Yes ☐ No ☐ N/A	11.
Filtered volume received for dissolved tests?	☐ Yes ☐ No ☒ N/A	12.
Sample labels match COC:	☐ Yes ☒ No ☐ N/A	13. Sample WbK-Bigmo-5836-14.0 has a ms sample unlabeled on COC. It is labeled WbK-Bigmo-5836-14.0-MS
Includes date/time/ID/analyses	Matrix: <u>SL</u>	
All containers needing preservation have been checked.	☐ Yes ☐ No ☒ N/A	
All containers needing preservation are found to be in compliance with EPA recommendation.	☐ Yes ☐ No ☒ N/A	14.
Exceptions: <u>VOA</u> coliform, TOC, O&G, WI-DRO (water), Phenolics	☒ Yes ☐ No	Initial when completed
Trip Blank present:	☐ Yes ☒ No ☐ N/A	Lot # of added preservative
Pace Trip Blank lot # (if purchased):		15.
Headspace in VOA vials (>6mm):	☐ Yes ☐ No ☒ N/A	16.
Project sampled in USDA Regulated Area:	☐ Yes ☒ No ☐ N/A	17. List State:

Client Notification/ Resolution:

Copy COC to Client? Y / N

Field Data Required? Y / N

Person Contacted: _____

Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: _____

Jamie ChuechDate: 10/9/14



CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Page: 1 of 1

Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:	
Company:	XDD, LLC	Report To:	Erin Holmes	Attention:	Bill Johnson
Address:	22 Marin Way #3 Stratham, NH 03885	Copy To:	John Anderson	Company Name:	Solutia
Email To:	holmes@xdd-llc.com	Purchase Order No.:		Address:	
Phone:	603-418-3132 Fax: 603-778-2121	Project Name:	BIG MO SVE	Pace Quote Reference:	00015316
Requested Due Date/TAT:	standard	Project Number:	11003.12 47	Pace Project Manager:	Jamie Church
				Pace Profile #:	5786

REGULATORY AGENCY	
NPDES	GROUND WATER
UST	RCRA
DRINKING WATER	
OTHER	

Site Location	IL
STATE:	

ITEM #	Section D Required Client Information	Valid Matrix Codes MATRIX CODE DW DRINKING WATER WV WASTE WATER WP WASTE PRODUCT SL SOLID OIL WIPE WP AIR AR OTHER OT TISSE TS	SAMPLE ID (A-Z, 0-9 / -)	Sample IDs MUST BE UNIQUE	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED				# OF CONTAINERS	Preservatives							Analysis Test ↓ 260 VOCs	Y/N	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																		
							DATE	TIME	DATE	TIME		COMPOSITE START	COMPOSITE END/GRAB	Unpreserved	H ₂ SO ₄	HNO ₃	HCl	NaOH					Na ₂ S ₂ O ₃	Methanol	Other																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																															
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ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS	
							Received on	Sealed Cooler
*BTEX, chlorobenzene, 2,4-dichlorobenzene	Jamie Church	10/8/14	1200	Bill Johnson	10/8/14	1200	Y	Y
	Jamie Church	6-8-14	1700	Bill Johnson	10/9	0400	Y	Y
							Y	Y
							Y	Y

SAMPLER NAME AND SIGNATURE	
PRINT Name of SAMPLER:	DATE Signed (MM/DD/YY):
SIGNATURE of SAMPLER:	10/8/14

October 24, 2014

Erin Holmes
XDD, LLC
22 Marin Way #3
Stratham, NH 03885

RE: Project: BIG MO SVE
Pace Project No.: 60179853

Dear Erin Holmes:

Enclosed are the analytical results for sample(s) received by the laboratory on October 09, 2014. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Jamie Church
jamie.church@pacelabs.com
Project Manager

Enclosures

cc: William Johnson, Solutia, Inc.
Dennis Keane, XDD, LLC.



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: BIG MO SVE

Pace Project No.: 60179853

Kansas Certification IDs

9608 Loiret Boulevard, Lenexa, KS 66219

WY STR Certification #: 2456.01

Arkansas Certification #: 13-012-0

Illinois Certification #: 003097

Iowa Certification #: 118

Kansas/NELAP Certification #: E-10116

Louisiana Certification #: 03055

Nevada Certification #: KS000212008A

Oklahoma Certification #: 9205/9935

Texas Certification #: T104704407

Utah Certification #: KS00021

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: BIG MO SVE

Pace Project No.: 60179853

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60179853001	WGK-BIGMO-SB33-8.0-8.3	Solid	10/06/14 14:10	10/09/14 02:20
60179853002	WGK-BIGMO-SB65-14.5	Solid	10/06/14 16:30	10/09/14 02:20
60179853003	WGK-BIGMO-SB65-10.8	Solid	10/06/14 16:20	10/09/14 02:20
60179853004	WGK-BIGMO-SB65-13.0	Solid	10/06/14 16:25	10/09/14 02:20
60179853005	WGK-BIGMO-SB-DUP-1	Solid	10/06/14 14:00	10/09/14 02:20
60179853006	WGK-BIGMO-SB33-10.5	Solid	10/06/14 13:50	10/09/14 02:20
60179853007	WGK-BIGMO-SB66-8.0-8.5	Solid	10/06/14 12:55	10/09/14 02:20
60179853008	WGK-BIGMO-SB65-12.3-12.5	Solid	10/06/14 16:50	10/09/14 02:20
60179853009	WGK-BIGMO-SB65-9.0-9.5	Solid	10/06/14 16:45	10/09/14 02:20
60179853010	WGK-BIGMO-SB69-14.0	Solid	10/06/14 15:00	10/09/14 02:20
60179853011	WGK-BIGMO-SB69-12.0	Solid	10/06/14 15:05	10/09/14 02:20
60179853012	TRIP BLANK 1A	Solid	10/06/14 15:05	10/09/14 02:20
60179853013	TRIP BLANK 1B	Solid	10/06/14 15:05	10/09/14 02:20
60179853014	TRIP BLANK 4	Solid	10/06/14 15:05	10/09/14 02:20

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: BIG MO SVE

Pace Project No.: 60179853

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60179853001	WGK-BIGMO-SB33-8.0-8.3	EPA 8260	TJT	9	PASI-K
		ASTM D2974	DWC	1	PASI-K
60179853002	WGK-BIGMO-SB65-14.5	EPA 8260	TJT	9	PASI-K
		ASTM D2974	DWC	1	PASI-K
60179853003	WGK-BIGMO-SB65-10.8	EPA 8260	JKL	9	PASI-K
		ASTM D2974	DWC	1	PASI-K
60179853004	WGK-BIGMO-SB65-13.0	EPA 8260	JKL	9	PASI-K
		ASTM D2974	DWC	1	PASI-K
60179853005	WGK-BIGMO-SB-DUP-1	EPA 8260	JKL	9	PASI-K
		ASTM D2974	DWC	1	PASI-K
60179853006	WGK-BIGMO-SB33-10.5	EPA 8260	TJT	9	PASI-K
		ASTM D2974	DWC	1	PASI-K
60179853007	WGK-BIGMO-SB66-8.0-8.5	EPA 8260	JKL	9	PASI-K
		ASTM D2974	DWC	1	PASI-K
60179853008	WGK-BIGMO-SB65-12.3-12.5	EPA 8260	JKL	9	PASI-K
		ASTM D2974	DWC	1	PASI-K
60179853009	WGK-BIGMO-SB65-9.0-9.5	EPA 8260	JKL	9	PASI-K
		ASTM D2974	DWC	1	PASI-K
60179853010	WGK-BIGMO-SB69-14.0	EPA 8260	JKL	9	PASI-K
		ASTM D2974	DWC	1	PASI-K
60179853011	WGK-BIGMO-SB69-12.0	EPA 8260	JKL	9	PASI-K
		ASTM D2974	DWC	1	PASI-K
60179853012	TRIP BLANK 1A	EPA 8260	TJT	9	PASI-K
60179853013	TRIP BLANK 1B	EPA 8260	JKL	9	PASI-K
60179853014	TRIP BLANK 4	EPA 8260	TJT	9	PASI-K

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: BIG MO SVE

Pace Project No.: 60179853

Method: EPA 8260

Description: 8260 MSV 5035A VOA

Client: XDD_SOLUTION, LLC

Date: October 24, 2014

General Information:

14 samples were analyzed for EPA 8260. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

QC Batch: MSV/64973

IS: The internal standard response is below criteria. Results may be biased high.

- WGK-BIGMO-SB33-10.5 (Lab ID: 60179853006)
- Toluene-d8 (S)

Surrogates:

All surrogates were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: MSV/64973

A matrix spike/matrix spike duplicate was not performed due to insufficient sample volume.

QC Batch: MSV/65044

A matrix spike/matrix spike duplicate was not performed due to insufficient sample volume.

QC Batch: MSV/65109

A matrix spike/matrix spike duplicate was not performed due to insufficient sample volume.

QC Batch: MSV/65111

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 60180165021

- M1: Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.
- MS (Lab ID: 1461408)

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: BIG MO SVE

Pace Project No.: 60179853

Method: EPA 8260

Description: 8260 MSV 5035A VOA

Client: XDD_SOLUTIONIA, LLC

Date: October 24, 2014

QC Batch: MSV/65111

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 60180165021

M1: Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

- Toluene
- Xylene (Total)
- MSD (Lab ID: 1461409)
 - Ethylbenzene
 - Toluene

R1: RPD value was outside control limits.

- MSD (Lab ID: 1461409)
 - Xylene (Total)

Additional Comments:

Analyte Comments:

QC Batch: MSV/64973

D3: Sample was diluted due to the presence of high levels of non-target analytes or other matrix interference.

- WGK-BIGMO-SB65-14.5 (Lab ID: 60179853002)
 - 1,4-Dichlorobenzene

P2: Re-extraction or re-analysis could not be performed due to insufficient sample amount.

- WGK-BIGMO-SB33-10.5 (Lab ID: 60179853006)
 - Toluene-d8 (S)

This data package has been reviewed for quality and completeness and is approved for release.

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BIG MO SVE

Pace Project No.: 60179853

Sample: WGK-BIGMO-SB33-8.0-8.3 **Lab ID:** 60179853001 **Collected:** 10/06/14 14:10 **Received:** 10/09/14 02:20 **Matrix:** Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA									
Analytical Method: EPA 8260									
Benzene	ND	ug/kg	4.9	2.4	1		10/10/14 13:00	71-43-2	
Chlorobenzene	ND	ug/kg	4.9	2.4	1		10/10/14 13:00	108-90-7	
1,4-Dichlorobenzene	ND	ug/kg	4.9	2.4	1		10/10/14 13:00	106-46-7	
Ethylbenzene	ND	ug/kg	4.9	2.4	1		10/10/14 13:00	100-41-4	
Toluene	ND	ug/kg	4.9	2.4	1		10/10/14 13:00	108-88-3	
Xylene (Total)	ND	ug/kg	4.9	2.4	1		10/10/14 13:00	1330-20-7	
Surrogates									
Toluene-d8 (S)	99 %		80-120		1		10/10/14 13:00	2037-26-5	
4-Bromofluorobenzene (S)	96 %		76-123		1		10/10/14 13:00	460-00-4	
1,2-Dichloroethane-d4 (S)	108 %		75-129		1		10/10/14 13:00	17060-07-0	
Percent Moisture									
Analytical Method: ASTM D2974									
Percent Moisture	13.2 %		0.50	0.50	1		10/20/14 00:00		

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ANALYTICAL RESULTS

Project: BIG MO SVE

Pace Project No.: 60179853

Sample: WGK-BIGMO-SB65-14.5 **Lab ID:** 60179853002 Collected: 10/06/14 16:30 Received: 10/09/14 02:20 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA									
Analytical Method: EPA 8260									
Benzene	ND	ug/kg	241	121	50		10/10/14 13:16	71-43-2	
Chlorobenzene	ND	ug/kg	241	121	50		10/10/14 13:16	108-90-7	
1,4-Dichlorobenzene	334	ug/kg	241	121	50		10/10/14 13:16	106-46-7	D3
Ethylbenzene	ND	ug/kg	241	121	50		10/10/14 13:16	100-41-4	
Toluene	ND	ug/kg	241	121	50		10/10/14 13:16	108-88-3	
Xylene (Total)	ND	ug/kg	241	121	50		10/10/14 13:16	1330-20-7	
Surrogates									
Toluene-d8 (S)	100	%	80-120		50		10/10/14 13:16	2037-26-5	
4-Bromofluorobenzene (S)	102	%	76-123		50		10/10/14 13:16	460-00-4	
1,2-Dichloroethane-d4 (S)	94	%	75-129		50		10/10/14 13:16	17060-07-0	
Percent Moisture									
Analytical Method: ASTM D2974									
Percent Moisture	8.2	%	0.50	0.50	1		10/20/14 00:00		

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ANALYTICAL RESULTS

Project: BIG MO SVE

Pace Project No.: 60179853

Sample: WGK-BIGMO-SB65-10.8 **Lab ID:** 60179853003 Collected: 10/06/14 16:20 Received: 10/09/14 02:20 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA									
Analytical Method: EPA 8260									
Benzene	92100	ug/kg	3030	1510	500		10/17/14 07:17	71-43-2	
Chlorobenzene	ND	ug/kg	3030	1510	500		10/17/14 07:17	108-90-7	
1,4-Dichlorobenzene	ND	ug/kg	3030	1510	500		10/17/14 07:17	106-46-7	
Ethylbenzene	ND	ug/kg	3030	1510	500		10/17/14 07:17	100-41-4	
Toluene	2880J	ug/kg	3030	1510	500		10/17/14 07:17	108-88-3	
Xylene (Total)	ND	ug/kg	3030	1510	500		10/17/14 07:17	1330-20-7	
Surrogates									
Toluene-d8 (S)	100	%	80-120		500		10/17/14 07:17	2037-26-5	
4-Bromofluorobenzene (S)	100	%	76-123		500		10/17/14 07:17	460-00-4	
1,2-Dichloroethane-d4 (S)	93	%	75-129		500		10/17/14 07:17	17060-07-0	
Percent Moisture									
Analytical Method: ASTM D2974									
Percent Moisture	25.5	%	0.50	0.50	1		10/20/14 00:00		

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ANALYTICAL RESULTS

Project: BIG MO SVE

Pace Project No.: 60179853

Sample: WGK-BIGMO-SB65-13.0 **Lab ID:** 60179853004 Collected: 10/06/14 16:25 Received: 10/09/14 02:20 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA									
Analytical Method: EPA 8260									
Benzene	2140	ug/kg	286	143	50		10/17/14 07:33	71-43-2	
Chlorobenzene	ND	ug/kg	286	143	50		10/17/14 07:33	108-90-7	
1,4-Dichlorobenzene	188J	ug/kg	286	143	50		10/17/14 07:33	106-46-7	
Ethylbenzene	ND	ug/kg	286	143	50		10/17/14 07:33	100-41-4	
Toluene	495	ug/kg	286	143	50		10/17/14 07:33	108-88-3	
Xylene (Total)	ND	ug/kg	286	143	50		10/17/14 07:33	1330-20-7	
Surrogates									
Toluene-d8 (S)	102	%	80-120		50		10/17/14 07:33	2037-26-5	
4-Bromofluorobenzene (S)	105	%	76-123		50		10/17/14 07:33	460-00-4	
1,2-Dichloroethane-d4 (S)	96	%	75-129		50		10/17/14 07:33	17060-07-0	
Percent Moisture									
Analytical Method: ASTM D2974									
Percent Moisture	14.4	%	0.50	0.50	1		10/20/14 00:00		

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ANALYTICAL RESULTS

Project: BIG MO SVE

Pace Project No.: 60179853

Sample: WGK-BIGMO-SB-DUP-1 **Lab ID:** 60179853005 **Collected:** 10/06/14 14:00 **Received:** 10/09/14 02:20 **Matrix:** Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA									
Analytical Method: EPA 8260									
Benzene	1240	ug/kg	268	134	50		10/17/14 07:48	71-43-2	
Chlorobenzene	ND	ug/kg	268	134	50		10/17/14 07:48	108-90-7	
1,4-Dichlorobenzene	ND	ug/kg	268	134	50		10/17/14 07:48	106-46-7	
Ethylbenzene	ND	ug/kg	268	134	50		10/17/14 07:48	100-41-4	
Toluene	ND	ug/kg	268	134	50		10/17/14 07:48	108-88-3	
Xylene (Total)	ND	ug/kg	268	134	50		10/17/14 07:48	1330-20-7	
Surrogates									
Toluene-d8 (S)	102	%	80-120		50		10/17/14 07:48	2037-26-5	
4-Bromofluorobenzene (S)	103	%	76-123		50		10/17/14 07:48	460-00-4	
1,2-Dichloroethane-d4 (S)	92	%	75-129		50		10/17/14 07:48	17060-07-0	
Percent Moisture									
Analytical Method: ASTM D2974									
Percent Moisture	14.2	%	0.50	0.50	1		10/20/14 00:00		

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ANALYTICAL RESULTS

Project: BIG MO SVE

Pace Project No.: 60179853

Sample: WGK-BIGMO-SB33-10.5 **Lab ID:** 60179853006 Collected: 10/06/14 13:50 Received: 10/09/14 02:20 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA									
Analytical Method: EPA 8260									
Benzene	190	ug/kg	5.4	2.7	1		10/10/14 14:18	71-43-2	
Chlorobenzene	ND	ug/kg	5.4	2.7	1		10/10/14 14:18	108-90-7	
1,4-Dichlorobenzene	ND	ug/kg	5.4	2.7	1		10/10/14 14:18	106-46-7	
Ethylbenzene	ND	ug/kg	5.4	2.7	1		10/10/14 14:18	100-41-4	
Toluene	ND	ug/kg	5.4	2.7	1		10/10/14 14:18	108-88-3	
Xylene (Total)	ND	ug/kg	5.4	2.7	1		10/10/14 14:18	1330-20-7	
Surrogates									
Toluene-d8 (S)	91	%	80-120		1		10/10/14 14:18	2037-26-5	IS,P2
4-Bromofluorobenzene (S)	85	%	76-123		1		10/10/14 14:18	460-00-4	
1,2-Dichloroethane-d4 (S)	98	%	75-129		1		10/10/14 14:18	17060-07-0	
Percent Moisture									
Analytical Method: ASTM D2974									
Percent Moisture	15.4	%	0.50	0.50	1		10/20/14 00:00		

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ANALYTICAL RESULTS

Project: BIG MO SVE

Pace Project No.: 60179853

Sample: WGK-BIGMO-SB66-8.0-8.5 **Lab ID:** 60179853007 Collected: 10/06/14 12:55 Received: 10/09/14 02:20 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA									
Analytical Method: EPA 8260									
Benzene	3.3J	ug/kg	6.5	3.2	1		10/17/14 14:05	71-43-2	
Chlorobenzene	ND	ug/kg	6.5	3.2	1		10/17/14 14:05	108-90-7	
1,4-Dichlorobenzene	ND	ug/kg	6.5	3.2	1		10/17/14 14:05	106-46-7	
Ethylbenzene	ND	ug/kg	6.5	3.2	1		10/17/14 14:05	100-41-4	
Toluene	ND	ug/kg	6.5	3.2	1		10/17/14 14:05	108-88-3	
Xylene (Total)	ND	ug/kg	6.5	3.2	1		10/17/14 14:05	1330-20-7	
Surrogates									
Toluene-d8 (S)	99 %		80-120		1		10/17/14 14:05	2037-26-5	
4-Bromofluorobenzene (S)	97 %		76-123		1		10/17/14 14:05	460-00-4	
1,2-Dichloroethane-d4 (S)	98 %		75-129		1		10/17/14 14:05	17060-07-0	
Percent Moisture									
Analytical Method: ASTM D2974									
Percent Moisture	25.7	%	0.50	0.50	1		10/20/14 00:00		

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ANALYTICAL RESULTS

Project: BIG MO SVE

Pace Project No.: 60179853

Sample: WGK-BIGMO-SB65-12.3-12.5 **Lab ID:** 60179853008 Collected: 10/06/14 16:50 Received: 10/09/14 02:20 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA									
Analytical Method: EPA 8260									
Benzene	796	ug/kg	267	134	50		10/17/14 01:10	71-43-2	
Chlorobenzene	ND	ug/kg	267	134	50		10/17/14 01:10	108-90-7	
1,4-Dichlorobenzene	198J	ug/kg	267	134	50		10/17/14 01:10	106-46-7	
Ethylbenzene	ND	ug/kg	267	134	50		10/17/14 01:10	100-41-4	
Toluene	ND	ug/kg	267	134	50		10/17/14 01:10	108-88-3	
Xylene (Total)	ND	ug/kg	267	134	50		10/17/14 01:10	1330-20-7	
Surrogates									
Toluene-d8 (S)	99	%	80-120		50		10/17/14 01:10	2037-26-5	
4-Bromofluorobenzene (S)	103	%	76-123		50		10/17/14 01:10	460-00-4	
1,2-Dichloroethane-d4 (S)	96	%	75-129		50		10/17/14 01:10	17060-07-0	
Percent Moisture									
Analytical Method: ASTM D2974									
Percent Moisture	10.9	%	0.50	0.50	1		10/20/14 00:00		

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ANALYTICAL RESULTS

Project: BIG MO SVE

Pace Project No.: 60179853

Sample: WGK-BIGMO-SB65-9.0-9.5 **Lab ID:** 60179853009 Collected: 10/06/14 16:45 Received: 10/09/14 02:20 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA									
Analytical Method: EPA 8260									
Benzene	6000000	ug/kg	304000	152000	50000		10/17/14 01:25	71-43-2	
Chlorobenzene	ND	ug/kg	304000	152000	50000		10/17/14 01:25	108-90-7	
1,4-Dichlorobenzene	ND	ug/kg	304000	152000	50000		10/17/14 01:25	106-46-7	
Ethylbenzene	ND	ug/kg	304000	152000	50000		10/17/14 01:25	100-41-4	
Toluene	ND	ug/kg	304000	152000	50000		10/17/14 01:25	108-88-3	
Xylene (Total)	ND	ug/kg	304000	152000	50000		10/17/14 01:25	1330-20-7	
Surrogates									
Toluene-d8 (S)	99	%	80-120		50000		10/17/14 01:25	2037-26-5	
4-Bromofluorobenzene (S)	101	%	76-123		50000		10/17/14 01:25	460-00-4	
1,2-Dichloroethane-d4 (S)	93	%	75-129		50000		10/17/14 01:25	17060-07-0	
Percent Moisture									
Analytical Method: ASTM D2974									
Percent Moisture	22.8	%	0.50	0.50	1		10/20/14 00:00		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BIG MO SVE

Pace Project No.: 60179853

Sample: WGK-BIGMO-SB69-14.0 **Lab ID: 60179853010** Collected: 10/06/14 15:00 Received: 10/09/14 02:20 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA									
Analytical Method: EPA 8260									
Benzene	3230000	ug/kg	143000	71600	25000		10/17/14 01:41	71-43-2	
Chlorobenzene	93800J	ug/kg	143000	71600	25000		10/17/14 01:41	108-90-7	
1,4-Dichlorobenzene	ND	ug/kg	143000	71600	25000		10/17/14 01:41	106-46-7	
Ethylbenzene	ND	ug/kg	143000	71600	25000		10/17/14 01:41	100-41-4	
Toluene	ND	ug/kg	143000	71600	25000		10/17/14 01:41	108-88-3	
Xylene (Total)	ND	ug/kg	143000	71600	25000		10/17/14 01:41	1330-20-7	
Surrogates									
Toluene-d8 (S)	102	%	80-120		25000		10/17/14 01:41	2037-26-5	
4-Bromofluorobenzene (S)	98	%	76-123		25000		10/17/14 01:41	460-00-4	
1,2-Dichloroethane-d4 (S)	97	%	75-129		25000		10/17/14 01:41	17060-07-0	
Percent Moisture									
Analytical Method: ASTM D2974									
Percent Moisture	13.0	%	0.50	0.50	1		10/20/14 00:00		

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ANALYTICAL RESULTS

Project: BIG MO SVE

Pace Project No.: 60179853

Sample: WGK-BIGMO-SB69-12.0 **Lab ID:** 60179853011 **Collected:** 10/06/14 15:05 **Received:** 10/09/14 02:20 **Matrix:** Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA									
Analytical Method: EPA 8260									
Benzene	403	ug/kg	286	143	50		10/17/14 14:20	71-43-2	
Chlorobenzene	1460	ug/kg	286	143	50		10/17/14 14:20	108-90-7	
1,4-Dichlorobenzene	1200	ug/kg	286	143	50		10/17/14 14:20	106-46-7	
Ethylbenzene	ND	ug/kg	286	143	50		10/17/14 14:20	100-41-4	
Toluene	ND	ug/kg	286	143	50		10/17/14 14:20	108-88-3	
Xylene (Total)	ND	ug/kg	286	143	50		10/17/14 14:20	1330-20-7	
Surrogates									
Toluene-d8 (S)	101	%	80-120		50		10/17/14 14:20	2037-26-5	
4-Bromofluorobenzene (S)	108	%	76-123		50		10/17/14 14:20	460-00-4	
1,2-Dichloroethane-d4 (S)	98	%	75-129		50		10/17/14 14:20	17060-07-0	
Percent Moisture									
Analytical Method: ASTM D2974									
Percent Moisture	25.6	%	0.50	0.50	1		10/20/14 00:00		

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ANALYTICAL RESULTS

Project: BIG MO SVE

Pace Project No.: 60179853

Sample: TRIP BLANK 1A **Lab ID: 60179853012** Collected: 10/06/14 15:05 Received: 10/09/14 02:20 Matrix: Solid

Results reported on a "wet-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA									
Analytical Method: EPA 8260									
Benzene	ND	ug/kg	5.0	2.5	1		10/10/14 12:12	71-43-2	
Chlorobenzene	ND	ug/kg	5.0	2.5	1		10/10/14 12:12	108-90-7	
1,4-Dichlorobenzene	ND	ug/kg	5.0	2.5	1		10/10/14 12:12	106-46-7	
Ethylbenzene	ND	ug/kg	5.0	2.5	1		10/10/14 12:12	100-41-4	
Toluene	ND	ug/kg	5.0	2.5	1		10/10/14 12:12	108-88-3	
Xylene (Total)	ND	ug/kg	5.0	2.5	1		10/10/14 12:12	1330-20-7	
Surrogates									
Toluene-d8 (S)	100 %		80-120		1		10/10/14 12:12	2037-26-5	
4-Bromofluorobenzene (S)	95 %		76-123		1		10/10/14 12:12	460-00-4	
1,2-Dichloroethane-d4 (S)	82 %		75-129		1		10/10/14 12:12	17060-07-0	

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ANALYTICAL RESULTS

Project: BIG MO SVE

Pace Project No.: 60179853

Sample: TRIP BLANK 1B **Lab ID: 60179853013** Collected: 10/06/14 15:05 Received: 10/09/14 02:20 Matrix: Solid

Results reported on a "wet-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA									
Analytical Method: EPA 8260									
Benzene	ND	ug/kg	5.0	2.5	1		10/17/14 15:06	71-43-2	
Chlorobenzene	ND	ug/kg	5.0	2.5	1		10/17/14 15:06	108-90-7	
1,4-Dichlorobenzene	ND	ug/kg	5.0	2.5	1		10/17/14 15:06	106-46-7	
Ethylbenzene	ND	ug/kg	5.0	2.5	1		10/17/14 15:06	100-41-4	
Toluene	ND	ug/kg	5.0	2.5	1		10/17/14 15:06	108-88-3	
Xylene (Total)	ND	ug/kg	5.0	2.5	1		10/17/14 15:06	1330-20-7	
Surrogates									
Toluene-d8 (S)	101	%	80-120		1		10/17/14 15:06	2037-26-5	
4-Bromofluorobenzene (S)	99	%	76-123		1		10/17/14 15:06	460-00-4	
1,2-Dichloroethane-d4 (S)	93	%	75-129		1		10/17/14 15:06	17060-07-0	

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ANALYTICAL RESULTS

Project: BIG MO SVE

Pace Project No.: 60179853

Sample: TRIP BLANK 4 **Lab ID: 60179853014** Collected: 10/06/14 15:05 Received: 10/09/14 02:20 Matrix: Solid

Results reported on a "wet-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA									
Analytical Method: EPA 8260									
Benzene	ND	ug/kg	5.0	2.5	1		10/10/14 12:43	71-43-2	
Chlorobenzene	ND	ug/kg	5.0	2.5	1		10/10/14 12:43	108-90-7	
1,4-Dichlorobenzene	ND	ug/kg	5.0	2.5	1		10/10/14 12:43	106-46-7	
Ethylbenzene	ND	ug/kg	5.0	2.5	1		10/10/14 12:43	100-41-4	
Toluene	ND	ug/kg	5.0	2.5	1		10/10/14 12:43	108-88-3	
Xylene (Total)	ND	ug/kg	5.0	2.5	1		10/10/14 12:43	1330-20-7	
Surrogates									
Toluene-d8 (S)	101	%	80-120		1		10/10/14 12:43	2037-26-5	
4-Bromofluorobenzene (S)	99	%	76-123		1		10/10/14 12:43	460-00-4	
1,2-Dichloroethane-d4 (S)	95	%	75-129		1		10/10/14 12:43	17060-07-0	

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QUALITY CONTROL DATA

Project: BIG MO SVE
Pace Project No.: 60179853

QC Batch: MSV/64973 Analysis Method: EPA 8260
QC Batch Method: EPA 8260 Analysis Description: 8260 MSV 5035A Volatile Organics
Associated Lab Samples: 60179853001, 60179853002, 60179853006, 60179853012, 60179853014

METHOD BLANK: 1457433 Matrix: Solid
Associated Lab Samples: 60179853001, 60179853002, 60179853006, 60179853012, 60179853014

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,4-Dichlorobenzene	ug/kg	ND	5.0	10/10/14 11:26	
Benzene	ug/kg	ND	5.0	10/10/14 11:26	
Chlorobenzene	ug/kg	ND	5.0	10/10/14 11:26	
Ethylbenzene	ug/kg	ND	5.0	10/10/14 11:26	
Toluene	ug/kg	ND	5.0	10/10/14 11:26	
Xylene (Total)	ug/kg	ND	5.0	10/10/14 11:26	
1,2-Dichloroethane-d4 (S)	%	99	75-129	10/10/14 11:26	
4-Bromofluorobenzene (S)	%	99	76-123	10/10/14 11:26	
Toluene-d8 (S)	%	101	80-120	10/10/14 11:26	

LABORATORY CONTROL SAMPLE: 1457434

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,4-Dichlorobenzene	ug/kg	100	91.5	91	80-120	
Benzene	ug/kg	100	93.1	93	80-120	
Chlorobenzene	ug/kg	100	93.2	93	80-120	
Ethylbenzene	ug/kg	100	98.4	98	80-120	
Toluene	ug/kg	100	92.0	92	79-120	
Xylene (Total)	ug/kg	300	290	97	79-120	
1,2-Dichloroethane-d4 (S)	%			95	75-129	
4-Bromofluorobenzene (S)	%			103	76-123	
Toluene-d8 (S)	%			99	80-120	

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QUALITY CONTROL DATA

Project: BIG MO SVE

Pace Project No.: 60179853

QC Batch: MSV/65044

Analysis Method: EPA 8260

QC Batch Method: EPA 8260

Analysis Description: 8260 MSV 5035A Volatile Organics

Associated Lab Samples: 60179853008, 60179853009, 60179853010

METHOD BLANK: 1459161

Matrix: Solid

Associated Lab Samples: 60179853008, 60179853009, 60179853010

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,4-Dichlorobenzene	ug/kg	ND	5.0	10/17/14 00:09	
Benzene	ug/kg	ND	5.0	10/17/14 00:09	
Chlorobenzene	ug/kg	ND	5.0	10/17/14 00:09	
Ethylbenzene	ug/kg	ND	5.0	10/17/14 00:09	
Toluene	ug/kg	ND	5.0	10/17/14 00:09	
Xylene (Total)	ug/kg	ND	5.0	10/17/14 00:09	
1,2-Dichloroethane-d4 (S)	%	96	75-129	10/17/14 00:09	
4-Bromofluorobenzene (S)	%	99	76-123	10/17/14 00:09	
Toluene-d8 (S)	%	100	80-120	10/17/14 00:09	

LABORATORY CONTROL SAMPLE: 1459162

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,4-Dichlorobenzene	ug/kg	100	92.6	93	80-120	
Benzene	ug/kg	100	96.2	96	80-120	
Chlorobenzene	ug/kg	100	97.1	97	80-120	
Ethylbenzene	ug/kg	100	97.7	98	80-120	
Toluene	ug/kg	100	99.3	99	79-120	
Xylene (Total)	ug/kg	300	291	97	79-120	
1,2-Dichloroethane-d4 (S)	%			93	75-129	
4-Bromofluorobenzene (S)	%			103	76-123	
Toluene-d8 (S)	%			101	80-120	

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QUALITY CONTROL DATA

Project: BIG MO SVE
Pace Project No.: 60179853

QC Batch: MSV/65109 Analysis Method: EPA 8260
QC Batch Method: EPA 8260 Analysis Description: 8260 MSV 5035A Volatile Organics
Associated Lab Samples: 60179853007, 60179853011, 60179853013

METHOD BLANK: 1461326 Matrix: Solid
Associated Lab Samples: 60179853007, 60179853011, 60179853013

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,4-Dichlorobenzene	ug/kg	ND	5.0	10/17/14 13:19	
Benzene	ug/kg	ND	5.0	10/17/14 13:19	
Chlorobenzene	ug/kg	ND	5.0	10/17/14 13:19	
Ethylbenzene	ug/kg	ND	5.0	10/17/14 13:19	
Toluene	ug/kg	ND	5.0	10/17/14 13:19	
Xylene (Total)	ug/kg	ND	5.0	10/17/14 13:19	
1,2-Dichloroethane-d4 (S)	%	97	75-129	10/17/14 13:19	
4-Bromofluorobenzene (S)	%	95	76-123	10/17/14 13:19	
Toluene-d8 (S)	%	100	80-120	10/17/14 13:19	

LABORATORY CONTROL SAMPLE: 1461327

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,4-Dichlorobenzene	ug/kg	100	108	108	80-120	
Benzene	ug/kg	100	106	106	80-120	
Chlorobenzene	ug/kg	100	107	107	80-120	
Ethylbenzene	ug/kg	100	111	111	80-120	
Toluene	ug/kg	100	111	111	79-120	
Xylene (Total)	ug/kg	300	330	110	79-120	
1,2-Dichloroethane-d4 (S)	%			93	75-129	
4-Bromofluorobenzene (S)	%			103	76-123	
Toluene-d8 (S)	%			103	80-120	

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QUALITY CONTROL DATA

Project: BIG MO SVE
Pace Project No.: 60179853

QC Batch: MSV/65111 Analysis Method: EPA 8260
QC Batch Method: EPA 8260 Analysis Description: 8260 MSV 5035A Volatile Organics
Associated Lab Samples: 60179853003, 60179853004, 60179853005

METHOD BLANK: 1461330 Matrix: Solid
Associated Lab Samples: 60179853003, 60179853004, 60179853005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,4-Dichlorobenzene	ug/kg	ND	5.0	10/17/14 06:01	
Benzene	ug/kg	ND	5.0	10/17/14 06:01	
Chlorobenzene	ug/kg	ND	5.0	10/17/14 06:01	
Ethylbenzene	ug/kg	ND	5.0	10/17/14 06:01	
Toluene	ug/kg	ND	5.0	10/17/14 06:01	
Xylene (Total)	ug/kg	ND	5.0	10/17/14 06:01	
1,2-Dichloroethane-d4 (S)	%	98	75-129	10/17/14 06:01	
4-Bromofluorobenzene (S)	%	100	76-123	10/17/14 06:01	
Toluene-d8 (S)	%	101	80-120	10/17/14 06:01	

LABORATORY CONTROL SAMPLE: 1461331

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,4-Dichlorobenzene	ug/kg	100	92.7	93	80-120	
Benzene	ug/kg	100	105	105	80-120	
Chlorobenzene	ug/kg	100	101	101	80-120	
Ethylbenzene	ug/kg	100	100	100	80-120	
Toluene	ug/kg	100	105	105	79-120	
Xylene (Total)	ug/kg	300	302	101	79-120	
1,2-Dichloroethane-d4 (S)	%			95	75-129	
4-Bromofluorobenzene (S)	%			100	76-123	
Toluene-d8 (S)	%			103	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1461408 1461409

Parameter	Units	60180165021 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1,4-Dichlorobenzene	ug/kg	ND	6450	6450	5430	7010	84	109	10-144	25	48	
Benzene	ug/kg	10600	6450	6450	14700	19800	63	142	22-144	30	38	
Chlorobenzene	ug/kg	ND	6450	6450	5840	7460	88	113	10-145	24	46	
Ethylbenzene	ug/kg	40800	6450	6450	50900	60500	62	210	10-154	17	42	M1
Toluene	ug/kg	85400	6450	6450	91900	106000	-63	151	11-150	14	40	M1
Xylene (Total)	ug/kg	195000	19300	19300	21800	252000	-1041	146	10-154	168	41	M1,R1
1,2-Dichloroethane-d4 (S)	%						88	109	75-129			
4-Bromofluorobenzene (S)	%						114	115	76-123			
Toluene-d8 (S)	%						104	102	80-120			

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QUALITY CONTROL DATA

Project: BIG MO SVE

Pace Project No.: 60179853

QC Batch: PMST/10132

Analysis Method: ASTM D2974

QC Batch Method: ASTM D2974

Analysis Description: Dry Weight/Percent Moisture

Associated Lab Samples: 60179853001, 60179853002, 60179853003, 60179853004

METHOD BLANK: 1463551

Matrix: Solid

Associated Lab Samples: 60179853001, 60179853002, 60179853003, 60179853004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Percent Moisture	%	ND	0.50	10/20/14 00:00	

SAMPLE DUPLICATE: 1463552

Parameter	Units	60179851005 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	37.2	35.1	6	20	

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QUALITY CONTROL DATA

Project: BIG MO SVE

Pace Project No.: 60179853

QC Batch: PMST/10133

Analysis Method: ASTM D2974

QC Batch Method: ASTM D2974

Analysis Description: Dry Weight/Percent Moisture

Associated Lab Samples: 60179853005, 60179853006, 60179853007, 60179853008, 60179853009, 60179853010, 60179853011

METHOD BLANK: 1463553

Matrix: Solid

Associated Lab Samples: 60179853005, 60179853006, 60179853007, 60179853008, 60179853009, 60179853010, 60179853011

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Percent Moisture	%	ND	0.50	10/20/14 00:00	

SAMPLE DUPLICATE: 1463554

Parameter	Units	60179853005 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	14.2	15.0	5	20	

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QUALIFIERS

Project: BIG MO SVE
Pace Project No.: 60179853

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

LABORATORIES

PASI-K Pace Analytical Services - Kansas City

BATCH QUALIFIERS

Batch: MSV/64973

[M5] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

Batch: MSV/65044

[M5] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

Batch: MSV/65109

[M5] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

ANALYTE QUALIFIERS

D3 Sample was diluted due to the presence of high levels of non-target analytes or other matrix interference.

IS The internal standard response is below criteria. Results may be biased high.

M1 Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

P2 Re-extraction or re-analysis could not be performed due to insufficient sample amount.

R1 RPD value was outside control limits.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: BIG MO SVE

Pace Project No.: 60179853

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60179853001	WGK-BIGMO-SB33-8.0-8.3	EPA 8260	MSV/64973		
60179853002	WGK-BIGMO-SB65-14.5	EPA 8260	MSV/64973		
60179853003	WGK-BIGMO-SB65-10.8	EPA 8260	MSV/65111		
60179853004	WGK-BIGMO-SB65-13.0	EPA 8260	MSV/65111		
60179853005	WGK-BIGMO-SB-DUP-1	EPA 8260	MSV/65111		
60179853006	WGK-BIGMO-SB33-10.5	EPA 8260	MSV/64973		
60179853007	WGK-BIGMO-SB66-8.0-8.5	EPA 8260	MSV/65109		
60179853008	WGK-BIGMO-SB65-12.3-12.5	EPA 8260	MSV/65044		
60179853009	WGK-BIGMO-SB65-9.0-9.5	EPA 8260	MSV/65044		
60179853010	WGK-BIGMO-SB69-14.0	EPA 8260	MSV/65044		
60179853011	WGK-BIGMO-SB69-12.0	EPA 8260	MSV/65109		
60179853012	TRIP BLANK 1A	EPA 8260	MSV/64973		
60179853013	TRIP BLANK 1B	EPA 8260	MSV/65109		
60179853014	TRIP BLANK 4	EPA 8260	MSV/64973		
60179853001	WGK-BIGMO-SB33-8.0-8.3	ASTM D2974	PMST/10132		
60179853002	WGK-BIGMO-SB65-14.5	ASTM D2974	PMST/10132		
60179853003	WGK-BIGMO-SB65-10.8	ASTM D2974	PMST/10132		
60179853004	WGK-BIGMO-SB65-13.0	ASTM D2974	PMST/10132		
60179853005	WGK-BIGMO-SB-DUP-1	ASTM D2974	PMST/10133		
60179853006	WGK-BIGMO-SB33-10.5	ASTM D2974	PMST/10133		
60179853007	WGK-BIGMO-SB66-8.0-8.5	ASTM D2974	PMST/10133		
60179853008	WGK-BIGMO-SB65-12.3-12.5	ASTM D2974	PMST/10133		
60179853009	WGK-BIGMO-SB65-9.0-9.5	ASTM D2974	PMST/10133		
60179853010	WGK-BIGMO-SB69-14.0	ASTM D2974	PMST/10133		
60179853011	WGK-BIGMO-SB69-12.0	ASTM D2974	PMST/10133		

REPORT OF LABORATORY ANALYSIS

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Sample Condition Upon Receipt

WO#: 60179853



60179853

Client Name: XDD

Courier: Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☒ Pace ☐ Other ☐

Tracking #: _____ Pace Shipping Label Used? Yes ☐ No ☐

Custody Seal on Cooler/Box Present: Yes ☒ No ☐ Seals intact: Yes ☒ No ☐

Packing Material: Bubble Wrap ☒ Bubble Bags ☐ Foam ☒ None ☐ Other ☐

Thermometer Used: T-239 / T-194

Type of Ice: Wet Blue ☐ None ☐ Samples received on ice, cooling process has begun.
(circle one)

Cooler Temperature: 1.8 2.4

Optional

Proj Due Date:

Proj Name:

Date and initials of person examining contents: aw 10/9/14

Temperature should be above freezing to 6°C

Chain of Custody present:	☒ Yes ☐ No ☐ N/A	1.
Chain of Custody filled out:	☒ Yes ☐ No ☐ N/A	2.
Chain of Custody relinquished:	☒ Yes ☐ No ☐ N/A	3.
Sampler name & signature on COC:	☒ Yes ☐ No ☐ N/A	4.
Samples arrived within holding time:	☒ Yes ☐ No ☐ N/A	5.
Short Hold Time analyses (<72hr):	☐ Yes ☒ No ☐ N/A	6.
Rush Turn Around Time requested:	☐ Yes ☒ No ☐ N/A	7.
Sufficient volume:	☒ Yes ☐ No ☐ N/A	8.
Correct containers used:	☒ Yes ☐ No ☐ N/A	
Pace containers used:	☒ Yes ☐ No ☐ N/A	9.
Containers intact:	☒ Yes ☐ No ☐ N/A	10.
Unpreserved 5035A soils frozen w/in 48hrs?	☒ Yes ☐ No ☐ N/A	11.
Filtered volume received for dissolved tests?	☐ Yes ☐ No ☒ N/A	12.
Sample labels match COC:	☐ Yes ☒ No ☐ N/A	Sample W6K-Bigmo-SB66-8.0-8.5 has a duplicate set of samples labeled
Includes date/time/ID/analyses	Matrix: <u>SL</u>	13. W6K-Bigmo-SB66-8.0-8.5 MS not listed on COC
All containers needing preservation have been checked.	☐ Yes ☐ No ☒ N/A	
All containers needing preservation are found to be in compliance with EPA recommendation.	☐ Yes ☐ No ☒ N/A	14.
Exceptions: VOA, coliform, TOC, O&G, WI-DRO (water), Phenolics	☒ Yes ☐ No	Initial when completed
Trip Blank present:	☒ Yes ☐ No ☐ N/A	Lot # of added preservative
Pace Trip Blank lot # (if purchased): <u>072814-3</u>		15. All SB 65 + SB 66 samples came w/ TB-1A and TB-1B
Headspace in VOA vials (>6mm):	☐ Yes ☐ No ☐ N/A	16.
Project sampled in USDA Regulated Area:	☐ Yes ☐ No ☐ N/A	17. List State:

Client Notification/ Resolution:

Copy COC to Client? Y / N

Field Data Required? Y / N

Person Contacted: _____

Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: _____

Date: _____

10/9/14

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Section A Required Client Information: Company: XDD, LLC Address: 22 Marin Way #3 Stratham, NH 03885 Email To: holmes@xdd-llc.com Phone: 603-418-3132 Fax: 603-778-2121 Requested Due Date/TAT: standard		Section B Required Project Information: Report To: Erin Holmes Copy To: John Anderson Purchase Order No.: Project Name: BIG MO SVE Project Number: 11005.12 T7		Section C Invoice Information: Attention: Bill Johnson Company Name: Solutia Address: Pace Quote Reference: 00015316 Pace Project Manager: Jamie Church Pace Profile #: 5786		Page: 1 of 1	
REGULATORY AGENCY NPDES GROUND WATER DRINKING WATER UST RCRA OTHER				Site Location: IL STATE:			
Section D Required Client Information Valid Matrix Codes MATRIX CODE DRINKING WATER DW WASTE WATER WW WASTE WATER PRODUCT P SOLIDSL OIL WIFE AIR TISSUE TS		SAMPLE ID (A-Z, 0-9 / -) Sample IDs MUST BE UNIQUE		Requested Analysis Filtered (Y/N)		Residual Chlorine (Y/N)	
ITEM #	MATRIX CODE	SAMPLE TYPE (G=GRAB C=COMP)	DATE	TIME	DATE	TIME	Pace Project No. / Lab I.D.
1	WALK-BIGMO-5833-8.0-8.3	SLG	10/16	1410	10/16	1230	RP80 V69U 01
2	WALK-BIGMO-5865-14.5	SLG	10/16	1636	10/16		02
3	WALK-BIGMO-5865-10.8	SLG	10/16	1626	10/16		03
4	WALK-BIGMO-5865-17.0	SLG	10/16	1625	10/16		04
5	WALK-BIGMO-58-DUP-1	SLG	10/16	1400	10/16		05
6	WALK-BIGMO-58-35-10.5	SLG	10/16	1350	10/16		06
7	WALK-BIGMO-5866-8.0-8.5	SLG	10/16	1255	10/16		2(BIGMO) 2(V69U) 07
8	WALK-BIGMO-5865-12.3-12.5	SLG	10/16	1645	10/16		RP80 V69U 08
9	WALK-BIGMO-5865-9.0-9.5	SLG	10/16	1645	10/16		09
10	WALK-BIGMO-5869-14.0	SLG	10/16	1500	10/16		10
11	WALK-BIGMO-5869-12.0	SLG	10/16	1505	10/16		11
12							
ADDITIONAL COMMENTS *BTEX, chlorobenzene, 2,4-dichlorobenzene				RELINQUISHED BY / AFFILIATION DATE 10/14/14 TIME 1200 SIGNATURE [Signature]		ACCEPTED BY / AFFILIATION DATE 10/14/14 TIME 1200 SIGNATURE [Signature]	
SAMPLE NAME AND SIGNATURE PRINT Name of SAMPLER: J. Anderson SIGNATURE of SAMPLER: [Signature]				DATE Signed (MM/DD/YYYY): 10/8/14		Temp in °C Received on Ice (Y/N) Sealed Cooler (Y/N) Samples Intact (Y/N)	

October 24, 2014

Erin Holmes
XDD, LLC
22 Marin Way #3
Stratham, NH 03885

RE: Project: BIG MO SVE
Pace Project No.: 60179854

Dear Erin Holmes:

Enclosed are the analytical results for sample(s) received by the laboratory on October 09, 2014. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Jamie Church
jamie.church@pacelabs.com
Project Manager

Enclosures

cc: William Johnson, Solutia, Inc.
Dennis Keane, XDD, LLC.



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: BIG MO SVE

Pace Project No.: 60179854

Kansas Certification IDs

9608 Loiret Boulevard, Lenexa, KS 66219

WY STR Certification #: 2456.01

Arkansas Certification #: 13-012-0

Illinois Certification #: 003097

Iowa Certification #: 118

Kansas/NELAP Certification #: E-10116

Louisiana Certification #: 03055

Nevada Certification #: KS000212008A

Oklahoma Certification #: 9205/9935

Texas Certification #: T104704407

Utah Certification #: KS00021

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: BIG MO SVE

Pace Project No.: 60179854

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60179854001	WGK-BIGMO-SB71-12.0-12.5	Solid	10/07/14 16:40	10/09/14 02:20
60179854002	WGK-BIGMO-SB71-8.0-8.5	Solid	10/07/14 16:30	10/09/14 02:20
60179854003	WGK-BIGMO-SB71-2.5	Solid	10/07/14 16:00	10/09/14 02:20
60179854004	WGK-BIGMO-SB71-14.0	Solid	10/07/14 16:25	10/09/14 02:20
60179854005	WGK-BIGMO-SB71-10.0	Solid	10/07/14 16:15	10/09/14 02:20
60179854006	WGK-BIGMO-SB71-12.0	Solid	10/07/14 16:20	10/09/14 02:20
60179854007	WGK-BIGMO-SB71-4.5	Solid	10/07/14 16:10	10/09/14 02:20
60179854008	WGK-BIGMO-SB71-2.0-2.5	Solid	10/07/14 16:35	10/09/14 02:20
60179854009	WGK-BIGMO-SB79-8.0-8.4	Solid	10/07/14 14:30	10/09/14 02:20
60179854010	WGK-BIGMO-SB80-4.3-4.5	Solid	10/07/14 14:50	10/09/14 02:20
60179854011	WGK-BIGMO-SB-DUP-5	Solid	10/07/14 15:00	10/09/14 02:20
60179854012	WGK-BIGMO-SB38-8.0-8.5	Solid	10/07/14 12:15	10/09/14 02:20

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: BIG MO SVE

Pace Project No.: 60179854

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60179854001	WGK-BIGMO-SB71-12.0-12.5	EPA 8260	JKL	9	PASI-K
		ASTM D2974	DWC	1	PASI-K
60179854002	WGK-BIGMO-SB71-8.0-8.5	EPA 8260	JKL	9	PASI-K
		ASTM D2974	DWC	1	PASI-K
60179854003	WGK-BIGMO-SB71-2.5	EPA 8260	JKL	9	PASI-K
		ASTM D2974	DWC	1	PASI-K
60179854004	WGK-BIGMO-SB71-14.0	EPA 8260	JKL	9	PASI-K
		ASTM D2974	DWC	1	PASI-K
60179854005	WGK-BIGMO-SB71-10.0	EPA 8260	JKL	9	PASI-K
		ASTM D2974	DWC	1	PASI-K
60179854006	WGK-BIGMO-SB71-12.0	EPA 8260	JKL	9	PASI-K
		ASTM D2974	DWC	1	PASI-K
60179854007	WGK-BIGMO-SB71-4.5	EPA 8260	JKL	9	PASI-K
		ASTM D2974	DWC	1	PASI-K
60179854008	WGK-BIGMO-SB71-2.0-2.5	EPA 8260	JKL	9	PASI-K
		ASTM D2974	DWC	1	PASI-K
60179854009	WGK-BIGMO-SB79-8.0-8.4	EPA 8260	JKL	9	PASI-K
		ASTM D2974	DWC	1	PASI-K
60179854010	WGK-BIGMO-SB80-4.3-4.5	EPA 8260	JKL	9	PASI-K
		ASTM D2974	DWC	1	PASI-K
60179854011	WGK-BIGMO-SB-DUP-5	EPA 8260	JKL	9	PASI-K
		ASTM D2974	DWC	1	PASI-K
60179854012	WGK-BIGMO-SB38-8.0-8.5	EPA 8260	JKL	9	PASI-K
		ASTM D2974	DWC	1	PASI-K

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: BIG MO SVE

Pace Project No.: 60179854

Method: EPA 8260

Description: 8260 MSV 5035A VOA

Client: XDD_SOLUTIONIA, LLC

Date: October 24, 2014

General Information:

12 samples were analyzed for EPA 8260. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

Surrogates:

All surrogates were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: MSV/65109

A matrix spike/matrix spike duplicate was not performed due to insufficient sample volume.

QC Batch: MSV/65111

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 60180165021

M1: Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

- MS (Lab ID: 1461408)
 - Toluene
 - Xylene (Total)
- MSD (Lab ID: 1461409)
 - Ethylbenzene
 - Toluene

R1: RPD value was outside control limits.

- MSD (Lab ID: 1461409)
 - Xylene (Total)

Additional Comments:

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: BIG MO SVE

Pace Project No.: 60179854

Method: EPA 8260

Description: 8260 MSV 5035A VOA

Client: XDD_SOLUTION, LLC

Date: October 24, 2014

This data package has been reviewed for quality and completeness and is approved for release.

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BIG MO SVE

Pace Project No.: 60179854

Sample: WGK-BIGMO-SB71-12.0-12.5 **Lab ID:** 60179854001 **Collected:** 10/07/14 16:40 **Received:** 10/09/14 02:20 **Matrix:** Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA									
Analytical Method: EPA 8260									
Benzene	30300	ug/kg	2690	1340	500		10/17/14 09:51	71-43-2	
Chlorobenzene	ND	ug/kg	2690	1340	500		10/17/14 09:51	108-90-7	
1,4-Dichlorobenzene	ND	ug/kg	2690	1340	500		10/17/14 09:51	106-46-7	
Ethylbenzene	ND	ug/kg	2690	1340	500		10/17/14 09:51	100-41-4	
Toluene	ND	ug/kg	2690	1340	500		10/17/14 09:51	108-88-3	
Xylene (Total)	ND	ug/kg	2690	1340	500		10/17/14 09:51	1330-20-7	
Surrogates									
Toluene-d8 (S)	100	%	80-120		500		10/17/14 09:51	2037-26-5	
4-Bromofluorobenzene (S)	98	%	76-123		500		10/17/14 09:51	460-00-4	
1,2-Dichloroethane-d4 (S)	97	%	75-129		500		10/17/14 09:51	17060-07-0	
Percent Moisture									
Analytical Method: ASTM D2974									
Percent Moisture	15.6	%	0.50	0.50	1		10/20/14 00:00		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BIG MO SVE

Pace Project No.: 60179854

Sample: **WGK-BIGMO-SB71-8.0-8.5** Lab ID: **60179854002** Collected: 10/07/14 16:30 Received: 10/09/14 02:20 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA									
Analytical Method: EPA 8260									
Benzene	7.2	ug/kg	6.2	3.1	1		10/17/14 17:40	71-43-2	
Chlorobenzene	ND	ug/kg	6.2	3.1	1		10/17/14 17:40	108-90-7	
1,4-Dichlorobenzene	4.1J	ug/kg	6.2	3.1	1		10/17/14 17:40	106-46-7	
Ethylbenzene	ND	ug/kg	6.2	3.1	1		10/17/14 17:40	100-41-4	
Toluene	ND	ug/kg	6.2	3.1	1		10/17/14 17:40	108-88-3	
Xylene (Total)	ND	ug/kg	6.2	3.1	1		10/17/14 17:40	1330-20-7	
Surrogates									
Toluene-d8 (S)	102	%	80-120		1		10/17/14 17:40	2037-26-5	
4-Bromofluorobenzene (S)	96	%	76-123		1		10/17/14 17:40	460-00-4	
1,2-Dichloroethane-d4 (S)	101	%	75-129		1		10/17/14 17:40	17060-07-0	
Percent Moisture									
Analytical Method: ASTM D2974									
Percent Moisture	23.7	%	0.50	0.50	1		10/20/14 00:00		

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ANALYTICAL RESULTS

Project: BIG MO SVE

Pace Project No.: 60179854

Sample: WGK-BIGMO-SB71-2.5 **Lab ID:** 60179854003 Collected: 10/07/14 16:00 Received: 10/09/14 02:20 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA									
Analytical Method: EPA 8260									
Benzene	1390	ug/kg	244	122	50		10/20/14 16:47	71-43-2	
Chlorobenzene	196J	ug/kg	244	122	50		10/20/14 16:47	108-90-7	
1,4-Dichlorobenzene	141J	ug/kg	244	122	50		10/20/14 16:47	106-46-7	
Ethylbenzene	ND	ug/kg	244	122	50		10/20/14 16:47	100-41-4	
Toluene	ND	ug/kg	244	122	50		10/20/14 16:47	108-88-3	
Xylene (Total)	ND	ug/kg	244	122	50		10/20/14 16:47	1330-20-7	
Surrogates									
Toluene-d8 (S)	100	%	80-120		50		10/20/14 16:47	2037-26-5	
4-Bromofluorobenzene (S)	101	%	76-123		50		10/20/14 16:47	460-00-4	
1,2-Dichloroethane-d4 (S)	95	%	75-129		50		10/20/14 16:47	17060-07-0	
Percent Moisture									
Analytical Method: ASTM D2974									
Percent Moisture	10.7	%	0.50	0.50	1		10/20/14 00:00		

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ANALYTICAL RESULTS

Project: BIG MO SVE

Pace Project No.: 60179854

Sample: WGK-BIGMO-SB71-14.0 **Lab ID:** 60179854004 Collected: 10/07/14 16:25 Received: 10/09/14 02:20 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA									
Analytical Method: EPA 8260									
Benzene	101	ug/kg	5.7	2.8	1		10/17/14 17:56	71-43-2	
Chlorobenzene	ND	ug/kg	5.7	2.8	1		10/17/14 17:56	108-90-7	
1,4-Dichlorobenzene	ND	ug/kg	5.7	2.8	1		10/17/14 17:56	106-46-7	
Ethylbenzene	ND	ug/kg	5.7	2.8	1		10/17/14 17:56	100-41-4	
Toluene	ND	ug/kg	5.7	2.8	1		10/17/14 17:56	108-88-3	
Xylene (Total)	ND	ug/kg	5.7	2.8	1		10/17/14 17:56	1330-20-7	
Surrogates									
Toluene-d8 (S)	103	%	80-120		1		10/17/14 17:56	2037-26-5	
4-Bromofluorobenzene (S)	95	%	76-123		1		10/17/14 17:56	460-00-4	
1,2-Dichloroethane-d4 (S)	97	%	75-129		1		10/17/14 17:56	17060-07-0	
Percent Moisture									
Analytical Method: ASTM D2974									
Percent Moisture	15.5	%	0.50	0.50	1		10/20/14 00:00		

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ANALYTICAL RESULTS

Project: BIG MO SVE

Pace Project No.: 60179854

Sample: WGK-BIGMO-SB71-10.0 **Lab ID:** 60179854005 Collected: 10/07/14 16:15 Received: 10/09/14 02:20 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA									
Analytical Method: EPA 8260									
Benzene	675	ug/kg	262	131	50		10/20/14 17:02	71-43-2	
Chlorobenzene	ND	ug/kg	262	131	50		10/20/14 17:02	108-90-7	
1,4-Dichlorobenzene	ND	ug/kg	262	131	50		10/20/14 17:02	106-46-7	
Ethylbenzene	ND	ug/kg	262	131	50		10/20/14 17:02	100-41-4	
Toluene	ND	ug/kg	262	131	50		10/20/14 17:02	108-88-3	
Xylene (Total)	ND	ug/kg	262	131	50		10/20/14 17:02	1330-20-7	
Surrogates									
Toluene-d8 (S)	101	%	80-120		50		10/20/14 17:02	2037-26-5	
4-Bromofluorobenzene (S)	100	%	76-123		50		10/20/14 17:02	460-00-4	
1,2-Dichloroethane-d4 (S)	96	%	75-129		50		10/20/14 17:02	17060-07-0	
Percent Moisture									
Analytical Method: ASTM D2974									
Percent Moisture	10.6	%	0.50	0.50	1		10/20/14 00:00		

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ANALYTICAL RESULTS

Project: BIG MO SVE

Pace Project No.: 60179854

Sample: WGK-BIGMO-SB71-12.0 **Lab ID:** 60179854006 **Collected:** 10/07/14 16:20 **Received:** 10/09/14 02:20 **Matrix:** Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA									
Analytical Method: EPA 8260									
Benzene	77300	ug/kg	2820	1410	500		10/17/14 11:08	71-43-2	
Chlorobenzene	ND	ug/kg	2820	1410	500		10/17/14 11:08	108-90-7	
1,4-Dichlorobenzene	ND	ug/kg	2820	1410	500		10/17/14 11:08	106-46-7	
Ethylbenzene	ND	ug/kg	2820	1410	500		10/17/14 11:08	100-41-4	
Toluene	ND	ug/kg	2820	1410	500		10/17/14 11:08	108-88-3	
Xylene (Total)	ND	ug/kg	2820	1410	500		10/17/14 11:08	1330-20-7	
Surrogates									
Toluene-d8 (S)	101	%	80-120		500		10/17/14 11:08	2037-26-5	
4-Bromofluorobenzene (S)	99	%	76-123		500		10/17/14 11:08	460-00-4	
1,2-Dichloroethane-d4 (S)	96	%	75-129		500		10/17/14 11:08	17060-07-0	
Percent Moisture									
Analytical Method: ASTM D2974									
Percent Moisture	16.1	%	0.50	0.50	1		10/20/14 00:00		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BIG MO SVE

Pace Project No.: 60179854

Sample: WGK-BIGMO-SB71-4.5 **Lab ID:** 60179854007 Collected: 10/07/14 16:10 Received: 10/09/14 02:20 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA									
Analytical Method: EPA 8260									
Benzene	1290	ug/kg	282	141	50		10/20/14 17:18	71-43-2	
Chlorobenzene	313	ug/kg	282	141	50		10/20/14 17:18	108-90-7	
1,4-Dichlorobenzene	194J	ug/kg	282	141	50		10/20/14 17:18	106-46-7	
Ethylbenzene	ND	ug/kg	282	141	50		10/20/14 17:18	100-41-4	
Toluene	ND	ug/kg	282	141	50		10/20/14 17:18	108-88-3	
Xylene (Total)	ND	ug/kg	282	141	50		10/20/14 17:18	1330-20-7	
Surrogates									
Toluene-d8 (S)	102	%	80-120		50		10/20/14 17:18	2037-26-5	
4-Bromofluorobenzene (S)	101	%	76-123		50		10/20/14 17:18	460-00-4	
1,2-Dichloroethane-d4 (S)	98	%	75-129		50		10/20/14 17:18	17060-07-0	
Percent Moisture									
Analytical Method: ASTM D2974									
Percent Moisture	13.2	%	0.50	0.50	1		10/20/14 00:00		

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ANALYTICAL RESULTS

Project: BIG MO SVE

Pace Project No.: 60179854

Sample: WGK-BIGMO-SB71-2.0-2.5 **Lab ID:** 60179854008 Collected: 10/07/14 16:35 Received: 10/09/14 02:20 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA									
Analytical Method: EPA 8260									
Benzene	3920	ug/kg	237	119	50		10/20/14 17:33	71-43-2	
Chlorobenzene	443	ug/kg	237	119	50		10/20/14 17:33	108-90-7	
1,4-Dichlorobenzene	269	ug/kg	237	119	50		10/20/14 17:33	106-46-7	
Ethylbenzene	ND	ug/kg	237	119	50		10/20/14 17:33	100-41-4	
Toluene	ND	ug/kg	237	119	50		10/20/14 17:33	108-88-3	
Xylene (Total)	ND	ug/kg	237	119	50		10/20/14 17:33	1330-20-7	
Surrogates									
Toluene-d8 (S)	102	%	80-120		50		10/20/14 17:33	2037-26-5	
4-Bromofluorobenzene (S)	99	%	76-123		50		10/20/14 17:33	460-00-4	
1,2-Dichloroethane-d4 (S)	96	%	75-129		50		10/20/14 17:33	17060-07-0	
Percent Moisture									
Analytical Method: ASTM D2974									
Percent Moisture	11.6	%	0.50	0.50	1		10/20/14 00:00		

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ANALYTICAL RESULTS

Project: BIG MO SVE

Pace Project No.: 60179854

Sample: W GK-BIGMO-SB79-8.0-8.4 **Lab ID:** 60179854009 Collected: 10/07/14 14:30 Received: 10/09/14 02:20 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA									
Analytical Method: EPA 8260									
Benzene	3000	ug/kg	271	136	50		10/20/14 17:48	71-43-2	
Chlorobenzene	ND	ug/kg	271	136	50		10/20/14 17:48	108-90-7	
1,4-Dichlorobenzene	ND	ug/kg	271	136	50		10/20/14 17:48	106-46-7	
Ethylbenzene	ND	ug/kg	271	136	50		10/20/14 17:48	100-41-4	
Toluene	ND	ug/kg	271	136	50		10/20/14 17:48	108-88-3	
Xylene (Total)	ND	ug/kg	271	136	50		10/20/14 17:48	1330-20-7	
Surrogates									
Toluene-d8 (S)	101	%	80-120		50		10/20/14 17:48	2037-26-5	
4-Bromofluorobenzene (S)	101	%	76-123		50		10/20/14 17:48	460-00-4	
1,2-Dichloroethane-d4 (S)	98	%	75-129		50		10/20/14 17:48	17060-07-0	
Percent Moisture									
Analytical Method: ASTM D2974									
Percent Moisture	22.0	%	0.50	0.50	1		10/20/14 00:00		

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ANALYTICAL RESULTS

Project: BIG MO SVE

Pace Project No.: 60179854

Sample: WGK-BIGMO-SB80-4.3-4.5 **Lab ID:** 60179854010 Collected: 10/07/14 14:50 Received: 10/09/14 02:20 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA									
Analytical Method: EPA 8260									
Benzene	ND	ug/kg	281	141	50		10/20/14 18:04	71-43-2	
Chlorobenzene	3630	ug/kg	281	141	50		10/20/14 18:04	108-90-7	
1,4-Dichlorobenzene	ND	ug/kg	281	141	50		10/20/14 18:04	106-46-7	
Ethylbenzene	ND	ug/kg	281	141	50		10/20/14 18:04	100-41-4	
Toluene	ND	ug/kg	281	141	50		10/20/14 18:04	108-88-3	
Xylene (Total)	ND	ug/kg	281	141	50		10/20/14 18:04	1330-20-7	
Surrogates									
Toluene-d8 (S)	102	%	80-120		50		10/20/14 18:04	2037-26-5	
4-Bromofluorobenzene (S)	98	%	76-123		50		10/20/14 18:04	460-00-4	
1,2-Dichloroethane-d4 (S)	98	%	75-129		50		10/20/14 18:04	17060-07-0	
Percent Moisture									
Analytical Method: ASTM D2974									
Percent Moisture	25.7	%	0.50	0.50	1		10/20/14 00:00		

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ANALYTICAL RESULTS

Project: BIG MO SVE

Pace Project No.: 60179854

Sample: WGK-BIGMO-SB-DUP-5 **Lab ID:** 60179854011 Collected: 10/07/14 15:00 Received: 10/09/14 02:20 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA									
Analytical Method: EPA 8260									
Benzene	ND	ug/kg	297	148	50		10/20/14 18:19	71-43-2	
Chlorobenzene	3470	ug/kg	297	148	50		10/20/14 18:19	108-90-7	
1,4-Dichlorobenzene	ND	ug/kg	297	148	50		10/20/14 18:19	106-46-7	
Ethylbenzene	ND	ug/kg	297	148	50		10/20/14 18:19	100-41-4	
Toluene	ND	ug/kg	297	148	50		10/20/14 18:19	108-88-3	
Xylene (Total)	ND	ug/kg	297	148	50		10/20/14 18:19	1330-20-7	
Surrogates									
Toluene-d8 (S)	102	%	80-120		50		10/20/14 18:19	2037-26-5	
4-Bromofluorobenzene (S)	98	%	76-123		50		10/20/14 18:19	460-00-4	
1,2-Dichloroethane-d4 (S)	98	%	75-129		50		10/20/14 18:19	17060-07-0	
Percent Moisture									
Analytical Method: ASTM D2974									
Percent Moisture	26.4	%	0.50	0.50	1		10/20/14 00:00		

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ANALYTICAL RESULTS

Project: BIG MO SVE

Pace Project No.: 60179854

Sample: WGK-BIGMO-SB38-8.0-8.5 **Lab ID:** 60179854012 **Collected:** 10/07/14 12:15 **Received:** 10/09/14 02:20 **Matrix:** Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA									
Analytical Method: EPA 8260									
Benzene	24700	ug/kg	635	317	100		10/20/14 18:34	71-43-2	
Chlorobenzene	ND	ug/kg	635	317	100		10/20/14 18:34	108-90-7	
1,4-Dichlorobenzene	ND	ug/kg	635	317	100		10/20/14 18:34	106-46-7	
Ethylbenzene	ND	ug/kg	635	317	100		10/20/14 18:34	100-41-4	
Toluene	ND	ug/kg	635	317	100		10/20/14 18:34	108-88-3	
Xylene (Total)	ND	ug/kg	635	317	100		10/20/14 18:34	1330-20-7	
Surrogates									
Toluene-d8 (S)	101	%	80-120		100		10/20/14 18:34	2037-26-5	
4-Bromofluorobenzene (S)	99	%	76-123		100		10/20/14 18:34	460-00-4	
1,2-Dichloroethane-d4 (S)	96	%	75-129		100		10/20/14 18:34	17060-07-0	
Percent Moisture									
Analytical Method: ASTM D2974									
Percent Moisture	24.7	%	0.50	0.50	1		10/20/14 00:00		

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QUALITY CONTROL DATA

Project: BIG MO SVE

Pace Project No.: 60179854

QC Batch: MSV/65109

Analysis Method: EPA 8260

QC Batch Method: EPA 8260

Analysis Description: 8260 MSV 5035A Volatile Organics

Associated Lab Samples: 60179854002, 60179854004

METHOD BLANK: 1461326

Matrix: Solid

Associated Lab Samples: 60179854002, 60179854004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,4-Dichlorobenzene	ug/kg	ND	5.0	10/17/14 13:19	
Benzene	ug/kg	ND	5.0	10/17/14 13:19	
Chlorobenzene	ug/kg	ND	5.0	10/17/14 13:19	
Ethylbenzene	ug/kg	ND	5.0	10/17/14 13:19	
Toluene	ug/kg	ND	5.0	10/17/14 13:19	
Xylene (Total)	ug/kg	ND	5.0	10/17/14 13:19	
1,2-Dichloroethane-d4 (S)	%	97	75-129	10/17/14 13:19	
4-Bromofluorobenzene (S)	%	95	76-123	10/17/14 13:19	
Toluene-d8 (S)	%	100	80-120	10/17/14 13:19	

LABORATORY CONTROL SAMPLE: 1461327

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,4-Dichlorobenzene	ug/kg	100	108	108	80-120	
Benzene	ug/kg	100	106	106	80-120	
Chlorobenzene	ug/kg	100	107	107	80-120	
Ethylbenzene	ug/kg	100	111	111	80-120	
Toluene	ug/kg	100	111	111	79-120	
Xylene (Total)	ug/kg	300	330	110	79-120	
1,2-Dichloroethane-d4 (S)	%			93	75-129	
4-Bromofluorobenzene (S)	%			103	76-123	
Toluene-d8 (S)	%			103	80-120	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BIG MO SVE
Pace Project No.: 60179854

QC Batch: MSV/65111 Analysis Method: EPA 8260
QC Batch Method: EPA 8260 Analysis Description: 8260 MSV 5035A Volatile Organics
Associated Lab Samples: 60179854001, 60179854006

METHOD BLANK: 1461330 Matrix: Solid
Associated Lab Samples: 60179854001, 60179854006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,4-Dichlorobenzene	ug/kg	ND	5.0	10/17/14 06:01	
Benzene	ug/kg	ND	5.0	10/17/14 06:01	
Chlorobenzene	ug/kg	ND	5.0	10/17/14 06:01	
Ethylbenzene	ug/kg	ND	5.0	10/17/14 06:01	
Toluene	ug/kg	ND	5.0	10/17/14 06:01	
Xylene (Total)	ug/kg	ND	5.0	10/17/14 06:01	
1,2-Dichloroethane-d4 (S)	%	98	75-129	10/17/14 06:01	
4-Bromofluorobenzene (S)	%	100	76-123	10/17/14 06:01	
Toluene-d8 (S)	%	101	80-120	10/17/14 06:01	

LABORATORY CONTROL SAMPLE: 1461331

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,4-Dichlorobenzene	ug/kg	100	92.7	93	80-120	
Benzene	ug/kg	100	105	105	80-120	
Chlorobenzene	ug/kg	100	101	101	80-120	
Ethylbenzene	ug/kg	100	100	100	80-120	
Toluene	ug/kg	100	105	105	79-120	
Xylene (Total)	ug/kg	300	302	101	79-120	
1,2-Dichloroethane-d4 (S)	%			95	75-129	
4-Bromofluorobenzene (S)	%			100	76-123	
Toluene-d8 (S)	%			103	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1461408 1461409

Parameter	Units	60180165021 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1,4-Dichlorobenzene	ug/kg	ND	6450	6450	5430	7010	84	109	10-144	25	48	
Benzene	ug/kg	10600	6450	6450	14700	19800	63	142	22-144	30	38	
Chlorobenzene	ug/kg	ND	6450	6450	5840	7460	88	113	10-145	24	46	
Ethylbenzene	ug/kg	40800	6450	6450	50900	60500	62	210	10-154	17	42	M1
Toluene	ug/kg	85400	6450	6450	91900	106000	-63	151	11-150	14	40	M1
Xylene (Total)	ug/kg	195000	19300	19300	21800	252000	-1041	146	10-154	168	41	M1,R1
1,2-Dichloroethane-d4 (S)	%						88	109	75-129			
4-Bromofluorobenzene (S)	%						114	115	76-123			
Toluene-d8 (S)	%						104	102	80-120			

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QUALITY CONTROL DATA

Project: BIG MO SVE
Pace Project No.: 60179854

QC Batch: MSV/65197 Analysis Method: EPA 8260
QC Batch Method: EPA 8260 Analysis Description: 8260 MSV 5035A Volatile Organics
Associated Lab Samples: 60179854003, 60179854005, 60179854007, 60179854008, 60179854009, 60179854010, 60179854011, 60179854012

METHOD BLANK: 1463791 Matrix: Solid
Associated Lab Samples: 60179854003, 60179854005, 60179854007, 60179854008, 60179854009, 60179854010, 60179854011, 60179854012

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,4-Dichlorobenzene	ug/kg	ND	5.0	10/20/14 14:44	
Benzene	ug/kg	ND	5.0	10/20/14 14:44	
Chlorobenzene	ug/kg	ND	5.0	10/20/14 14:44	
Ethylbenzene	ug/kg	ND	5.0	10/20/14 14:44	
Toluene	ug/kg	ND	5.0	10/20/14 14:44	
Xylene (Total)	ug/kg	ND	5.0	10/20/14 14:44	
1,2-Dichloroethane-d4 (S)	%	95	75-129	10/20/14 14:44	
4-Bromofluorobenzene (S)	%	100	76-123	10/20/14 14:44	
Toluene-d8 (S)	%	101	80-120	10/20/14 14:44	

LABORATORY CONTROL SAMPLE: 1463792

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,4-Dichlorobenzene	ug/kg	100	105	105	80-120	
Benzene	ug/kg	100	98.7	99	80-120	
Chlorobenzene	ug/kg	100	104	104	80-120	
Ethylbenzene	ug/kg	100	105	105	80-120	
Toluene	ug/kg	100	103	103	79-120	
Xylene (Total)	ug/kg	300	314	105	79-120	
1,2-Dichloroethane-d4 (S)	%			94	75-129	
4-Bromofluorobenzene (S)	%			100	76-123	
Toluene-d8 (S)	%			100	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1463793 1463794

Parameter	Units	60179852008 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	Max RPD	Qual
1,4-Dichlorobenzene	ug/kg	ND	12500	12500	11700	11600	94	92	10-144	1	48
Benzene	ug/kg	9820	12500	12500	19600	20000	78	81	22-144	2	38
Chlorobenzene	ug/kg	ND	12500	12500	12000	11400	96	91	10-145	5	46
Ethylbenzene	ug/kg	ND	12500	12500	11800	11600	94	93	10-154	1	42
Toluene	ug/kg	ND	12500	12500	11200	11300	89	90	11-150	1	40
Xylene (Total)	ug/kg	ND	37600	37600	35200	34700	94	92	10-154	2	41
1,2-Dichloroethane-d4 (S)	%						93	94	75-129		
4-Bromofluorobenzene (S)	%						100	102	76-123		
Toluene-d8 (S)	%						99	102	80-120		

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QUALITY CONTROL DATA

Project: BIG MO SVE

Pace Project No.: 60179854

QC Batch:	PMST/10133	Analysis Method:	ASTM D2974
QC Batch Method:	ASTM D2974	Analysis Description:	Dry Weight/Percent Moisture
Associated Lab Samples:	60179854001, 60179854002, 60179854003, 60179854004, 60179854005, 60179854006, 60179854007, 60179854008, 60179854009, 60179854010, 60179854011, 60179854012		

METHOD BLANK:	1463553	Matrix:	Solid
Associated Lab Samples:	60179854001, 60179854002, 60179854003, 60179854004, 60179854005, 60179854006, 60179854007, 60179854008, 60179854009, 60179854010, 60179854011, 60179854012		

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Percent Moisture	%	ND	0.50	10/20/14 00:00	

SAMPLE DUPLICATE: 1463554

Parameter	Units	60179853005 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	14.2	15.0	5	20	

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QUALIFIERS

Project: BIG MO SVE
Pace Project No.: 60179854

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

LABORATORIES

PASI-K Pace Analytical Services - Kansas City

BATCH QUALIFIERS

Batch: MSV/65109

[M5] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

ANALYTE QUALIFIERS

M1 Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

R1 RPD value was outside control limits.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: BIG MO SVE

Pace Project No.: 60179854

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60179854001	WGK-BIGMO-SB71-12.0-12.5	EPA 8260	MSV/65111		
60179854002	WGK-BIGMO-SB71-8.0-8.5	EPA 8260	MSV/65109		
60179854003	WGK-BIGMO-SB71-2.5	EPA 8260	MSV/65197		
60179854004	WGK-BIGMO-SB71-14.0	EPA 8260	MSV/65109		
60179854005	WGK-BIGMO-SB71-10.0	EPA 8260	MSV/65197		
60179854006	WGK-BIGMO-SB71-12.0	EPA 8260	MSV/65111		
60179854007	WGK-BIGMO-SB71-4.5	EPA 8260	MSV/65197		
60179854008	WGK-BIGMO-SB71-2.0-2.5	EPA 8260	MSV/65197		
60179854009	WGK-BIGMO-SB79-8.0-8.4	EPA 8260	MSV/65197		
60179854010	WGK-BIGMO-SB80-4.3-4.5	EPA 8260	MSV/65197		
60179854011	WGK-BIGMO-SB-DUP-5	EPA 8260	MSV/65197		
60179854012	WGK-BIGMO-SB38-8.0-8.5	EPA 8260	MSV/65197		
60179854001	WGK-BIGMO-SB71-12.0-12.5	ASTM D2974	PMST/10133		
60179854002	WGK-BIGMO-SB71-8.0-8.5	ASTM D2974	PMST/10133		
60179854003	WGK-BIGMO-SB71-2.5	ASTM D2974	PMST/10133		
60179854004	WGK-BIGMO-SB71-14.0	ASTM D2974	PMST/10133		
60179854005	WGK-BIGMO-SB71-10.0	ASTM D2974	PMST/10133		
60179854006	WGK-BIGMO-SB71-12.0	ASTM D2974	PMST/10133		
60179854007	WGK-BIGMO-SB71-4.5	ASTM D2974	PMST/10133		
60179854008	WGK-BIGMO-SB71-2.0-2.5	ASTM D2974	PMST/10133		
60179854009	WGK-BIGMO-SB79-8.0-8.4	ASTM D2974	PMST/10133		
60179854010	WGK-BIGMO-SB80-4.3-4.5	ASTM D2974	PMST/10133		
60179854011	WGK-BIGMO-SB-DUP-5	ASTM D2974	PMST/10133		
60179854012	WGK-BIGMO-SB38-8.0-8.5	ASTM D2974	PMST/10133		

REPORT OF LABORATORY ANALYSIS

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Sample Condition Upon Receipt

WO#: 60179854



Client Name: XPD LLC

Courier: Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☒ Pace ☐ Other ☒ road

Tracking #: _____ Pace Shipping Label Used? Yes ☐ No ☐

Custody Seal on Cooler/Box Present: Yes ☒ No ☐ Seals intact: Yes ☒ No ☐

Packing Material: Bubble Wrap ☐ Bubble Bags ☐ Foam ☒ None ☐ Other ☐

Thermometer Used: T-239 / T-194

Type of Ice: Wet Blue ☐ None ☐ Samples received on ice, cooling process has begun.
(circle one)

Cooler Temperature: 2.4

Date and initials of person examining contents: cw 10/9/14

Temperature should be above freezing to 6°C

Chain of Custody present:	☒ Yes ☐ No ☐ N/A	1.
Chain of Custody filled out:	☒ Yes ☐ No ☐ N/A	2.
Chain of Custody relinquished:	☒ Yes ☐ No ☐ N/A	3.
Sampler name & signature on COC:	☒ Yes ☐ No ☐ N/A	4.
Samples arrived within holding time:	☒ Yes ☐ No ☐ N/A	5.
Short Hold Time analyses (<72hr):	☐ Yes ☒ No ☐ N/A	6.
Rush Turn Around Time requested:	☐ Yes ☒ No ☐ N/A	7.
Sufficient volume:	☒ Yes ☐ No ☐ N/A	8.
Correct containers used:	☒ Yes ☐ No ☐ N/A	
Pace containers used:	☒ Yes ☐ No ☐ N/A	9.
Containers intact:	☒ Yes ☐ No ☐ N/A	10.
Unpreserved 5035A soils frozen w/in 48hrs?	☒ Yes ☐ No ☐ N/A	11.
Filtered volume received for dissolved tests?	☐ Yes ☐ No ☒ N/A	12.
Sample labels match COC:	☒ Yes ☐ No ☐ N/A	
Includes date/time/ID/analyses	Matrix: <u>SL</u>	13.
All containers needing preservation have been checked.	☐ Yes ☐ No ☒ N/A	
All containers needing preservation are found to be in compliance with EPA recommendation.	☐ Yes ☐ No ☒ N/A	14.
Exceptions: <u>VOA</u> , coliform, TOC, O&G, WI-DRO (water), Phenolics	☒ Yes ☐ No	Initial when completed
Trip Blank present:	☒ Yes ☐ No ☐ N/A	Lot # of added preservative
Pace Trip Blank lot # (if purchased): <u>DA 021824-3</u>		<u>DUP-5 And Samples SB39, SB80</u>
Headspace in VOA vials (>6mm):	☐ Yes ☐ No ☒ N/A	<u>came with TB-4</u>
		16.
Project sampled in USDA Regulated Area:	☐ Yes ☐ No ☒ N/A	17. List State:

Client Notification/ Resolution:

Copy COC to Client? Y / N

Field Data Required? Y / N

Person Contacted: _____

Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: _____

Date: _____

10/9/14

Jamie Church

CHAIN-OF-CUSTODY / Analytical Request Document
The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Section A Required Client Information: Company: XDD, LLC Address: 22 Marin Way #3 Stratham, NH 03885 Email To: holmes@xdd-llc.com Phone: 603-418-3132 Fax: 603-778-2121 Requested Due Date/TAT: standard

Section B Required Project Information: Report To: Erin Holmes Copy To: John Anderson Purchase Order No.: Project Name: BIG MO SVE Project Number: 110312 T7

Section C Invoice Information: Attention: Bill Johnson Company Name: Solutia Address: Pace Quote Reference: 00015316 Pace Project Manager: Jamie Church Pace Profile #: 5786

Page: 1 of 1

Section D Required Client Information		Valid Matrix Codes		COLLECTED		SAMPLE TYPE (G=GRAB C=COMP)		MATRIX CODE (see valid codes to left)		RELINQUISHED BY / AFFILIATION		DATE		TIME		ACCEPTED BY / AFFILIATION		DATE		TIME		SAMPLE CONDITIONS		Temp in °C		Received on		Sealed Cooler		Samples Intact		
ITEM #	SAMPLE ID (A-Z, 0-9 / .)	DRINKING WATER	WASTE WATER	WATER PRODUCT	WASTE WATER PRODUCT	COMPOSITE START	COMPOSITE END/GRAB	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	
1	W4K-B14MO-SB71-12.0-12.5							10/7	1640			10/8/14	1700			10/8/14	1700			10/8/14	1700											
2	W4K-B14MO-SB71-8.0-8.5							10/7	1630			10/8/14	1700			10/8/14	1700			10/8/14	1700											
3	W4K-B14MO-SB71-2.5							10/7	1600			10/8/14	1700			10/8/14	1700			10/8/14	1700											
4	W4K-B14MO-SB71-11.0							10/7	1625			10/8/14	1700			10/8/14	1700			10/8/14	1700											
5	W4K-B14MO-SB71-10.0							10/7	1615			10/8/14	1700			10/8/14	1700			10/8/14	1700											
6	W4K-B14MO-SB71-12.0							10/7	1620			10/8/14	1700			10/8/14	1700			10/8/14	1700											
7	W4K-B14MO-SB71-4.5							10/7	1610			10/8/14	1700			10/8/14	1700			10/8/14	1700											
8	W4K-B14MO-SB71-2.0-2.5							10/7	1635			10/8/14	1700			10/8/14	1700			10/8/14	1700											
9	W4K-B14MO-SB71-8.0-8.4							10/7	1430			10/8/14	1700			10/8/14	1700			10/8/14	1700											
10	W4K-B14MO-SB71-4.3-4.5							10/7	1450			10/8/14	1700			10/8/14	1700			10/8/14	1700											
11	W4K-B14MO-SB-DUR-5							10/7	1500			10/8/14	1700			10/8/14	1700			10/8/14	1700											
12	W4K-B14MO-SB38-8.0-8.5							10/7	1215			10/8/14	1700			10/8/14	1700			10/8/14	1700											

October 22, 2014

Erin Holmes
XDD, LLC
22 Marin Way #3
Stratham, NH 03885

RE: Project: BIG MO SVE
Pace Project No.: 60179855

Dear Erin Holmes:

Enclosed are the analytical results for sample(s) received by the laboratory on October 09, 2014. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Jamie Church
jamie.church@pacelabs.com
Project Manager

Enclosures

cc: William Johnson, Solutia, Inc.
Dennis Keane, XDD, LLC.



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: BIG MO SVE

Pace Project No.: 60179855

Kansas Certification IDs

9608 Loiret Boulevard, Lenexa, KS 66219

WY STR Certification #: 2456.01

Arkansas Certification #: 13-012-0

Illinois Certification #: 003097

Iowa Certification #: 118

Kansas/NELAP Certification #: E-10116

Louisiana Certification #: 03055

Nevada Certification #: KS000212008A

Oklahoma Certification #: 9205/9935

Texas Certification #: T104704407

Utah Certification #: KS00021

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SAMPLE SUMMARY

Project: BIG MO SVE

Pace Project No.: 60179855

Lab ID	Sample ID		Matrix	Date Collected	Date Received
60179855001	WGK-BIGMO-SB70-4.0-4.5		Solid	10/06/14 10:55	10/09/14 02:20
60179855002	WGK-BIGMO-SB-DUP-7		Solid	10/06/14 15:40	10/09/14 02:20
60179855003	WGK-BIGMO-SB69-8.5-9.0		Solid	10/06/14 15:35	10/09/14 02:20
60179855004	WGK-BIGMO-SB69-14.5-14.9		Solid	10/06/14 15:50	10/09/14 02:20
60179855005	WGK-BIGMO-SB37-15.0		Solid	10/06/14 11:30	10/09/14 02:20
60179855006	WGK-BIGMO-SB37-5.0-5.5		Solid	10/06/14 11:55	10/09/14 02:20
60179855007	WGK-BIGMO-SB37-13.0		Solid	10/06/14 11:30	10/09/14 02:20
60179855008	WGK-BIGMO-SB37-10.5		Solid	10/06/14 11:20	10/09/14 02:20
60179855009	WGK-BIGMO-SB37-14.5-15.0		Solid	10/06/14 11:45	10/09/14 02:20
60179855010	WGK-BIGMO-SB33-14.0-14.5		Solid	10/06/14 14:15	10/09/14 02:20
60179855011	WGK-BIGMO-SB33-12.5		Solid	10/06/14 13:55	10/09/14 02:20
60179855012	WGK-BIGMO-SB33-14.5		Solid	10/06/14 14:05	10/09/14 02:20

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: BIG MO SVE

Pace Project No.: 60179855

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60179855001	WGK-BIGMO-SB70-4.0-4.5	EPA 8260	JKL	9	PASI-K
		ASTM D2974	DWC	1	PASI-K
60179855002	WGK-BIGMO-SB-DUP-7 	EPA 8260	JKL	9	PASI-K
		ASTM D2974	DWC	1	PASI-K
60179855003	WGK-BIGMO-SB69-8.5-9.0	EPA 8260	JKL	9	PASI-K
		ASTM D2974	DWC	1	PASI-K
60179855004	WGK-BIGMO-SB69-14.5-14.9	EPA 8260	JKL	9	PASI-K
		ASTM D2974	DWC	1	PASI-K
60179855005	WGK-BIGMO-SB37-15.0	EPA 8260	JKL	9	PASI-K
		ASTM D2974	DWC	1	PASI-K
60179855006	WGK-BIGMO-SB37-5.0-5.5	EPA 8260	JKL	9	PASI-K
		ASTM D2974	DWC	1	PASI-K
60179855007	WGK-BIGMO-SB37-13.0	EPA 8260	JKL	9	PASI-K
		ASTM D2974	DWC	1	PASI-K
60179855008	WGK-BIGMO-SB37-10.5	EPA 8260	JKL	9	PASI-K
		ASTM D2974	DWC	1	PASI-K
60179855009	WGK-BIGMO-SB37-14.5-15.0	EPA 8260	JKL	9	PASI-K
		ASTM D2974	DWC	1	PASI-K
60179855010	WGK-BIGMO-SB33-14.0-14.5	EPA 8260	JKL	9	PASI-K
		ASTM D2974	DWC	1	PASI-K
60179855011	WGK-BIGMO-SB33-12.5	EPA 8260	JKL	9	PASI-K
		ASTM D2974	DWC	1	PASI-K
60179855012	WGK-BIGMO-SB33-14.5	EPA 8260	JKL	9	PASI-K
		ASTM D2974	DWC	1	PASI-K

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: BIG MO SVE

Pace Project No.: 60179855

Method: EPA 8260

Description: 8260 MSV 5035A VOA

Client: XDD_SOLUTION, LLC

Date: October 22, 2014

General Information:

12 samples were analyzed for EPA 8260. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

QC Batch: MSV/65109

IS: The internal standard response is below criteria. Results may be biased high.

- WGK-BIGMO-SB33-14.0-14.5 (Lab ID: 60179855010)
- Toluene-d8 (S)

Surrogates:

All surrogates were within QC limits with any exceptions noted below.

QC Batch: MSV/65109

S3: Surrogate recovery exceeded laboratory control limits. Analyte presence below reporting limits in associated samples. Results unaffected by high bias.

- WGK-BIGMO-SB37-13.0 (Lab ID: 60179855007)
- Toluene-d8 (S)

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: MSV/65044

A matrix spike/matrix spike duplicate was not performed due to insufficient sample volume.

QC Batch: MSV/65109

A matrix spike/matrix spike duplicate was not performed due to insufficient sample volume.

Additional Comments:

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: BIG MO SVE

Pace Project No.: 60179855

Method: EPA 8260

Description: 8260 MSV 5035A VOA

Client: XDD_SOLUTION, LLC

Date: October 22, 2014

Analyte Comments:

QC Batch: MSV/65109

P2: Re-extraction or re-analysis could not be performed due to insufficient sample amount.

- WGK-BIGMO-SB33-14.0-14.5 (Lab ID: 60179855010)
- Toluene-d8 (S)

This data package has been reviewed for quality and completeness and is approved for release.

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BIG MO SVE

Pace Project No.: 60179855

Sample: WGK-BIGMO-SB70-4.0-4.5 **Lab ID:** 60179855001 Collected: 10/06/14 10:55 Received: 10/09/14 02:20 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA									
Analytical Method: EPA 8260									
Benzene	4380	ug/kg	322	161	50		10/17/14 02:11	71-43-2	
Chlorobenzene	2410	ug/kg	322	161	50		10/17/14 02:11	108-90-7	
1,4-Dichlorobenzene	14900	ug/kg	322	161	50		10/17/14 02:11	106-46-7	
Ethylbenzene	ND	ug/kg	322	161	50		10/17/14 02:11	100-41-4	
Toluene	ND	ug/kg	322	161	50		10/17/14 02:11	108-88-3	
Xylene (Total)	ND	ug/kg	322	161	50		10/17/14 02:11	1330-20-7	
Surrogates									
Toluene-d8 (S)	101	%	80-120		50		10/17/14 02:11	2037-26-5	
4-Bromofluorobenzene (S)	102	%	76-123		50		10/17/14 02:11	460-00-4	
1,2-Dichloroethane-d4 (S)	95	%	75-129		50		10/17/14 02:11	17060-07-0	
Percent Moisture									
Analytical Method: ASTM D2974									
Percent Moisture	27.7	%	0.50	0.50	1		10/20/14 00:00		

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ANALYTICAL RESULTS

Project: BIG MO SVE

Pace Project No.: 60179855



Sample: WGK-BIGMO-SB-DUP-7 **Lab ID:** 60179855002 **Collected:** 10/06/14 15:40 **Received:** 10/09/14 02:20 **Matrix:** Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA									
Analytical Method: EPA 8260									
Benzene	37400	ug/kg	1340	669	250		10/17/14 02:27	71-43-2	
Chlorobenzene	ND	ug/kg	1340	669	250		10/17/14 02:27	108-90-7	
1,4-Dichlorobenzene	ND	ug/kg	1340	669	250		10/17/14 02:27	106-46-7	
Ethylbenzene	ND	ug/kg	1340	669	250		10/17/14 02:27	100-41-4	
Toluene	ND	ug/kg	1340	669	250		10/17/14 02:27	108-88-3	
Xylene (Total)	ND	ug/kg	1340	669	250		10/17/14 02:27	1330-20-7	
Surrogates									
Toluene-d8 (S)	99	%	80-120		250		10/17/14 02:27	2037-26-5	
4-Bromofluorobenzene (S)	98	%	76-123		250		10/17/14 02:27	460-00-4	
1,2-Dichloroethane-d4 (S)	93	%	75-129		250		10/17/14 02:27	17060-07-0	
Percent Moisture									
Analytical Method: ASTM D2974									
Percent Moisture	23.1	%	0.50	0.50	1		10/20/14 00:00		

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ANALYTICAL RESULTS

Project: BIG MO SVE

Pace Project No.: 60179855

Sample: WGK-BIGMO-SB69-8.5-9.0 **Lab ID:** 60179855003 **Collected:** 10/06/14 15:35 **Received:** 10/09/14 02:20 **Matrix:** Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA									
Analytical Method: EPA 8260									
Benzene	36900	ug/kg	1360	680	250		10/17/14 02:42	71-43-2	
Chlorobenzene	ND	ug/kg	1360	680	250		10/17/14 02:42	108-90-7	
1,4-Dichlorobenzene	ND	ug/kg	1360	680	250		10/17/14 02:42	106-46-7	
Ethylbenzene	ND	ug/kg	1360	680	250		10/17/14 02:42	100-41-4	
Toluene	ND	ug/kg	1360	680	250		10/17/14 02:42	108-88-3	
Xylene (Total)	ND	ug/kg	1360	680	250		10/17/14 02:42	1330-20-7	
Surrogates									
Toluene-d8 (S)	102	%	80-120		250		10/17/14 02:42	2037-26-5	
4-Bromofluorobenzene (S)	99	%	76-123		250		10/17/14 02:42	460-00-4	
1,2-Dichloroethane-d4 (S)	113	%	75-129		250		10/17/14 02:42	17060-07-0	
Percent Moisture									
Analytical Method: ASTM D2974									
Percent Moisture	25.8	%	0.50	0.50	1		10/20/14 00:00		

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ANALYTICAL RESULTS

Project: BIG MO SVE

Pace Project No.: 60179855

Sample: WGK-BIGMO-SB69-14.5-14.9 **Lab ID:** 60179855004 Collected: 10/06/14 15:50 Received: 10/09/14 02:20 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA									
Analytical Method: EPA 8260									
Benzene	615000	ug/kg	19600	9800	5000		10/17/14 02:57	71-43-2	
Chlorobenzene	32700	ug/kg	19600	9800	5000		10/17/14 02:57	108-90-7	
1,4-Dichlorobenzene	ND	ug/kg	19600	9800	5000		10/17/14 02:57	106-46-7	
Ethylbenzene	ND	ug/kg	19600	9800	5000		10/17/14 02:57	100-41-4	
Toluene	ND	ug/kg	19600	9800	5000		10/17/14 02:57	108-88-3	
Xylene (Total)	ND	ug/kg	19600	9800	5000		10/17/14 02:57	1330-20-7	
Surrogates									
Toluene-d8 (S)	104	%	80-120		5000		10/17/14 02:57	2037-26-5	
4-Bromofluorobenzene (S)	101	%	76-123		5000		10/17/14 02:57	460-00-4	
1,2-Dichloroethane-d4 (S)	100	%	75-129		5000		10/17/14 02:57	17060-07-0	
Percent Moisture									
Analytical Method: ASTM D2974									
Percent Moisture	15.8	%	0.50	0.50	1		10/20/14 00:00		

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ANALYTICAL RESULTS

Project: BIG MO SVE

Pace Project No.: 60179855

Sample: W GK-BIGMO-SB37-15.0 **Lab ID:** 60179855005 Collected: 10/06/14 11:30 Received: 10/09/14 02:20 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA									
Analytical Method: EPA 8260									
Benzene	269000	ug/kg	6490	3250	1000		10/17/14 03:13	71-43-2	
Chlorobenzene	ND	ug/kg	6490	3250	1000		10/17/14 03:13	108-90-7	
1,4-Dichlorobenzene	ND	ug/kg	6490	3250	1000		10/17/14 03:13	106-46-7	
Ethylbenzene	ND	ug/kg	6490	3250	1000		10/17/14 03:13	100-41-4	
Toluene	ND	ug/kg	6490	3250	1000		10/17/14 03:13	108-88-3	
Xylene (Total)	ND	ug/kg	6490	3250	1000		10/17/14 03:13	1330-20-7	
Surrogates									
Toluene-d8 (S)	103	%	80-120		1000		10/17/14 03:13	2037-26-5	
4-Bromofluorobenzene (S)	102	%	76-123		1000		10/17/14 03:13	460-00-4	
1,2-Dichloroethane-d4 (S)	117	%	75-129		1000		10/17/14 03:13	17060-07-0	
Percent Moisture									
Analytical Method: ASTM D2974									
Percent Moisture	21.0	%	0.50	0.50	1		10/20/14 00:00		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BIG MO SVE

Pace Project No.: 60179855

Sample: WGK-BIGMO-SB37-5.0-5.5 **Lab ID:** 60179855006 Collected: 10/06/14 11:55 Received: 10/09/14 02:20 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA									
Analytical Method: EPA 8260									
Benzene	1690	ug/kg	360	180	50		10/20/14 14:59	71-43-2	
Chlorobenzene	3.3J	ug/kg	5.9	3.0	1		10/17/14 15:22	108-90-7	
1,4-Dichlorobenzene	12.7	ug/kg	5.9	3.0	1		10/17/14 15:22	106-46-7	
Ethylbenzene	ND	ug/kg	5.9	3.0	1		10/17/14 15:22	100-41-4	
Toluene	ND	ug/kg	5.9	3.0	1		10/17/14 15:22	108-88-3	
Xylene (Total)	ND	ug/kg	5.9	3.0	1		10/17/14 15:22	1330-20-7	
Surrogates									
Toluene-d8 (S)	99 %		80-120		1		10/17/14 15:22	2037-26-5	
4-Bromofluorobenzene (S)	95 %		76-123		1		10/17/14 15:22	460-00-4	
1,2-Dichloroethane-d4 (S)	98 %		75-129		1		10/17/14 15:22	17060-07-0	
Percent Moisture									
Analytical Method: ASTM D2974									
Percent Moisture	33.7	%	0.50	0.50	1		10/20/14 00:00		

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ANALYTICAL RESULTS

Project: BIG MO SVE

Pace Project No.: 60179855

Sample: WGK-BIGMO-SB37-13.0 **Lab ID:** 60179855007 Collected: 10/06/14 11:30 Received: 10/09/14 02:20 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA									
Analytical Method: EPA 8260									
Benzene	ND	ug/kg	4.0	2.0	1		10/17/14 15:37	71-43-2	
Chlorobenzene	ND	ug/kg	4.0	2.0	1		10/17/14 15:37	108-90-7	
1,4-Dichlorobenzene	ND	ug/kg	4.0	2.0	1		10/17/14 15:37	106-46-7	
Ethylbenzene	ND	ug/kg	4.0	2.0	1		10/17/14 15:37	100-41-4	
Toluene	ND	ug/kg	4.0	2.0	1		10/17/14 15:37	108-88-3	
Xylene (Total)	ND	ug/kg	4.0	2.0	1		10/17/14 15:37	1330-20-7	
Surrogates									
Toluene-d8 (S)	128	%	80-120		1		10/17/14 15:37	2037-26-5	S3
4-Bromofluorobenzene (S)	103	%	76-123		1		10/17/14 15:37	460-00-4	
1,2-Dichloroethane-d4 (S)	115	%	75-129		1		10/17/14 15:37	17060-07-0	
Percent Moisture									
Analytical Method: ASTM D2974									
Percent Moisture	1.9	%	0.50	0.50	1		10/20/14 00:00		

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ANALYTICAL RESULTS

Project: BIG MO SVE

Pace Project No.: 60179855

Sample: W GK-BIGMO-SB37-10.5 **Lab ID:** 60179855008 Collected: 10/06/14 11:20 Received: 10/09/14 02:20 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA									
Analytical Method: EPA 8260									
Benzene	9.4	ug/kg	4.9	2.5	1		10/17/14 15:53	71-43-2	
Chlorobenzene	38.2	ug/kg	4.9	2.5	1		10/17/14 15:53	108-90-7	
1,4-Dichlorobenzene	16.9	ug/kg	4.9	2.5	1		10/17/14 15:53	106-46-7	
Ethylbenzene	ND	ug/kg	4.9	2.5	1		10/17/14 15:53	100-41-4	
Toluene	ND	ug/kg	4.9	2.5	1		10/17/14 15:53	108-88-3	
Xylene (Total)	ND	ug/kg	4.9	2.5	1		10/17/14 15:53	1330-20-7	
Surrogates									
Toluene-d8 (S)	96	%	80-120		1		10/17/14 15:53	2037-26-5	
4-Bromofluorobenzene (S)	96	%	76-123		1		10/17/14 15:53	460-00-4	
1,2-Dichloroethane-d4 (S)	99	%	75-129		1		10/17/14 15:53	17060-07-0	
Percent Moisture									
Analytical Method: ASTM D2974									
Percent Moisture	18.7	%	0.50	0.50	1		10/20/14 00:00		

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ANALYTICAL RESULTS

Project: BIG MO SVE

Pace Project No.: 60179855

Sample: WGK-BIGMO-SB37-14.5-15.0 **Lab ID:** 60179855009 Collected: 10/06/14 11:45 Received: 10/09/14 02:20 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA									
Analytical Method: EPA 8260									
Benzene	257000	ug/kg	15400	7720	2500		10/17/14 03:28	71-43-2	
Chlorobenzene	ND	ug/kg	15400	7720	2500		10/17/14 03:28	108-90-7	
1,4-Dichlorobenzene	ND	ug/kg	15400	7720	2500		10/17/14 03:28	106-46-7	
Ethylbenzene	ND	ug/kg	15400	7720	2500		10/17/14 03:28	100-41-4	
Toluene	ND	ug/kg	15400	7720	2500		10/17/14 03:28	108-88-3	
Xylene (Total)	ND	ug/kg	15400	7720	2500		10/17/14 03:28	1330-20-7	
Surrogates									
Toluene-d8 (S)	102	%	80-120		2500		10/17/14 03:28	2037-26-5	
4-Bromofluorobenzene (S)	106	%	76-123		2500		10/17/14 03:28	460-00-4	
1,2-Dichloroethane-d4 (S)	98	%	75-129		2500		10/17/14 03:28	17060-07-0	
Percent Moisture									
Analytical Method: ASTM D2974									
Percent Moisture	17.2	%	0.50	0.50	1		10/20/14 00:00		

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ANALYTICAL RESULTS

Project: BIG MO SVE

Pace Project No.: 60179855

Sample: WGK-BIGMO-SB33-14.0-14.5 **Lab ID:** 60179855010 Collected: 10/06/14 14:15 Received: 10/09/14 02:20 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA									
Analytical Method: EPA 8260									
Benzene	14.8	ug/kg	5.5	2.7	1		10/17/14 16:08	71-43-2	
Chlorobenzene	ND	ug/kg	5.5	2.7	1		10/17/14 16:08	108-90-7	
1,4-Dichlorobenzene	ND	ug/kg	5.5	2.7	1		10/17/14 16:08	106-46-7	
Ethylbenzene	ND	ug/kg	5.5	2.7	1		10/17/14 16:08	100-41-4	
Toluene	ND	ug/kg	5.5	2.7	1		10/17/14 16:08	108-88-3	
Xylene (Total)	ND	ug/kg	5.5	2.7	1		10/17/14 16:08	1330-20-7	
Surrogates									
Toluene-d8 (S)	97	%	80-120		1		10/17/14 16:08	2037-26-5	IS,P2
4-Bromofluorobenzene (S)	97	%	76-123		1		10/17/14 16:08	460-00-4	
1,2-Dichloroethane-d4 (S)	101	%	75-129		1		10/17/14 16:08	17060-07-0	
Percent Moisture									
Analytical Method: ASTM D2974									
Percent Moisture	16.5	%	0.50	0.50	1		10/20/14 00:00		

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ANALYTICAL RESULTS

Project: BIG MO SVE

Pace Project No.: 60179855

Sample: WGK-BIGMO-SB33-12.5 **Lab ID:** 60179855011 **Collected:** 10/06/14 13:55 **Received:** 10/09/14 02:20 **Matrix:** Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA									
Analytical Method: EPA 8260									
Benzene	5.3	ug/kg	4.8	2.4	1		10/17/14 16:24	71-43-2	
Chlorobenzene	ND	ug/kg	4.8	2.4	1		10/17/14 16:24	108-90-7	
1,4-Dichlorobenzene	ND	ug/kg	4.8	2.4	1		10/17/14 16:24	106-46-7	
Ethylbenzene	ND	ug/kg	4.8	2.4	1		10/17/14 16:24	100-41-4	
Toluene	ND	ug/kg	4.8	2.4	1		10/17/14 16:24	108-88-3	
Xylene (Total)	ND	ug/kg	4.8	2.4	1		10/17/14 16:24	1330-20-7	
Surrogates									
Toluene-d8 (S)	103	%	80-120		1		10/17/14 16:24	2037-26-5	
4-Bromofluorobenzene (S)	102	%	76-123		1		10/17/14 16:24	460-00-4	
1,2-Dichloroethane-d4 (S)	98	%	75-129		1		10/17/14 16:24	17060-07-0	
Percent Moisture									
Analytical Method: ASTM D2974									
Percent Moisture	17.0	%	0.50	0.50	1		10/20/14 00:00		

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ANALYTICAL RESULTS

Project: BIG MO SVE

Pace Project No.: 60179855

Sample: WGK-BIGMO-SB33-14.5 **Lab ID:** 60179855012 Collected: 10/06/14 14:05 Received: 10/09/14 02:20 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA									
Analytical Method: EPA 8260									
Benzene	76.7	ug/kg	5.1	2.5	1		10/17/14 16:39	71-43-2	
Chlorobenzene	10.5	ug/kg	5.1	2.5	1		10/17/14 16:39	108-90-7	
1,4-Dichlorobenzene	ND	ug/kg	5.1	2.5	1		10/17/14 16:39	106-46-7	
Ethylbenzene	ND	ug/kg	5.1	2.5	1		10/17/14 16:39	100-41-4	
Toluene	ND	ug/kg	5.1	2.5	1		10/17/14 16:39	108-88-3	
Xylene (Total)	ND	ug/kg	5.1	2.5	1		10/17/14 16:39	1330-20-7	
Surrogates									
Toluene-d8 (S)	94	%	80-120		1		10/17/14 16:39	2037-26-5	
4-Bromofluorobenzene (S)	93	%	76-123		1		10/17/14 16:39	460-00-4	
1,2-Dichloroethane-d4 (S)	100	%	75-129		1		10/17/14 16:39	17060-07-0	
Percent Moisture									
Analytical Method: ASTM D2974									
Percent Moisture	16.1	%	0.50	0.50	1		10/20/14 00:00		

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QUALITY CONTROL DATA

Project: BIG MO SVE
Pace Project No.: 60179855

QC Batch: MSV/65044 Analysis Method: EPA 8260
QC Batch Method: EPA 8260 Analysis Description: 8260 MSV 5035A Volatile Organics
Associated Lab Samples: 60179855001, 60179855002, 60179855003, 60179855004, 60179855005, 60179855009

METHOD BLANK: 1459161 Matrix: Solid
Associated Lab Samples: 60179855001, 60179855002, 60179855003, 60179855004, 60179855005, 60179855009

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,4-Dichlorobenzene	ug/kg	ND	5.0	10/17/14 00:09	
Benzene	ug/kg	ND	5.0	10/17/14 00:09	
Chlorobenzene	ug/kg	ND	5.0	10/17/14 00:09	
Ethylbenzene	ug/kg	ND	5.0	10/17/14 00:09	
Toluene	ug/kg	ND	5.0	10/17/14 00:09	
Xylene (Total)	ug/kg	ND	5.0	10/17/14 00:09	
1,2-Dichloroethane-d4 (S)	%	96	75-129	10/17/14 00:09	
4-Bromofluorobenzene (S)	%	99	76-123	10/17/14 00:09	
Toluene-d8 (S)	%	100	80-120	10/17/14 00:09	

LABORATORY CONTROL SAMPLE: 1459162

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,4-Dichlorobenzene	ug/kg	100	92.6	93	80-120	
Benzene	ug/kg	100	96.2	96	80-120	
Chlorobenzene	ug/kg	100	97.1	97	80-120	
Ethylbenzene	ug/kg	100	97.7	98	80-120	
Toluene	ug/kg	100	99.3	99	79-120	
Xylene (Total)	ug/kg	300	291	97	79-120	
1,2-Dichloroethane-d4 (S)	%			93	75-129	
4-Bromofluorobenzene (S)	%			103	76-123	
Toluene-d8 (S)	%			101	80-120	

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QUALITY CONTROL DATA

Project: BIG MO SVE
Pace Project No.: 60179855

QC Batch: MSV/65109 Analysis Method: EPA 8260
QC Batch Method: EPA 8260 Analysis Description: 8260 MSV 5035A Volatile Organics
Associated Lab Samples: 60179855006, 60179855007, 60179855008, 60179855010, 60179855011, 60179855012

METHOD BLANK: 1461326 Matrix: Solid
Associated Lab Samples: 60179855006, 60179855007, 60179855008, 60179855010, 60179855011, 60179855012

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,4-Dichlorobenzene	ug/kg	ND	5.0	10/17/14 13:19	
Benzene	ug/kg	ND	5.0	10/17/14 13:19	
Chlorobenzene	ug/kg	ND	5.0	10/17/14 13:19	
Ethylbenzene	ug/kg	ND	5.0	10/17/14 13:19	
Toluene	ug/kg	ND	5.0	10/17/14 13:19	
Xylene (Total)	ug/kg	ND	5.0	10/17/14 13:19	
1,2-Dichloroethane-d4 (S)	%	97	75-129	10/17/14 13:19	
4-Bromofluorobenzene (S)	%	95	76-123	10/17/14 13:19	
Toluene-d8 (S)	%	100	80-120	10/17/14 13:19	

LABORATORY CONTROL SAMPLE: 1461327

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,4-Dichlorobenzene	ug/kg	100	108	108	80-120	
Benzene	ug/kg	100	106	106	80-120	
Chlorobenzene	ug/kg	100	107	107	80-120	
Ethylbenzene	ug/kg	100	111	111	80-120	
Toluene	ug/kg	100	111	111	79-120	
Xylene (Total)	ug/kg	300	330	110	79-120	
1,2-Dichloroethane-d4 (S)	%			93	75-129	
4-Bromofluorobenzene (S)	%			103	76-123	
Toluene-d8 (S)	%			103	80-120	

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QUALITY CONTROL DATA

Project: BIG MO SVE

Pace Project No.: 60179855

QC Batch: MSV/65197

Analysis Method: EPA 8260

QC Batch Method: EPA 8260

Analysis Description: 8260 MSV 5035A Volatile Organics

Associated Lab Samples: 60179855006

METHOD BLANK: 1463791

Matrix: Solid

Associated Lab Samples: 60179855006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Benzene	ug/kg	ND	5.0	10/20/14 14:44	
1,2-Dichloroethane-d4 (S)	%	95	75-129	10/20/14 14:44	
4-Bromofluorobenzene (S)	%	100	76-123	10/20/14 14:44	
Toluene-d8 (S)	%	101	80-120	10/20/14 14:44	

LABORATORY CONTROL SAMPLE: 1463792

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Benzene	ug/kg	100	98.7	99	80-120	
1,2-Dichloroethane-d4 (S)	%			94	75-129	
4-Bromofluorobenzene (S)	%			100	76-123	
Toluene-d8 (S)	%			100	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1463793

1463794

Parameter	Units	60179852008 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Benzene	ug/kg	9820	12500	12500	19600	20000	78	81	22-144	2	38	
1,2-Dichloroethane-d4 (S)	%						93	94	75-129			
4-Bromofluorobenzene (S)	%						100	102	76-123			
Toluene-d8 (S)	%						99	102	80-120			

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QUALITY CONTROL DATA

Project: BIG MO SVE

Pace Project No.: 60179855

QC Batch:	PMST/10135	Analysis Method:	ASTM D2974
QC Batch Method:	ASTM D2974	Analysis Description:	Dry Weight/Percent Moisture
Associated Lab Samples:	60179855001, 60179855002, 60179855003, 60179855004, 60179855005, 60179855006, 60179855007, 60179855008, 60179855009, 60179855010, 60179855011, 60179855012		

METHOD BLANK:	1463914	Matrix:	Solid
Associated Lab Samples:	60179855001, 60179855002, 60179855003, 60179855004, 60179855005, 60179855006, 60179855007, 60179855008, 60179855009, 60179855010, 60179855011, 60179855012		

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Percent Moisture	%	ND	0.50	10/20/14 00:00	

SAMPLE DUPLICATE: 1463915

Parameter	Units	60179855001 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	27.7	27.3	1	20	

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QUALIFIERS

Project: BIG MO SVE
Pace Project No.: 60179855

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

LABORATORIES

PASI-K Pace Analytical Services - Kansas City

BATCH QUALIFIERS

Batch: MSV/65044

[M5] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

Batch: MSV/65109

[M5] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

ANALYTE QUALIFIERS

IS The internal standard response is below criteria. Results may be biased high.

P2 Re-extraction or re-analysis could not be performed due to insufficient sample amount.

S3 Surrogate recovery exceeded laboratory control limits. Analyte presence below reporting limits in associated samples.
Results unaffected by high bias.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: BIG MO SVE

Pace Project No.: 60179855

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60179855001	WGK-BIGMO-SB70-4.0-4.5	EPA 8260	MSV/65044		
60179855002	WGK-BIGMO-SB-DUP-7	EPA 8260	MSV/65044		
60179855003	WGK-BIGMO-SB69-8.5-9.0	EPA 8260	MSV/65044		
60179855004	WGK-BIGMO-SB69-14.5-14.9	EPA 8260	MSV/65044		
60179855005	WGK-BIGMO-SB37-15.0	EPA 8260	MSV/65044		
60179855006	WGK-BIGMO-SB37-5.0-5.5	EPA 8260	MSV/65109		
60179855006	WGK-BIGMO-SB37-5.0-5.5	EPA 8260	MSV/65197		
60179855007	WGK-BIGMO-SB37-13.0	EPA 8260	MSV/65109		
60179855008	WGK-BIGMO-SB37-10.5	EPA 8260	MSV/65109		
60179855009	WGK-BIGMO-SB37-14.5-15.0	EPA 8260	MSV/65044		
60179855010	WGK-BIGMO-SB33-14.0-14.5	EPA 8260	MSV/65109		
60179855011	WGK-BIGMO-SB33-12.5	EPA 8260	MSV/65109		
60179855012	WGK-BIGMO-SB33-14.5	EPA 8260	MSV/65109		
60179855001	WGK-BIGMO-SB70-4.0-4.5	ASTM D2974	PMST/10135		
60179855002	WGK-BIGMO-SB-DUP-7	ASTM D2974	PMST/10135		
60179855003	WGK-BIGMO-SB69-8.5-9.0	ASTM D2974	PMST/10135		
60179855004	WGK-BIGMO-SB69-14.5-14.9	ASTM D2974	PMST/10135		
60179855005	WGK-BIGMO-SB37-15.0	ASTM D2974	PMST/10135		
60179855006	WGK-BIGMO-SB37-5.0-5.5	ASTM D2974	PMST/10135		
60179855007	WGK-BIGMO-SB37-13.0	ASTM D2974	PMST/10135		
60179855008	WGK-BIGMO-SB37-10.5	ASTM D2974	PMST/10135		
60179855009	WGK-BIGMO-SB37-14.5-15.0	ASTM D2974	PMST/10135		
60179855010	WGK-BIGMO-SB33-14.0-14.5	ASTM D2974	PMST/10135		
60179855011	WGK-BIGMO-SB33-12.5	ASTM D2974	PMST/10135		
60179855012	WGK-BIGMO-SB33-14.5	ASTM D2974	PMST/10135		

REPORT OF LABORATORY ANALYSIS

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Sample Condition Upon Receipt

WO#: 60179855



60179855

Client Name: XDD LLC

Courier: Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☒ Pace ☐ Other ☒ Express ^{Xroads} ^{10/9/14}

Tracking #: _____ Pace Shipping Label Used? Yes ☐ No ☐

Custody Seal on Cooler/Box Present: Yes ☒ No ☐ Seals intact: Yes ☒ No ☐

Packing Material: Bubble Wrap ☒ Bubble Bags ☐ Foam ☒ None ☐ Other ☐

Thermometer Used: T-239 / T-194

Type of Ice: Wet Blue ☐ None ☐ Samples received on ice, cooling process has begun.
(circle one)

Cooler Temperature: 1.8

Date and initials of person examining contents: CW 10/9/14

Temperature should be above freezing to 6°C

Chain of Custody present:	☒ Yes ☐ No ☐ N/A	1.
Chain of Custody filled out:	☒ Yes ☐ No ☐ N/A	2.
Chain of Custody relinquished:	☒ Yes ☐ No ☐ N/A	3.
Sampler name & signature on COC:	☒ Yes ☐ No ☐ N/A	4.
Samples arrived within holding time:	☒ Yes ☐ No ☐ N/A	5.
Short Hold Time analyses (<72hr):	☐ Yes ☒ No ☐ N/A	6.
Rush Turn Around Time requested:	☐ Yes ☒ No ☐ N/A	7.
Sufficient volume:	☒ Yes ☐ No ☐ N/A	8.
Correct containers used:	☒ Yes ☐ No ☐ N/A	
Pace containers used:	☒ Yes ☐ No ☐ N/A	9.
Containers intact:	☒ Yes ☐ No ☐ N/A	10.
Unpreserved 5035A soils frozen w/in 48hrs?	☒ Yes ☐ No ☐ N/A	11.
Filtered volume received for dissolved tests?	☐ Yes ☐ No ☒ N/A	12.
Sample labels match COC:	☒ Yes ☐ No ☐ N/A	
Includes date/time/ID/analyses	Matrix: <u>SL</u>	13.
All containers needing preservation have been checked.	☐ Yes ☐ No ☒ N/A	
All containers needing preservation are found to be in compliance with EPA recommendation.	☐ Yes ☐ No ☒ N/A	14.
Exceptions: <u>VOA</u> , coliform, TOC, O&G, WI-DRO (water), Phenolics	☒ Yes ☐ No	Initial when completed
Trip Blank present:	☒ Yes ☐ No ☐ N/A	Lot # of added preservative
Pace Trip Blank lot # (if purchased): <u>072814-3</u>		<u>Both soil trip sets arrived in same cooler w/ all samples listed</u>
Headspace in VOA vials (>6mm):	☐ Yes ☐ No ☐ N/A	15.
		16.
Project sampled in USDA Regulated Area:	☐ Yes ☒ No ☐ N/A	17. List State:

Client Notification/ Resolution:

Copy COC to Client? Y / N

Field Data Required? Y / N

Person Contacted: _____

Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: _____

Date: _____

10/9/14

Jamie Church



Page: 1 of 1

Invoice Information:

[illegible]

Temp in °C	
Received on Ice (Y/N)	
Custody Sealed Cooler (Y/N)	
Samples Intact (Y/N)	

October 24, 2014

Erin Holmes
XDD, LLC
22 Marin Way #3
Stratham, NH 03885

RE: Project: BIG MO SVE
Pace Project No.: 60179860

Dear Erin Holmes:

Enclosed are the analytical results for sample(s) received by the laboratory on October 09, 2014. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Jamie Church
jamie.church@pacelabs.com
Project Manager

Enclosures

cc: William Johnson, Solutia, Inc.
Dennis Keane, XDD, LLC.



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: BIG MO SVE

Pace Project No.: 60179860

Kansas Certification IDs

9608 Loiret Boulevard, Lenexa, KS 66219

WY STR Certification #: 2456.01

Arkansas Certification #: 13-012-0

Illinois Certification #: 003097

Iowa Certification #: 118

Kansas/NELAP Certification #: E-10116

Louisiana Certification #: 03055

Nevada Certification #: KS000212008A

Oklahoma Certification #: 9205/9935

Texas Certification #: T104704407

Utah Certification #: KS00021

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: BIG MO SVE

Pace Project No.: 60179860

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60179860001	WGK-BIGMO-SB28-8.0-8.3	Solid	10/08/14 09:15	10/09/14 02:20
60179860002	WGK-BIGMO-SB27-7.0-7.2	Solid	10/08/14 08:50	10/09/14 02:20
60179860003	WGK-BIGMO-SB83-8.0-8.3	Solid	10/08/14 10:00	10/09/14 02:20
60179860004	WGK-BIGMO-SB-DUP-6	Solid	10/08/14 09:00	10/09/14 02:20

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: BIG MO SVE

Pace Project No.: 60179860

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60179860001	WGK-BIGMO-SB28-8.0-8.3	EPA 8260	JKL	9	PASI-K
		ASTM D2974	DWC	1	PASI-K
60179860002	WGK-BIGMO-SB27-7.0-7.2	EPA 8260	JKL	9	PASI-K
		ASTM D2974	DWC	1	PASI-K
60179860003	WGK-BIGMO-SB83-8.0-8.3	EPA 8260	JKL	9	PASI-K
		ASTM D2974	DWC	1	PASI-K
60179860004	WGK-BIGMO-SB-DUP-6	EPA 8260	JKL	9	PASI-K
		ASTM D2974	DWC	1	PASI-K

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: BIG MO SVE

Pace Project No.: 60179860

Method: EPA 8260

Description: 8260 MSV 5035A VOA

Client: XDD_SOLUTIONIA, LLC

Date: October 24, 2014

General Information:

4 samples were analyzed for EPA 8260. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

Surrogates:

All surrogates were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: MSV/65261

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 60179860001, 60179860002

M1: Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

- MS (Lab ID: 1464904)
- Chlorobenzene

Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BIG MO SVE

Pace Project No.: 60179860

Sample: WGK-BIGMO-SB28-8.0-8.3 **Lab ID:** 60179860001 Collected: 10/08/14 09:15 Received: 10/09/14 02:20 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA									
Analytical Method: EPA 8260									
Benzene	36700	ug/kg	34800	17400	5000		10/22/14 09:12	71-43-2	
Chlorobenzene	5760000	ug/kg	348000	174000	50000		10/22/14 12:00	108-90-7	M1
1,4-Dichlorobenzene	ND	ug/kg	34800	17400	5000		10/22/14 09:12	106-46-7	
Ethylbenzene	ND	ug/kg	34800	17400	5000		10/22/14 09:12	100-41-4	
Toluene	ND	ug/kg	34800	17400	5000		10/22/14 09:12	108-88-3	
Xylene (Total)	ND	ug/kg	34800	17400	5000		10/22/14 09:12	1330-20-7	
Surrogates									
Toluene-d8 (S)	104	%	80-120		5000		10/22/14 09:12	2037-26-5	
4-Bromofluorobenzene (S)	93	%	76-123		5000		10/22/14 09:12	460-00-4	
1,2-Dichloroethane-d4 (S)	97	%	75-129		5000		10/22/14 09:12	17060-07-0	
Percent Moisture									
Analytical Method: ASTM D2974									
Percent Moisture	25.3	%	0.50	0.50	1		10/20/14 00:00		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BIG MO SVE

Pace Project No.: 60179860

Sample: WGK-BIGMO-SB27-7.0-7.2 **Lab ID:** 60179860002 Collected: 10/08/14 08:50 Received: 10/09/14 02:20 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA									
Analytical Method: EPA 8260									
Benzene	3890000	ug/kg	318000	159000	50000		10/22/14 12:15	71-43-2	
Chlorobenzene	1730000	ug/kg	63600	31800	10000		10/22/14 09:58	108-90-7	
1,4-Dichlorobenzene	ND	ug/kg	63600	31800	10000		10/22/14 09:58	106-46-7	
Ethylbenzene	ND	ug/kg	63600	31800	10000		10/22/14 09:58	100-41-4	
Toluene	50700J	ug/kg	63600	31800	10000		10/22/14 09:58	108-88-3	
Xylene (Total)	ND	ug/kg	63600	31800	10000		10/22/14 09:58	1330-20-7	
Surrogates									
Toluene-d8 (S)	105	%	80-120		10000		10/22/14 09:58	2037-26-5	
4-Bromofluorobenzene (S)	96	%	76-123		10000		10/22/14 09:58	460-00-4	
1,2-Dichloroethane-d4 (S)	97	%	75-129		10000		10/22/14 09:58	17060-07-0	
Percent Moisture									
Analytical Method: ASTM D2974									
Percent Moisture	24.6	%	0.50	0.50	1		10/20/14 00:00		

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ANALYTICAL RESULTS

Project: BIG MO SVE

Pace Project No.: 60179860

Sample: WGK-BIGMO-SB83-8.0-8.3 **Lab ID:** 60179860003 Collected: 10/08/14 10:00 Received: 10/09/14 02:20 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA									
Analytical Method: EPA 8260									
Benzene	14.3	ug/kg	5.4	2.7	1		10/22/14 12:31	71-43-2	
Chlorobenzene	ND	ug/kg	5.4	2.7	1		10/22/14 12:31	108-90-7	
1,4-Dichlorobenzene	ND	ug/kg	5.4	2.7	1		10/22/14 12:31	106-46-7	
Ethylbenzene	ND	ug/kg	5.4	2.7	1		10/22/14 12:31	100-41-4	
Toluene	ND	ug/kg	5.4	2.7	1		10/22/14 12:31	108-88-3	
Xylene (Total)	ND	ug/kg	5.4	2.7	1		10/22/14 12:31	1330-20-7	
Surrogates									
Toluene-d8 (S)	105	%	80-120		1		10/22/14 12:31	2037-26-5	
4-Bromofluorobenzene (S)	97	%	76-123		1		10/22/14 12:31	460-00-4	
1,2-Dichloroethane-d4 (S)	114	%	75-129		1		10/22/14 12:31	17060-07-0	
Percent Moisture									
Analytical Method: ASTM D2974									
Percent Moisture	23.0	%	0.50	0.50	1		10/20/14 00:00		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BIG MO SVE

Pace Project No.: 60179860

Sample: WGK-BIGMO-SB-DUP-6 **Lab ID:** 60179860004 Collected: 10/08/14 09:00 Received: 10/09/14 02:20 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA									
Analytical Method: EPA 8260									
Benzene	168000	ug/kg	65100	32600	10000		10/22/14 11:29	71-43-2	
Chlorobenzene	9380000	ug/kg	326000	163000	50000		10/22/14 12:46	108-90-7	
1,4-Dichlorobenzene	ND	ug/kg	65100	32600	10000		10/22/14 11:29	106-46-7	
Ethylbenzene	ND	ug/kg	65100	32600	10000		10/22/14 11:29	100-41-4	
Toluene	ND	ug/kg	65100	32600	10000		10/22/14 11:29	108-88-3	
Xylene (Total)	ND	ug/kg	65100	32600	10000		10/22/14 11:29	1330-20-7	
Surrogates									
Toluene-d8 (S)	104	%	80-120		10000		10/22/14 11:29	2037-26-5	
4-Bromofluorobenzene (S)	94	%	76-123		10000		10/22/14 11:29	460-00-4	
1,2-Dichloroethane-d4 (S)	98	%	75-129		10000		10/22/14 11:29	17060-07-0	
Percent Moisture									
Analytical Method: ASTM D2974									
Percent Moisture	21.2	%	0.50	0.50	1		10/20/14 00:00		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BIG MO SVE
Pace Project No.: 60179860

QC Batch: MSV/65261 Analysis Method: EPA 8260
QC Batch Method: EPA 8260 Analysis Description: 8260 MSV 5035A Volatile Organics
Associated Lab Samples: 60179860001, 60179860002, 60179860003, 60179860004

METHOD BLANK: 1464902 Matrix: Solid
Associated Lab Samples: 60179860001, 60179860002, 60179860003, 60179860004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,4-Dichlorobenzene	ug/kg	ND	5.0	10/22/14 08:55	
Benzene	ug/kg	ND	5.0	10/22/14 08:55	
Chlorobenzene	ug/kg	ND	5.0	10/22/14 08:55	
Ethylbenzene	ug/kg	ND	5.0	10/22/14 08:55	
Toluene	ug/kg	ND	5.0	10/22/14 08:55	
Xylene (Total)	ug/kg	ND	5.0	10/22/14 08:55	
1,2-Dichloroethane-d4 (S)	%	99	75-129	10/22/14 08:55	
4-Bromofluorobenzene (S)	%	100	76-123	10/22/14 08:55	
Toluene-d8 (S)	%	104	80-120	10/22/14 08:55	

LABORATORY CONTROL SAMPLE: 1464903

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,4-Dichlorobenzene	ug/kg	100	105	105	80-120	
Benzene	ug/kg	100	107	107	80-120	
Chlorobenzene	ug/kg	100	104	104	80-120	
Ethylbenzene	ug/kg	100	107	107	80-120	
Toluene	ug/kg	100	112	112	79-120	
Xylene (Total)	ug/kg	300	321	107	79-120	
1,2-Dichloroethane-d4 (S)	%			96	75-129	
4-Bromofluorobenzene (S)	%			102	76-123	
Toluene-d8 (S)	%			103	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1464904 1464905

Parameter	Units	60179860001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1,4-Dichlorobenzene	ug/kg	ND	696000	696000	640000	598000	92	86	10-144	7	48	
Benzene	ug/kg	36700	696000	696000	670000	637000	91	86	22-144	5	38	
Chlorobenzene	ug/kg	5760000	696000	696000	8200000	6030000	351	39	10-145	30	46	M1
Ethylbenzene	ug/kg	ND	696000	696000	605000	590000	87	85	10-154	3	42	
Toluene	ug/kg	ND	696000	696000	690000	653000	97	92	11-150	6	40	
Xylene (Total)	ug/kg	ND	2090000	2090000	1790000	1730000	86	83	10-154	3	41	
1,2-Dichloroethane-d4 (S)	%						96	95	75-129			
4-Bromofluorobenzene (S)	%						93	97	76-123			
Toluene-d8 (S)	%						105	103	80-120			

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QUALITY CONTROL DATA

Project: BIG MO SVE

Pace Project No.: 60179860

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1464906 1464907												
Parameter	Units	60179860002 Result	MS	MSD	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	Max		Qual
			Spike Conc.	Spike Conc.						RPD	RPD	
1,4-Dichlorobenzene	ug/kg	ND	1270000	1270000	1020000	984000	80	77	10-144	4	48	
Benzene	ug/kg	3890000	1270000	1270000	5160000	4980000	99	86	22-144	3	38	
Chlorobenzene	ug/kg	1730000	1270000	1270000	2960000	2780000	97	83	10-145	6	46	
Ethylbenzene	ug/kg	ND	1270000	1270000	1090000	1020000	86	80	10-154	7	42	
Toluene	ug/kg	50700J	1270000	1270000	1200000	1140000	91	85	11-150	6	40	
Xylene (Total)	ug/kg	ND	3820000	3820000	3190000	2960000	84	78	10-154	7	41	
1,2-Dichloroethane-d4 (S)	%						96	98	75-129			
4-Bromofluorobenzene (S)	%						101	100	76-123			
Toluene-d8 (S)	%						106	105	80-120			

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QUALITY CONTROL DATA

Project: BIG MO SVE

Pace Project No.: 60179860

QC Batch: PMST/10135

Analysis Method: ASTM D2974

QC Batch Method: ASTM D2974

Analysis Description: Dry Weight/Percent Moisture

Associated Lab Samples: 60179860001, 60179860002, 60179860003, 60179860004

METHOD BLANK: 1463914

Matrix: Solid

Associated Lab Samples: 60179860001, 60179860002, 60179860003, 60179860004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Percent Moisture	%	ND	0.50	10/20/14 00:00	

SAMPLE DUPLICATE: 1463915

Parameter	Units	60179855001 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	27.7	27.3	1	20	

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REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: BIG MO SVE
Pace Project No.: 60179860

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

LABORATORIES

PASI-K Pace Analytical Services - Kansas City

ANALYTE QUALIFIERS

M1 Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: BIG MO SVE

Pace Project No.: 60179860

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60179860001	WGK-BIGMO-SB28-8.0-8.3	EPA 8260	MSV/65261		
60179860002	WGK-BIGMO-SB27-7.0-7.2	EPA 8260	MSV/65261		
60179860003	WGK-BIGMO-SB83-8.0-8.3	EPA 8260	MSV/65261		
60179860004	WGK-BIGMO-SB-DUP-6	EPA 8260	MSV/65261		
60179860001	WGK-BIGMO-SB28-8.0-8.3	ASTM D2974	PMST/10135		
60179860002	WGK-BIGMO-SB27-7.0-7.2	ASTM D2974	PMST/10135		
60179860003	WGK-BIGMO-SB83-8.0-8.3	ASTM D2974	PMST/10135		
60179860004	WGK-BIGMO-SB-DUP-6	ASTM D2974	PMST/10135		

REPORT OF LABORATORY ANALYSIS

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Sample Condition Upon Receipt

WO#: 60179860



60179860

Client Name: YDD

Courier: Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☒ Pace ☐ Other ☐ Yvads

Tracking #: _____ Pace Shipping Label Used? Yes ☐ No ☐

Custody Seal on Cooler/Box Present: Yes ☒ No ☐ Seals intact: Yes ☒ No ☐

Packing Material: Bubble Wrap ☐ Bubble Bags ☐ Foam ☒ None ☐ Other ☐

Thermometer Used: T-239 / T-194

Type of Ice: Wet Blue ☐ None ☐ Samples received on ice, cooling process has begun.
(circle one)

Cooler Temperature: 2.2

Temperature should be above freezing to 6°C

Date and initials of person examining contents: CW 10/9/14

Chain of Custody present:	☒ Yes ☐ No ☐ N/A	1.
Chain of Custody filled out:	☒ Yes ☐ No ☐ N/A	2.
Chain of Custody relinquished:	☒ Yes ☐ No ☐ N/A	3.
Sampler name & signature on COC:	☒ Yes ☐ No ☐ N/A	4.
Samples arrived within holding time:	☒ Yes ☐ No ☐ N/A	5.
Short Hold Time analyses (<72hr):	☐ Yes ☒ No ☐ N/A	6.
Rush Turn Around Time requested:	☐ Yes ☒ No ☐ N/A	7.
Sufficient volume:	☒ Yes ☐ No ☐ N/A	8.
Correct containers used:	☒ Yes ☐ No ☐ N/A	
Pace containers used:	☒ Yes ☐ No ☐ N/A	9.
Containers intact:	☒ Yes ☐ No ☐ N/A	10.
Unpreserved 5035A soils frozen w/in 48hrs?	☒ Yes ☐ No ☐ N/A	11.
Filtered volume received for dissolved tests?	☐ Yes ☐ No ☒ N/A	12.
Sample labels match COC:	☒ Yes ☐ No ☐ N/A	
Includes date/time/ID/analyses	Matrix: <u>SL</u>	13.
All containers needing preservation have been checked.	☐ Yes ☐ No ☒ N/A	
All containers needing preservation are found to be in compliance with EPA recommendation.	☐ Yes ☐ No ☒ N/A	14.
Exceptions: <u>VOA</u> coliform, TOC, O&G, WI-DRO (water), Phenolics	☒ Yes ☐ No	Initial when completed
Trip Blank present:	☐ Yes ☒ No ☐ N/A	Lot # of added preservative
Pace Trip Blank lot # (if purchased):		15.
Headspace in VOA vials (>6mm):	☐ Yes ☐ No ☒ N/A	16.
Project sampled in USDA Regulated Area:	☐ Yes ☒ No ☐ N/A	17. List State:

Client Notification/ Resolution:

Copy COC to Client? Y / N

Field Data Required? Y / N

Person Contacted: _____

Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: _____

Date: 10/9/14

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:	
Company: XDD, LLC	Address: 22 Marin Way #3 Stratham, NH 03885	Report To: Erin Holmes	Copy To: John Anderson	Attention: Bill Johnson	Company Name: Solutia
Email To: holmes@xdd-llc.com			Purchase Order No.: BIG MO SVE	Address:	
Phone: 603-418-3132	Fax: 603-778-2121		Project Name: BIG MO SVE	Pace Quote Reference: 00015316	
Requested Due Date/TAT: standard			Project Number: 1100311277	Pace Project Manager: Jamie Church	
				Pace Profile #: 5786	

Section D Required Client Information		Valid Matrix Codes		COLLECTED		SAMPLE TYPE (G=GRAB C=COMP)		MATRIX CODE (see valid codes to left)		SAMPLE TEMP AT COLLECTION		PRESERVATIVES		Requested Analysis Filtered (Y/N)		Pace Project No./ Lab ID.	
ITEM #	SAMPLE ID (A-Z, 0-9 / .) Sample IDs MUST BE UNIQUE	MATRIX	CODE	COMPOSITE START	COMPOSITE END/GRA3	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME
1	W4K-B14MO-SB78-8-0-8-3-MS	WATER	DW			10/8	0925										
2	W4K-B14MO-SB23-8-0-8-3-MSD	WASTE WATER	WW			10/8	0925										
3	W4K-B14MO-SB28-8-0-8-3	PRODUCT	P			10/8	0915										
4	W4K-B14MO-SB27-7-0-7-2	SOIL/SOLID	SL			10/8	0930										
5	W4K-B14MO-SB27-7-0-7-2-MS	OIL	OL			10/8	0935										
6	W4K-B14MO-SB27-7-0-7-2-MSD	WIPE	WP			10/8	0935										
7	W4K-B14MO-SB23-8-0-8-3	WASTE WATER	WW			10/8	1000										
8	W4K-B14MO-SB23-8-0-8-3-MS	PRODUCT	P			10/8	1000										
9	W4K-B14MO-SB23-8-0-8-3-MSD	SOIL/SOLID	SL			10/8	1000										
10	W4K-B14MO-SB-DUP-6	OIL	OL			10/8	0900										
11																	
12																	

ADDITIONAL COMMENTS		RELINQUISHED BY / AFFILIATION		DATE		TIME		ACCEPTED BY / AFFILIATION		DATE		TIME		SAMPLE CONDITIONS	
*BTX, chlorobenzene, 2,4-dichlorobenzene		John Anderson		10/8/14		1700		John Anderson		10/8/14		1700			
		John Anderson		10/8/14		1700		John Anderson		10/8/14		1700			

SAMPLER NAME AND SIGNATURE		DATE SIGNED (MM/DD/YY):	
John Anderson		10/8/14	

APPENDIX G

SOIL SAMPLING RESULTS AND COC MASS ESTIMATES

Appendix G - Table G1A
Soil Sampling Results - February 2013
 Big Mo and Former Benzene Pipeline Treatment Areas
 Solutia Inc., W.G. Krummrich Facility, Sauget, Illinois

Soil Boring	Sample Depth ^[1] (ft bgs)	Representative Interval ^[2] (ft bgs)	COC Concentration ^[3,4,5,6] (mg/Kg)	
			Benzene	Chlorobenzene
Former Benzene Pipeline Area				
SB-27	8.4 - 8.6	8.4 - 9.4	81.4	561
	10.0 - 10.5	9.4 - 11.0	55.8	272
	11.5 - 11.7	11.0 - 15.0	35.8	1,110
SB-28	8.6 - 8.8	8.6 - 10.0	601	3,890
	11.1 - 11.3	10.0 - 12.0	3.0 J	172
	12.5 - 13.0	12.0 - 13.1	3.2	211
	13.0 - 13.2	13.1 - 15.0	6.3 U	560
Big Mo Area				
SB-33	7.8 - 8.0	7.8 - 8.7	0.005 U	0.0049 U
	11.3 - 11.5	10.0 - 12.0	0.350	0.982
	12.5 - 13.0	12.0 - 13.2	2.9	8.49
	13.3 - 13.5	13.2 - 15.0	2.3	68
SB-34	7.3 - 7.5	6.4 - 7.9	0.003 U	0.0033 U
	10.9 - 11.1	10.0 - 12.0	0.083 J	0.299
	13.0 - 13.3	12.0 - 13.3	0.349	4.08
	13.3 - 13.5	13.3 - 15.0	0.161 U	0.494
SB-36	10 - 10.2	10.0 - 11.0	1,280	1.61
	11.9 - 12.1	11.0 - 12.6	3,020	11.5 U
	13.0 - 13.5	12.6 - 15.0	2,170	0.332
SB-37	10.0 - 10.2	10.0 - 11.0	0.190	0.158 U
	11.8 - 12.0	11.0 - 12.0	137	2.98 U
	14.0 - 14.2	12.5 - 14.2	33.6	1.55 U
	14.2 - 14.4	14.2 - 15.0	67.5	1.86 U
	14.2 - 14.4 DUP	14.2 - 15.0	55.7	1.64 U
SB-38	9.9 - 10.4	9.9 - 10.9	2.6	0.0034 U
	13.0 - 13.5	12.0 - 13.5	2.4	0.0325
	13.5 - 14.0	13.5 - 15.0	1.1	0.004 U
SB-39	12.0 - 12.2	11.8 - 12.7	91.6	0.112
	13.0 - 13.5	12.7 - 13.4	1,580	64.3 U
	13.5 - 13.7	13.4 - 15.0	3,520	148 U
SB-63	8.8 - 9.4	8.0 - 9.6	1.8	0.0073
	10.0 - 10.4	9.6 - 10.4	7.3	0.0331
	12.0 - 12.6	12.0 - 12.8	0.811	0.023
	13.2 - 13.8	12.8 - 15.0	0.610	0.061
SB-64	10.3 - 10.5	10.3 - 11.0	94.8	1.79 U
	11.5 - 12.0	11.0 - 12.1	74.7	2.09 U
	12.3 - 12.5	12.1 - 15.0	102	1.89 U
SB-65	10.5	10.5 - 11.0	5,210	17.2 U
	11.2 - 11.5	11.0 - 12.0	93.5	0.489
	12.5	12.0 - 15.0	13.1	0.254
SB-66	8.5 - 8.7	8.5 - 8.9	2.5	0.163 U
	10.0 - 10.5	10.0 - 10.7	1.8	0.17 U
	11.0 - 11.2	10.7 - 12.0	0.906	0.173 U
	12.9 - 13.1	12.0 - 15.0	0.450	0.144 U
SB-68	8.6 - 8.8	8.6 - 8.8	11.4	0.887
	11.0 - 11.5	10.0 - 11.6	42.5	30.1
	11.0 - 11.5 DUP	10.0 - 11.6	16.6	19.4
	11.6 - 11.8	11.6 - 12.6	98.7	35.3
	13.4 - 13.6	12.6 - 15.0	14.9	5.55

Appendix G - Table G1A

Soil Sampling Results - February 2013

Big Mo and Former Benzene Pipeline Treatment Areas
Solutia Inc., W.G. Krummrich Facility, Sauget, Illinois

Soil Boring	Sample Depth ^[1] (ft bgs)	Representative Interval ^[2] (ft bgs)	COC Concentration ^[3,4,5,6] (mg/Kg)	
			Benzene	Chlorobenzene
Big Mo Area (continued)				
SB-69	10.7 - 10.9	10.7 - 11.7	18.3	0.988 U
	12.0 - 12.4	12.0 - 12.4	1,140	6.87
	12.0 - 12.4 DUP	12.0 - 12.4	1,160	7.63
	13.2 - 13.4	13.2 - 15.0	534	40.9
SB-71	8.0 - 8.2	7.9 - 8.5	2.1	0.158 U
	11.5 - 11.7	10.0 - 11.9	2.0	0.149 U
	12.0 - 12.5	11.9 - 12.8	1.1	0.17 U
	13.1 - 13.3	12.8 - 15.0	1.6	0.0836
SB-79	7.6 - 7.8	8.8 - 10.3	0.662	0.255
	11.2 - 11.4	10.3 - 13.1	0.261	0.205
	13.0 - 13.4	13.1 - 14.6	17.3	8.79
	13.2 - 13.4	14.6 - 15.0	0.616	0.576
	13.2 - 13.4 DUP	14.6 - 15.0	1.2	0.928
SB-80	7.5 - 7.7	7.5 - 8.8	0.005 J	0.0052
	10.5 - 11.0	10.0 - 11.0	0.004	0.0046
	10.5 - 11.0 DUP	10.0 - 11.0	0.046	0.0494
	11.3 - 11.5	11.0 - 11.9	6.0	3.78
	13.0 - 13.2	11.9 - 15.0	0.043	0.0824
SB-83	6.8 - 7.0	6.8 - 7.9	0.470	0.164 U
	6.8 - 7.0 DUP	6.8 - 7.9	0.207	0.17 U
	10.9 - 11.1	10.0 - 11.0	0.002 J	0.0033 U
	11.0 - 11.5	11.0 - 12.1	0.292	0.197 U
	12.9 - 13.1	12.1 - 15.0	0.265	0.144 U

ft bgs = feet below ground surface

COC = contaminant of concern

mg/Kg = milligrams per kilogram

Notes:

- The soil vapor extraction (SVE) operated in the lower silty sand (deep) treatment interval from system startup in February 2012 until February 2013. Soil samples were not collected from the sandy fill/upper silty sand layer.
- Each soil sample within a soil boring was assigned a representative depth interval to which that concentration was applied, adding up to the total thickness of the deep zone observed at that soil boring (adjusted for percent recovery).
- Samples were analyzed for volatile organic compounds by Pace Analytical Services, Inc. (Lenexa, KS) using United States Environmental Protection Agency Method 8260B. The soil sampling laboratory reports are provided in **Appendix F**.
- Field duplicate samples are indicated by *italic* font.
- Bold** font indicates that the compound was detected above the laboratory reporting limit (RL), or estimated between the laboratory method detection limit (MDL) and RL.
- Laboratory qualifiers:

U = compound not detected above the indicated RL.

J = compound detected above the MDL but below the RL. Result is estimated.

Appendix G - Table G1B
Soil Sampling Results - March 2014
 Big Mo and Former Benzene Pipeline Treatment Areas
 Solutia Inc., W.G. Krummrich Facility, Sauget, Illinois

Soil Boring	Sample Depth ^[1] (ft bgs)	Representative Interval ^[2] (ft bgs)	COC Concentration ^[3,4,5,6] (mg/Kg)	
			Benzene	Chlorobenzene
Former Benzene Pipeline Area				
SB-27	3.0	3.8 - 4.4	0.201	1.120
	7.6 - 8	8.5 - 8.9	175	102
	7.6 - 8 DUP	8.5 - 8.9	68.9	49.6
	8.0	8.9 - 9.5	9.18	3.66
	10.0	9.5 - 10.8	0.357	2.3
	11 - 11.5	10.8 - 12.1	0.878	0.559
	12.0	12.1 - 13.8	0.128 J	0.862
	13.8	13.8 - 15.0	0.181 U	0.181 U
SB-28	7.2 - 7.5	8.1 - 8.4	1.26	144
	7.5	8.4 - 9.2	2.51	104
	10.0	9.2 - 11.2	0.179 U	14.30
	11.5 - 12	11.2 - 12.5	0.172 U	6.09
	12.0	12.5 - 13.8	0.157 J	15.4
	13.8	13.8 - 15.0	1.36	83.5
Big Mo Area				
SB-33	3.0	3.0 - 4.3	0.0034 U	0.0034 U
	3 - 3.7	4.3 - 4.8	0.160 U	0.16 U
	5.0	4.8 - 7.7	0.0031 U	0.0031 U
	8.0	8.4 - 9.5	0.0035 U	0.0035 U
	10.0	9.5 - 11.2	0.0029 U	0.0029 U
	12.0	11.2 - 13.5	0.0034 U	0.0034 U
	12.0 DUP	11.2 - 13.5	0.0033 U	0.0033 U
	14.0	13.5 - 14.8	238	176
	14 - 14.5	14.8 - 15.0	162	120
SB-34	10.0	10 - 11.3	0.003 U	0.003 U
	12.0	11.3 - 13.4	0.0028 U	0.0028 U
	13 - 13.5	13.4 - 14.6	0.003 U	0.0030 U
	13 - 13.5 DUP	13.4 - 14.6	0.0031 U	0.0031 U
	13.9	14.6 - 15.0	0.003 U	0.003 U
SB-36	3.0 - 3.8	3.0 - 4.9	620	27.2 U
	10.0	10.0 - 11.1	7,660	17.3 U
	11.5 - 12	11.1 - 12.6	2,800	18 U
	11.5 - 12 DUP	11.1 - 12.6	2,440	16.8 U
	14.0	14.5 - 15.0	3,420	15.3 U
SB-37	3.0	3.0 - 4.3	0.0815	0.0048 U
	3 - 3.7	4.3 - 4.6	1.34	0.152 U
	8.0	9.2 - 9.8	0.0021 J	0.0039 U
	8.0 DUP	9.2 - 9.8	0.0394	0.0055
	10.0	9.8 - 11.1	0.0238	0.0066
	12.0	11.1 - 13.3	0.165 U	0.0969 J
	14.0	13.3 - 14.5	264	13.6 U
	14 - 14.5	14.5 - 15.0	147	16 U
SB-38	10.0	10.0 - 11.2	0.013	0.0030 U
	11.5 - 12	11.2 - 11.9	0.054	0.0186
	12.0	12.3 - 13.9	0.0601	0.0028 U
	13.7	13.9 - 15.0	0.0337	0.0032 U

Appendix G - Table G1B
Soil Sampling Results - March 2014
 Big Mo and Former Benzene Pipeline Treatment Areas
 Solutia Inc., W.G. Krummrich Facility, Sauget, Illinois

Soil Boring	Sample Depth ^[1] (ft bgs)	Representative Interval ^[2] (ft bgs)	COC Concentration ^[3,4,5,6] (mg/Kg)	
			Benzene	Chlorobenzene
Big Mo Area (continued)				
SB-39	7.0	9.0 - 9.3	0.0018 J	0.0032 U
	7 - 7.5	9.3 - 9.8	0.898	0.0035 U
	7 - 7.5 DUP	9.3 - 9.8	0.808	0.0038 U
	10.0	9.8 - 10.4	0.151	0.0386
	12.0	11.5 - 13.3	0.153	0.0028 U
	13 - 13.5	13.3 - 14.5	539	16.3 U
	14.0	14.5 - 15.0	3.29	0.0836 J
SB-63	8.0	8.6 - 9.6	0.0027 J	0.0033 U
	10.0	9.6 - 11.3	0.563	0.153 U
	10.0 DUP	9.6 - 11.3	0.0208	0.0031 U
	12.0	11.3 - 13.8	0.0204	0.0031 U
	13.5 - 14	13.8 - 15.0	0.0048	0.0044
SB-64	3.0	3.0 - 4.2	554	27.9 U
	3.0 DUP	3.0 - 4.2	446	28.1 U
	3 - 3.4	4.2 - 4.6	3,020	26.3 U
	8.2	9.7 - 9.9	1.15	0.813 U
	10.0	9.9 - 11.3	0.446	0.00028 J
	12.0	11.3 - 13.7	0.0132	0.0032 U
	13.5 - 13.8	13.7 - 15.0	36.7	0.726 U
SB-65	3.0	3.0 - 4.5	0.0018 J	0.0028 U
	5.0	4.5 - 7.4	0.0039	0.0028 U
	7.5 - 8.1	9.0 - 9.7	7,030	18.1 U
	8.0	9.7 - 9.9	2,190	13.5 U
	10.0	9.9 - 10.9	2.68	0.0165
	11 - 11.5	10.9 - 12.3	196	22.4 U
	12.0	12.3 - 13.9	0.0023 J	0.0031 U
SB-66	13.6	13.9 - 15.0	4.91	0.015
	8.0	9.1 - 9.5	0.0091	0.0027 U
	10.0	9.5 - 11.4	0.155	0.0295
	12.0	11.4 - 13.7	0.003 U	0.003 U
	13 - 13.5	13.7 - 14.7	0.0016 J	0.0028 U
SB-68	13.5	14.7 - 15.0	0.0027 J	0.003 U
	7.5	8.6 - 10.9	0.0056	0.0032 U
	10.5	11.5 - 11.6	0.0221	0.0019 J
	12.0	11.6 - 13.4	0.003 U	0.003 U
	13 - 13.5	13.4 - 14.6	0.125	0.183
	13 - 13.5 DUP	13.4 - 14.6	1.93	0.292
SB-69	13.9	14.6 - 15.0	5.55	0.835
	3.0	3.0 - 4.8	0.0168	0.002 J
	5.0	4.8 - 5.3	0.0545	0.0027 U
	5 - 5.5	5.3 - 5.6	1.17	0.28 U
	7.0	8.6 - 10.7	0.0099	0.0029 U
	12.0	12.9 - 13.1	2,830	82.3
SB-69	12 - 12.5	13.1 - 15.0	1,800	68.8

Appendix G - Table G1B

Soil Sampling Results - March 2014

Big Mo and Former Benzene Pipeline Treatment Areas
Solutia Inc., W.G. Krummrich Facility, Sauget, Illinois

Soil Boring	Sample Depth ^[1] (ft bgs)	Representative Interval ^[2] (ft bgs)	COC Concentration ^[3,4,5,6] (mg/Kg)	
			Benzene	Chlorobenzene
Big Mo Area (continued)				
SB-70	3.0	3.0 - 3.9	25.4	133
	3 - 3.5	3.9 - 5.8	135	73.6
	6.0	5.8 - 7.1	21.9	30.1
SB-71 ^[6]	ns	--	--	
SB-79	7.5	8.2 - 9.6	0.003 U	0.003 U
	10.0	9.6 - 11.3	0.002 J	0.0032 U
	12.0	11.3 - 13.8	0.0031 U	0.0031 U
	13.8	13.8 - 15.0	0.0029 U	0.0029 U
SB-80	7.5	7.5 - 9.5	0.002 J	0.0025 J
	10.0	9.5 - 11.2	0.003 U	0.0044
	12.0	11.2 - 13.7	0.16 U	1.26
	14.0	13.7 - 15.0	0.0031 U	0.0031 U
SB-83	10.0	10.0 - 11.3	0.0047	0.0032 U
	10.0 DUP	10.0 - 11.3	0.0043	0.0036 U
	12.0	11.3 - 13.8	0.0033 U	0.0033 U
	14.0	13.8 - 15.0	0.0033 U	0.0033 U

ft bgs = feet below ground surface

COC = contaminant of concern

mg/Kg = milligrams per kilogram

ns = not sampled

Notes:

- The soil vapor extraction (SVE) system operated in the sandy fill/upper silty sand (shallow) and lower silty sand (deep) treatment intervals for approximately 6 and 7 months, respectively, between February 2013 and March 2014. Soil samples were collected from both treatment intervals for evaluation of the remaining COC mass.
- Each soil sample within a soil boring was assigned a representative depth interval to which that concentration was applied, adding up to the total thickness of the deep zone observed at that soil boring (adjusted for percent recovery).
- Samples were analyzed for volatile organic compounds by Pace Analytical Services, Inc. (Lenexa, KS) using United States Environmental Protection Agency Method 8260B. The soil sampling laboratory reports are provided in **Appendix F**.
- Field duplicate samples are indicated by *italic* font.
- Bold** font indicates that the compound was detected above the laboratory reporting limit (RL), or estimated between the laboratory method detection limit (MDL) and RL.
- Laboratory qualifiers:
 U = compound not detected above the indicated RL.
 J = compound detected above the laboratory MDL but below the RL. Result is estimated.
- Soil boring SB-71 was not sampled in March 2014.

Appendix G - Table G1C
Soil Sampling Results - October 2014
 Big Mo and Former Benzene Pipeline Treatment Areas
 Solutia Inc., W.G. Krummrich Facility, Sauget, Illinois

Soil Boring	Sample Depth ^[1,2] (ft bgs)	Representative Interval ^[3] (ft bgs)	COC Concentration ^[4,5,6,7] (mg/Kg)	
			Benzene	Chlorobenzene
Former Benzene Pipeline Area				
SB-27 (clay only)	7.0 - 7.2	1.9 - 9.5	3,890	1,730
SB-28 (clay only)	8.0 - 8.3	3.2 - 8.3	36.7	5,760
	8.0 - 8.3 DUP	3.2 - 8.3	168	9,380
Big Mo Area				
SB-33 (clay and deep)	8.0 - 8.3	8.0 - 8.4	0.0049 U	0.0049 U
	10.5	8.4 - 12.0	0.190	0.0054 U
	12.5	12.0 - 13.7	0.0053	0.0048 U
	14.0 - 14.5	13.7 - 14.9	0.0148	0.0055 U
	14.5	14.9 - 15.0	0.0767	0.0105
	14.5 DUP	14.9 - 15.0	1.240	0.268 U
SB-34 (clay only)	9.0 - 9.3	9.4 - 9.7	0.0026 J	0.0052 U
SB-36 (all intervals)	4.0	3.0 - 4.2	2,560	4.35 J
	4.0 - 4.4	4.2 - 4.9	1,360	3.25 U
	12.0	10.4 - 12.4	9,080	0.54 U
	12.5 - 13.0	12.4 - 13.7	73.4	2.94 U
	13.5 - 14.0	13.7 - 14.3	2,310	2.74 U
	13.5 - 14.0 DUP	13.7 - 14.3	1,600	2.92 U
	14.0	14.3 - 15.0	874	3.38 U
SB-37 (clay and deep)	5.0 - 5.5	4.0 - 6.0	1.690	0.0033 J
	10.5	9.7 - 12.0	0.0094	0.0382
	13.0	12.3 - 13.9	0.004 U	0.004 U
	14.5 - 15.0	13.9 - 14.9	257	15.4 U
	15.0	14.9 - 15.0	269	6.49 U
SB-38 (clay only)	8.0 - 8.5	8.3 - 10.9	24.7	0.635 U
	8.0 - 8.5 DUP	8.3 - 10.9	9.820	0.627 U
SB-39 (clay and deep)	7.0 - 9.4	4.0 - 10.1	0.450	0.269 U
	10.7	12.0 - 12.5	140	3.06 U
	13.0	12.5 - 13.6	13.4	0.253 U
	14.0 - 14.5	13.6 - 14.6	6,130	2.38 U
	15.0	14.6 - 15.0	123	2.84 U
SB-63 (clay only)	2.7 - 3.1	3.5 - 9.6	34.7	14.1
SB-64 (shallow and clay)	2.8	3.0 - 4.2	1,090	7.02 U
	4.0 - 4.5	4.2 - 4.6	949	4.82 U
	4.5	4.6 - 5.2	3,980	3.88 U
	4.5 - 5.0	5.2 - 10.3	649	3.82 U
SB-65 (clay and deep)	9.0 - 9.5	8.4 - 10.1	6,000	304 U
	10.8	10.1 - 12.0	92.1	3.03 U
	12.3 - 12.5	12.4 - 12.5	0.796	0.267 U
	13.0	12.5 - 13.8	2,140	0.286 U
	14.5	13.8 - 15.0	0.241 U	0.241 U
SB-66 (clay only)	8.0 - 8.5	7.7 - 8.7	0.0033 J	0.0065 U
SB-68 (clay only)	8.0 - 8.5	5.1 - 10.7	3.85	0.336

Appendix G - Table G1C

Soil Sampling Results - October 2014

Big Mo and Former Benzene Pipeline Treatment Areas
Solutia Inc., W.G. Krummrich Facility, Sauget, Illinois

Soil Boring	Sample Depth ^[1,2] (ft bgs)	Representative Interval ^[3] (ft bgs)	COC Concentration ^[4,5,6,7] (mg/Kg)	
			Benzene	Chlorobenzene
Big Mo Area (continued)				
SB-69 (clay and deep)	8.5 - 9.0	8.1 - 10.6	36.9	1.36 U
	8.5 - 9.0 DUP	8.1 - 10.6	37.4	1.34 U
	12.0	10.6 - 13.0	0.403	1.46
	14.0	13.0 - 14.4	3,230	93.8 J
	14.5 - 14.9	14.4 - 15.0	615	32.7
SB-70 (clay only)	4.0 - 4.5	5.0 - 9.6	4,380	2.41
SB-71 (all intervals)	2.0 - 2.5	2.4 - 3.8	3,920	0.433
	2.5	3.8 - 4.5	1,390	0.196 J
	4.5	4.5 - 6.2	1,290	0.313
	8.0 - 8.5	6.2 - 8.7	0.0072	0.0062 U
	10.0	8.7 - 11.8	0.675	0.262 U
	12.0	11.8 - 12.2	77.3	2.82 U
	12.0 - 12.5	12.2 - 13.5	30.3	2.69 U
	14.0	13.5 - 15.0	0.101	0.0057 U
SB-79 (clay only)	8.0 - 8.4	4.0 - 8.5	3.0	0.271 U
SB-80 (clay only)	4.3 - 4.5	4.5 - 8.0	0.281 U	3.63
	4.3 - 4.5 DUP	4.5 - 8.0	0.297 U	3.47
SB-83 (clay only)	8.0 - 8.3	4.5 - 8.4	0.0143	0.0054 U

ft bgs = feet below ground surface

COC = contaminant of concern

mg/Kg = milligrams per kilogram

= intermediate clay interval sample

Notes:

- The soil vapor extraction (SVE) system operated in the sandy fill/upper silty sand (shallow) and lower silty sand (deep) treatment intervals for approximately 3 and 5 months, respectively, between March 2014 and July 2014 (shallow operated concurrently with the deep). Soil samples were collected from both treatment intervals for the final evaluation of COC mass remaining at soil borings with greater than 100 pounds of COC mass remaining based on the March 2014 sampling results and mass estimates.
- Soil samples were collected from the intermediate silty clay (intermediate clay) interval at all soil borings as a component of the final soil COC mass evaluation.
- Each soil sample within a soil boring was assigned a representative depth interval to which that concentration was applied, adding up to the total thickness of the shallow or deep treatment zone and intermediate clay interval observed at that soil boring (adjusted for percent recovery).
- Samples were analyzed for VOCs by Pace Analytical Services, Inc. (Lenexa, KS) using United States Environmental Protection Agency Method 8260B. The soil sampling laboratory reports are provided in **Appendix F**.
- Field duplicate samples are indicated by *italic* font.
- Bold** font indicates that the compound was detected above the laboratory reporting limit (RL), or estimated between the laboratory method detection limit (MDL) and RL.
- Laboratory qualifiers:
 - U = compound not detected above the RL.
 - J = compound detected above the laboratory MDL but below the RL. Result is estimated.

Appendix G - Table G2

Deep Treatment Interval COC Mass Estimate - February 2013

Big Mo and Former Benzene Pipeline Treatment Areas
Solutia Inc., W.G. Krummrich Facility, Sauget, Illinois

Lower Silty Sand Treatment Interval						
Soil Boring	Representative Interval ^[1] (ft bgs)	Interval Thickness (ft)	Treatment Subarea ^[2] (ft ²)	COC Mass Present in Interval ^[3,4,5,6] (lbs)		Total COC Mass Remaining (lbs)
				Benzene	Chlorobenzene	
Former Benzene Pipeline Area						
SB-27	8.4 - 9.4	1.0	4,544	37	255	2,618
	9.4 - 11.0	1.6		41	198	
	11.0 - 15.0	4.0		65	2,022	
SB-28	8.6 - 10.0	1.4	3,912	330	2,135	3,113
	10.0 - 12.0	2.0		2.4	135	
	12.0 - 13.1	1.1		1.4	91	
	13.1 - 15.0	1.9		2.4	417	
Remaining Mass - Former Benzene Pipeline Area						5,730
Big Mo Area						
SB-33	7.8 - 8.7	0.9	5,874	0.0	0.0	84
	10.0 - 12.0	2.0		0.412	1.2	
	12.0 - 13.2	1.2		2.0	6.0	
	13.2 - 15.0	1.8		2.4	72	
SB-34	6.4 - 7.9	1.5	4,068	0.0	0.0	3.1
	10.0 - 12.0	2.0		0.07	0.24	
	12.0 - 13.3	1.3		0.18	2.16	
	13.3 - 15.0	1.7		0.06	0.34	
SB-36	10.0 - 11.0	1.0	7,720	990	1.2	8,767
	11.0 - 12.6	1.6		3,738	7.1	
	12.6 - 15.0	2.4		4,029	0.62	
SB-37	10.0 - 11.0	1.0	8,842	0.17	0.07	223
	11.0 - 12.0	1.0		121	1.3	
	12.5 - 14.2	1.7		51	1.2	
	14.2 - 15.0	0.8		48	0.66	
SB-38	9.9 - 10.9	1.0	5,250	1.3	0.0	4
	12.0 - 13.5	1.5		1.9	0.03	
	13.5 - 15.0	1.5		0.88	0.00	
SB-39	11.8 - 12.7	0.9	6,129	51	0.06	4,275
	12.7 - 13.4	0.7		679	14	
	13.4 - 15.0	1.6		3,459	73	
SB-63	8.0 - 9.6	1.6	6,346	1.9	0.0	7
	9.6 - 10.4	0.8		3.7	0.0	
	12.0 - 12.8	0.8		0.41	0.0	
	12.8 - 15.0	2.2		0.85	0.08	
SB-64	10.3 - 11.0	0.7	7,860	52	0.49	354
	11.0 - 12.1	1.1		65	0.91	
	12.1 - 15.0	2.9		233	2.2	
SB-65	10.5 - 11.0	0.5	8,485	2,215	3.7	2,333
	11.0 - 12.0	1.0		80	0.42	
	12.0 - 15.0	3.0		33	0.65	
SB-66	8.5 - 8.9	0.4	6,295	0.62	0.0	3
	10.0 - 10.7	0.7		0.81	0.0	
	10.7 - 12.0	1.3		0.74	0.07	
	12.0 - 15.0	3.0		0.85	0.14	
SB-68	8.6 - 8.8	0.2	6,141	1.4	0	186
	10.0 - 11.6	1.6		42	30	
	11.6 - 12.6	1.0		61	22	
	12.6 - 15.0	2.4		22	8.2	
SB-69	10.7 - 11.7	1.0	8,316	15	0.41	1,260
	12.0 - 12.4	0.4		380	2.3	
	13.2 - 15.0	1.8		801	61	
SB-71	7.9 - 8.5	0.6	5,755	0.7	0.0	6
	10.0 - 11.9	1.9		2.2	0.1	
	11.9 - 12.8	0.9		0.6	0.0	
	12.8 - 15.0	2.2		2.0	0.1	

Appendix G - Table G2

Deep Treatment Interval COC Mass Estimate - February 2013

Big Mo and Former Benzene Pipeline Treatment Areas
Solutia Inc., W.G. Krummrich Facility, Sauget, Illinois

Lower Silty Sand Treatment Interval						
Soil Boring	Representative Interval ^[1] (ft bgs)	Interval Thickness (ft)	Treatment Subarea ^[2] (ft ²)	COC Mass Present in Interval ^[3,4,5,6] (lbs)		Total COC Mass Remaining (lbs)
				Benzene	Chlorobenzene	
Big Mo Area (continued)						
SB-79	8.8 - 10.3	1.5	3,409	0.34	0.1	14
	10.3 - 13.1	2.8		0.25	0.2	
	13.1 - 14.6	1.5		8.9	4.5	
	14.6 - 15.0	0.4		0.08	0.1	
SB-80	7.5 - 8.8	1.3	4,737	0.0	0.0	4
	10.0 - 11.0	1.0		0.0	0.0	
	11.0 - 11.9	0.9		2.6	1.6	
	11.9 - 15.0	3.1		0.06	0.12	
SB-83	6.8 - 7.9	1.1	2,611	0.14	0.02	0.5
	10.0 - 11.0	1.0		0.0	0.0	
	11.0 - 12.1	1.1		0.08	0.03	
	12.1 - 15.0	2.9		0.20	0.1	
Remaining Mass - Big Mo Area						17,500
Total Remaining Mass						23,000

ft bgs = feet below ground surface

COC = contaminant of concern

ft = feet

lbs = pounds

Notes:

- Each soil sample within a soil boring was assigned a representative depth interval to which that concentration was applied, adding up to the total thickness of the deep zone observed at that soil boring (adjusted for percent recovery).
- The soil boring treatment subareas are calculated using Thiessen polygons developed using the Aquaveo, LLC (Provo, UT) GMS - groundwater modeling software.
- Refer to **Table G1A** for the comprehensive soil sampling data used to calculate the COC mass estimates.
- The COC mass present is calculated by the following formula:

$$\text{Mass (lbs)} = \text{Concentration (mg/kg)} \times \text{Area of Influence (ft}^2\text{)} \times \text{SVE Interval (ft)} \times \text{Bulk Soil Density (100 lbs/ft}^3\text{)} \times 1.00 \times 10^{-6} \text{ (unit conversion factor)}.$$
- Soils samples with COC concentrations flagged "U" on **Table G1A** are included in mass calculations as half of the indicated reporting limit.
- Field duplicates are not included in mass calculations.

Appendix G - Table G3A

Shallow Treatment Interval COC Mass Estimate - March 2014

Big Mo and Former Benzene Pipeline Treatment Areas

Solutia Inc., W.G. Krummrich Facility, Sauget, Illinois

Upper Silty Sand Treatment Interval						
Soil Boring	Representative Interval ^[1] (ft bgs)	Interval Thickness (ft)	Treatment Subarea ^[2] (ft ²)	COC Mass Present in Interval ^[3,4,5,6] (lbs)		Total Mass Remaining (lbs)
				Benzene	Chlorobenzene	
Former Benzene Pipeline Area						
SB-27	3.8 - 4.4	0.6	4,297	0.1	0.3	0
SB-28 ^[7]	ns	--	3,912	--	--	--
Remaining Mass - Former Benzene Pipeline Area						0
Big Mo Area						
SB-33	3.0 - 4.3	1.3	5,542	0.0	0.0	0
	4.3 - 4.8	0.5		0.0	0.0	
	4.8 - 7.7	2.9		0.0	0.0	
SB-36	3.0 - 4.9	1.9	9,136	1,062	23	1,086
SB-37	3.0 - 4.3	1.3	9,366	0.10	0.0	0.5
	4.3 - 4.6	0.3		0.38	0.0	
SB-39 ^[7]	ns	--	--	--	--	--
SB-63 ^[7]	ns	--	--	--	--	--
SB-64	3.0 - 4.2	1.2	7,943	524	13	1,516
	4.2 - 4.6	0.4		975	4.2	
SB-65	3.0 - 4.5	1.5	9,811	0.0	0.0	0
	4.5 - 7.4	2.9		0.0	0.0	
SB-68 ^[7]	ns	--	6,186	--		--
SB-69	3.0 - 4.8	1.8	8,405	0.0	0.0	0
	4.8 - 5.3	0.5		0.0	0.0	
	5.3 - 5.6	0.3		0.28	0.0	
SB-70	3.0 - 3.9	0.9	2,493	5.8	30	151
	3.9 - 5.8	1.9		63	34	
	5.8 - 7.1	1.4		7.4	10	
SB-71 ^[8]	ns	--	--	--		--
SB-79 ^[7]	ns	--	--	--		--
SB-80 ^[7]	ns	--	--	--		--
Remaining Mass - Big Mo Area						3,000
Total Remaining Mass						3,000

ft bgs = feet below ground surface

ft = feet

COC = contaminant of concern

lbs = pounds

ns = not sampled

-- = not applicable

Notes:

- Each soil sample within a soil boring was assigned a representative depth interval to which that concentration was applied, adding up to the total thickness of the shallow treatment interval observed at that soil boring (adjusted for percent recovery).
- The soil boring treatment subareas are calculated using Thiessen polygons developed using the Aquaveo, LLC (Provo, UT) GMS - groundwater modeling software.
- Refer to **Table G1B** for the comprehensive soil sampling data used to calculate the COC mass estimates.
- The remaining COC mass is calculated by the following formula:

$$\text{Mass (lbs)} = \text{Concentration (mg/kg)} \times \text{Area of Influence (ft}^2\text{)} \times \text{SVE Interval (ft)} \times \text{Bulk Soil Density (100 lbs/ft}^3\text{)} \times 1.00 \times 10^{-6} \text{ (unit conversion factor)}.$$
- Soil samples with COC concentrations flagged "U" on **Table G1B** are included in mass calculations as half of the indicated reporting limit.
- Field duplicates are not included in mass calculations.
- Soil samples were not collected from the shallow treatment interval at soil borings SB-28, SB-39, SB-63, SB-68, SB-79, and SB-80 because the intermediate silty clay layer dominates the shallow treatment interval.
- Soil boring SB-71 was not sampled in March 2014.

Appendix G - Table G3B
Deep Treatment Interval COC Mass Estimate - March 2014
 Big Mo and Former Benzene Pipeline Treatment Areas
 Solutia Inc., W.G. Krummrich Facility, Sauget, Illinois

Lower Silty Sand Treatment Interval						
Soil Boring	Representative Interval ^[1] (ft bgs)	Interval Thickness (ft)	Treatment Subarea ^[2] (ft ²)	COC Mass Present in Interval ^[3,4,5,6] (lbs)		Total Mass Remaining (lbs)
				Benzene	Chlorobenzene	
Former Benzene Pipeline Area						
SB-27	8.5 - 8.9	0.4	4,544	32	19	56
	8.9 - 9.5	0.6		2.5	1	
	9.5 - 10.8	1.3		0.21	0	
	10.8 - 12.1	1.3		0.53	0	
	12.1 - 13.8	1.7		0.10	0.2	
	13.8 - 15.0	1.2		0.05	0.0	
SB-28	8.1 - 8.4	0.3	3,912	0.15	0.0	37
	8.4 - 9.2	0.9		0.85	18	
	9.2 - 11.2	1.9		0.07	13	
	11.2 - 12.5	1.3		0.04	2	
	12.5 - 13.8	1.3		0.08	1	
	13.8 - 15.0	1.2		0.63	2	
Remaining Mass - Former Benzene Pipeline Area						100
Big Mo Area						
SB-33	8.4 - 9.5	1.1	5,874	0.0	0.0	353
	9.5 - 11.2	1.6		0.0	0.0	
	11.2 - 13.5	2.3		0.0	0.0	
	13.5 - 14.8	1.3		183	136	
	14.8 - 15.0	0.2		19	14	
SB-34	10 - 11.3	1.3	4,068	0.0	0.0	0
	11.3 - 13.4	2.1		0.0	0.0	
	13.4 - 14.6	1.2		0.0	0.0	
	14.6 - 15.0	0.4		0.0	0.0	
SB-36	10.0 - 11.1	1.1	7,720	6,482	7.3	11,143
	11.1 - 12.6	1.5		3,317	11	
	14.5 - 15.0	0.5		1,323	3.0	
SB-37	9.2 - 9.8	0.6	8,842	0	0	365
	9.8 - 11.1	1.2		0	0	
	11.1 - 13.3	2.2		0	0	
	13.3 - 14.5	1.2		286	7.4	
	14.5 - 15.0	0.5		67	3.7	
SB-38	10.0 - 11.2	1.2	5,250	0.01	0.0	0.11
	11.2 - 11.9	0.7		0.02	0.01	
	12.3 - 13.9	1.6		0.05	0.0	
	13.9 - 15.0	1.1		0.02	0.0	
SB-39	9.0 - 9.3	0.3	6,129	0.0	0.0	422
	9.3 - 9.8	0.5		0.28	0.0	
	9.8 - 10.4	0.6		0.06	0.01	
	11.5 - 13.3	1.8		0.17	0.0	
	13.3 - 14.5	1.3		414	6.3	
SB-63	14.5 - 15.0	0.5	6,346	0.95	0.02	0.7
	8.6 - 9.6	1.1		0.0	0.0	
	9.6 - 11.3	1.6		0.58	0.08	
	11.3 - 13.8	2.5		0.03	0.0	
SB-64	13.8 - 15.0	1.3	7,860	0.0	0.0	38
	9.7 - 9.9	0.1		0.13	0.05	
	9.9 - 11.3	1.5		0.51	0.0	
	11.3 - 13.7	2.4		0.02	0.0	
SB-65	13.7 - 15.0	1.3	8,485	37	0.37	4,565
	9.0 - 9.7	0.6		3,856	4.96	
	9.7 - 9.9	0.2		451	1.39	
	9.9 - 10.9	0.9		2.2	0.01	
	10.9 - 12.3	1.4		231	13	
	12.3 - 13.9	1.6		0.0	0.0	
	13.9 - 15.0	1.1		4.6	0.01	

Appendix G - Table G3B

Deep Treatment Interval COC Mass Estimate - March 2014

Big Mo and Former Benzene Pipeline Treatment Areas

Solutia Inc., W.G. Krummrich Facility, Sauget, Illinois

Lower Silty Sand Treatment Interval						
Soil Boring	Representative Interval ^[1] (ft bgs)	Interval Thickness (ft)	Treatment Subarea ^[2] (ft ²)	COC Mass Present in Interval ^[3,4,5,6] (lbs)		Total Mass Remaining (lbs)
				Benzene	Chlorobenzene	
Big Mo Area (continued)						
SB-66	9.1 - 9.5	0.5	6,295	0.0	0.0	0.2
	9.5 - 11.4	1.9		0.18	0.03	
	11.4 - 13.7	2.3		0.0	0.0	
	13.7 - 14.7	1.0		0.0	0.0	
	14.7 - 15.0	0.3		0.0	0.0	
SB-68	8.6 - 10.9	2.3	6,141	0.0	0.0	2
	11.5 - 11.6	0.1		0.0	0.0	
	11.6 - 13.4	1.8		0.0	0.0	
	13.4 - 14.6	1.2		0.09	0.14	
	14.6 - 15.0	0.4		1.4	0.21	
SB-69	8.6 - 10.7	2.1	8,316	0.0	0.0	3,366
	12.9 - 13.1	0.2		434	13	
	13.1 - 15.0	1.9		2,813	108	
SB-71 ^[7]	ns	--	--	--	--	--
SB-79	8.2 - 9.6	1.4	3,409	0.0	0.0	0
	9.6 - 11.3	1.7		0.0	0.0	
	11.3 - 13.8	2.5		0.0	0.0	
	13.8 - 15.0	1.2		0.0	0.0	
SB-80	7.5 - 9.5	2.0	4,737	0.0	0.0	2
	9.5 - 11.2	1.8		0.0	0.0	
	11.2 - 13.7	2.4		0.09	1.5	
	13.7 - 15.0	1.3		0.0	0.0	
SB-83	10.0 - 11.3	1.3	2,611	0.0	0.0	0
	11.3 - 13.8	2.5		0.0	0.0	
	13.8 - 15.0	1.3		0.0	0.0	
Remaining Mass - Big Mo Area						20,300
Total Remaining Mass						20,400

ft bgs = feet below ground surface

ft = feet

COC = contaminant of concern

lbs = pounds

ns = not sampled

-- = not applicable

Notes:

- Each soil sample within a soil boring was assigned a representative depth interval to which that concentration was applied, adding up to the total thickness of the deep treatment interval observed at that soil boring (adjusted for percent recovery).
- The soil boring treatment subareas are calculated using Thiessen polygons developed using the Aquaveo, LLC (Provo, UT) GMS - groundwater modeling software.
- Refer to **Table G1B** for the comprehensive soil sampling data used to calculate the COC mass estimates.
- The remaining COC mass is calculated by the following formula:

$$\text{Mass (lbs)} = \text{Concentration (mg/kg)} \times \text{Area of Influence (ft}^2\text{)} \times \text{SVE Interval (ft)} \times \text{Bulk Soil Density (100 lbs/ft}^3\text{)} \times 1.00 \times 10^{-6} \text{ (unit conversion factor)}.$$
- Soil samples with COC concentrations flagged "U" on **Table G1B** are included in mass calculations as half of the indicated reporting limit.
- Field duplicates are not included in mass calculations.
- Soil boring SB-71 was not sampled in March 2014.

Appendix G - Table G4A

Shallow Treatment Interval COC Mass Estimate - October 2014

Big Mo and Former Benzene Pipeline Treatment Areas

Solutia Inc., W.G. Krummrich Facility, Sauget, Illinois

Upper Silty Sand Treatment Interval						
Former Benzene Pipeline Area						
Soil Boring ^[1]	Representative Interval ^[2] (ft bgs)	Interval Thickness (ft)	Treatment Subarea ^[3] (ft ²)	COC Mass Present in Interval ^[4,5,6,7] (lbs)		COC Mass Remaining ^[8] (lbs)
				Benzene	Chlorobenzene	
SB-27	ns	--	4,297	0.10	0.30	0.40
SB-28 ^[9]	ns	--	--	--	--	--
Remaining Mass - Former Benzene Pipeline Area						0
Big Mo Area						
SB-33	--	--	5,542	0.0	0.0	0.0
SB-36	3.00 - 4.22	1.22	9,136	2,865	4.9	3,701
	4.22 - 4.89	0.67		830	1.0	
SB-37	--	--	9,366	0.50	0.0	0.50
SB-39 ^[9]	ns	--	--	--	--	--
SB-63 ^[9]	ns	--	--	--	--	--
SB-64	3.00 - 4.19	1.19	7,943	1,034	3.3	3,401
	4.19 - 4.58	0.38		291	0.74	
	4.58 - 5.23	0.65		2,071	1.0	
SB-65	--	--	9,811	0.0	0.0	0.0
SB-68 ^[9]	ns	--	--	--	--	--
SB-69	--	--	8,405	0.30	0.0	0.30
SB-70	--	--	2,493	76	75	151
SB-71	2.40 - 3.80	1.4	6,656	3.7	0.4	6.6
	3.80 - 4.45	0.7		0.61	0.09	
	4.45 - 6.18	1.7		1.5	0.36	
SB-79 ^[9]	ns	--	--	--	--	--
SB-80 ^[9]	ns	--	--	--	--	--
Remaining Mass - Big Mo Area						7,300
Total Remaining Mass						7,300

ft bgs = feet below ground surface

ft = feet

COC = contaminant of concern

lbs = pounds

ns = not sampled

-- = not applicable

Notes:

- Soil samples were collected in October 2014 at soil boring locations with an estimated remaining benzene mass greater than 100 lbs based on the March 2014 soil sampling results and mass estimates with the exception of soil boring SB-71, which was not sampled in March 2014.
- Each soil sample within a soil boring was assigned a representative depth interval to which that concentration was applied, adding up to the total thickness of the shallow treatment interval observed at that soil boring (adjusted for percent recovery).
- The soil boring treatment subareas are calculated using Thiessen polygons developed using the Aquaveo, LLC (Provo, UT) GMS - groundwater modeling software.
- Refer to **Table G1C** for the comprehensive soil sampling data used to calculate the COC mass estimates.
- The remaining COC mass is calculated by the following formula:

$$\text{Mass (lbs)} = \text{Concentration (mg/kg)} \times \text{Area of Influence (ft}^2\text{)} \times \text{SVE Interval (ft)} \times \text{Bulk Soil Density (100 lbs/ft}^3\text{)} \times 1.00 \times 10^{-6} \text{ (unit conversion factor).}$$
- Soil samples with COC concentrations flagged "U" on **Table G1C** are included in mass calculations as half of the indicated reporting limit.
- Field duplicates are not included in mass calculations.
- This table presents the mass remaining in the shallow treatment interval. The COC mass is based on the March 2014 of the October 2014 soil sampling results and mass estimates. The March 2014 mass estimates used in the COC mass remaining calculations are indicated by **bold** font.
- Soil samples were not collected from the shallow treatment interval at soil borings SB-28, SB-39, SB-63, SB-68, SB-79, and SB-80 during the October 2014 soil sampling because the intermediate silty clay layer dominates the shallow treatment interval.

Appendix G - Table G4B
Deep Treatment Interval COC Mass Estimate - October 2014
 Big Mo and Former Benzene Pipeline Treatment Areas
 Solutia Inc., W.G. Krummrich Facility, Sauget, Illinois

Lower Silty Sand Treatment Interval						
Former Benzene Pipeline Area						
Soil Boring ^[1]	Representative Interval ^[2] (ft bgs)	Interval Thickness (ft)	Treatment Subarea ^[3] (ft ²)	COC Mass Present in Interval ^[4,5,6,7] (lbs)		COC Mass Remaining ^[8] (lbs)
				Benzene	Chlorobenzene	
SB-27	--	--	4,544	36	20	56
SB-28	--	--	3,912	1.8	35	37
Remaining Mass - Former Benzene Pipeline Area						100
Big Mo Area						
SB-33	8.4 - 12.0	3.6	5,874	0.40	0.01	0.43
	12.0 - 13.7	1.7		0.01	0.0	
	13.7 - 14.9	1.2		0.01	0.0	
	14.9 - 15.0	0.2		0.01	0.0	
SB-34	--	--	4,068	0.0	0.0	0.0
SB-36	10.4 - 12.4	2.1	7,720	14	0.43	558
	12.4 - 13.7	1.3		74	1.5	
	14.3 - 15.0	0.7		467	0.90	
SB-37	9.7 - 12.0	2.3	8,842	0.02	0.08	265
	12.3 - 13.9	1.6		0.0	0.0	
	13.9 - 14.9	1.0		228	6.8	
	14.9 - 15.0	0.1		30	0.4	
SB-38	--	--	5,250	0.10	0.0	0.10
SB-39	12.0 - 12.5	0.5	6,129	43	0.47	3,847
	12.5 - 13.6	1.1		9.3	0.09	
	13.6 - 14.6	1.0		3,765	0.73	
	14.6 - 15.0	0.4		28	0.33	
SB-63	--	--	6,346	0.60	0.10	0.70
SB-64	--	--	7,860	38	0.42	38
SB-65	10.1 - 12.0	1.9	8,485	145	2.4	151
	12.4 - 12.5	0.2		0.12	0.02	
	12.5 - 13.8	1.3		2.3	0.15	
	13.8 - 15.0	1.2		0.12	0.12	
Big Mo Area (continued)						
SB-66	--	--	6,295	0.20	0.0	0.20
SB-68	--	--	6,141	1.5	0.40	1.9
SB-69	10.6 - 13.0	2.4	8,316	0.81	2.9	4,179
	13.0 - 14.4	1.4		3,759	109	
	14.4 - 15.0	0.6		292	16	
SB-71	8.7 - 11.8	3.1	5,664	1.2	0.2	40
	11.8 - 12.2	0.3		15	0.3	
	12.2 - 13.5	1.3		22	1.0	
	13.5 - 15.0	1.5		0.09	0.0	
SB-79	--	--	3,409	0.0	0.0	0.0
SB-80	--	--	4,737	0.1	1.5	2
SB-83	--	--	2,611	0.0	0.0	0.0
Remaining Mass - Big Mo Area						9,100
Total Remaining Mass						9,200

See page 2 of 2 for abbreviations and notes.

Appendix G - Table G4B

Deep Treatment Interval COC Mass Estimate - October 2014

Big Mo and Former Benzene Pipeline Treatment Areas

Solutia Inc., W.G. Krummrich Facility, Sauget, Illinois

ft bgs = feet below ground surface
ft = feet
COC = contaminant of concern

lbs = pounds
ns = not sampled
-- = not applicable

Notes:

1. Soil samples were collected in October 2014 at soil boring locations with an estimated remaining benzene mass greater than 100 lbs based on the March 2014 soil sampling results and mass estimates with the exception of soil boring SB-71, which was not sampled in March 2014.
2. Each soil sample within a soil boring was assigned a representative depth interval to which that concentration was applied, adding up to the total thickness of the shallow treatment interval observed at that soil boring (adjusted for percent recovery).
3. The soil boring treatment subareas are calculated using Thiessen polygons developed using the Aquaveo, LLC (Provo, UT) GMS - groundwater modeling software.
4. Refer to **Table G1C** for the comprehensive soil sampling data used to calculate the benzene mass estimates.
5. The remaining COC mass is calculated by the following formula:
$$\text{Mass (lbs)} = \text{Concentration (mg/kg)} \times \text{Area of Influence (ft}^2\text{)} \times \text{SVE Interval (ft)} \times \text{Bulk Soil Density (100 lbs/ft}^3\text{)} \times 1.00 \times 10^{-6} \text{ (unit conversion factor)}.$$
6. Soil samples with COC concentrations flagged "U" on **Table G1C** are included in mass calculations as half of the indicated reporting limit.
7. Field duplicates are not included in mass calculations.
8. This table presents the mass remaining in the shallow treatment interval. The COC mass is based on the March 2014 of the October 2014 soil sampling results and mass estimates. The March 2014 mass estimates used in the COC mass remaining calculations are indicated by **bold** font.

APPENDIX H

SOIL COC LEACHATE CALCULATION ASSUMPTIONS AND DILUTION ATTENUATION FACTOR CALCULATION

Table H1

Variables for Calculation of the Soil-to-Groundwater Leachate Concentration

Big Mo and Former Benzene Pipeline Treatment Areas
Solutia Inc., W.G. Krummrich Facility, Sauget, Illinois

Parameter	Symbol	Value	Units	Source
Air-filled soil porosity	Θ_a	0.28	L (air)/L (soil)	Table 12 of the <i>Former Chlorobenzene Process Area Characterization Report</i> , prepared by URS Corporation (February 2010), which references the United States Environmental Protection Agency (USEPA) <u>Supplemental Guidance for Developing Soil Screening Levels for Superfund Sites</u> (December 2002).
Water-filled soil porosity	Θ_w	0.15	L (water)/L (soil)	
Total soil porosity	n	0.43	L (pore)/L (soil)	
Soil particle density	ps	2.65	g/cm ³	
Dry soil bulk density	pb	1.5	g/cm ³	
Organic carbon content	Foc	0.006	g/g	USEPA <u>Supplemental Guidance for Developing Soil Screening Levels for Superfund Sites</u> (December 2002). Appendix C
Koc (benzene)	Koc	58.9	L/Kg	
Henry's Law Constant (H') - benzene	H'	0.228	dimensionless	
Koc (chlorobenzene)	Koc	219	L/Kg	
Henry's Law Constant (H') - chlorobenzene	H'	0.152	dimensionless	
Benzene Solubility Limit	C _{sol}	1,750	mg/L	
Chlorobenzene Solubility Limit	C _{sol}	472	mg/L	
Dilution attenuation factor	DF	1.23	dimensionless	Refer to Table H2 for the calculation of the site-specific dilution factor.

L = liters

g/cm³ = grams per cubic centimeter

g = grams

L/Kg = liters per kilogram

mg/L = milligrams per liter

Table H2

Assumptions and Calculations for the Site-Specific Dilution Factor

Big Mo and Former Benzene Pipeline Areas
Solutia Inc., W.G. Krummrich Facility, Sauget, Illinois

Parameter	Symbol	Value	Units	Source
Aquifer Hydraulic Conductivity	K	1.26E+02	m/yr	URS Corporation, <i>RCRA Corrective Measures Study</i> , (August 2004).
Hydraulic Gradient	i	0.00135	m/m	Calculated between monitoring wells CPA-A-SHU (Former Chlorobenzene Process Area) and BSA-MW-1S (Big Mo area) using the 2011-2014 groundwater elevation data.
Mixing Zone Depth	d ^[1]	15	m	Calculated - United States Environmental Protection Agency (USEPA). <u>Supplemental Guidance for Developing Soil Screening Levels for Superfund Sites</u> (December 2002).
Source Length Parallel to Groundwater Flow	L	56	m	Refer to Figure 1 - Average source length parallel to groundwater flow is 183 ft. Range is 25 ft (Former Benzene Pipeline treatment area) to 270 ft (Big Mo treatment area). Groundwater flow is generally east to west across the site.
Aquifer Thickness	dα ^[2]	9.1	m	URS Corporation. <i>RCRA Corrective Measures Study</i> (April 2004). Page 2-12.
Infiltration rate	I	0.20	m/yr	GSI Environmental Inc. April 2008. <i>Regional Groundwater Flow and Contaminant Transport Model</i> .
Dilution Factor ^[3]		1.23	unitless	Calculated - USEPA <u>Supplemental Guidance for Developing Soil Screening Levels for Superfund Sites</u> (December 2002).

m = meters

ft = feet

yr = year

in = inches

Notes:

1. The mixing zone depth is calculated using the average measured source length parallel to groundwater flow and is used to determine the dilution factor by which concentrations are reduced when leachate mixes with the aquifer. The calculation for the mixing zone depth is:

$$\text{Mixing Zone Depth (d)} = (0.0112 * L^2)^{0.5} + d\alpha * [1 - \exp((-L * r) / (K * i * d\alpha))]$$

2. The description of the Shallow Hydrogeologic Unit (SHU) presented in the referenced URS document is 30 feet aquifer thickness of fine-grained silty sand with low to moderate permeability.

3. The calculation for the site-specific dilution factor is:

$$\text{Dilution Factor} = 1 + (K * i * (d / (I * L)))$$

APPENDIX I

ENVIRONMENTAL LAND USE CONTROLS

Pick-up

APR. 30. 2009

1602

A02158120

PREPARED BY:

Name: Cathleen S. Bumb

Address: Solutia Inc.

575 Maryville Centre Drive

St. Louis, MO 63141

STATE OF ILLINOIS
ST. CLAIR COUNTY
BELLEVILLE IL 62220

09 APR 30 PM 2: 31

Michael T. Costello

RECORDER

RETURN TO:

Name: Cathleen S. Bumb

Address: Solutia Inc.

575 Maryville Centre Drive

St. Louis, MO 63141

THE ABOVE SPACE FOR RECORDER'S OFFICE

Environmental Land Use Control

102 THIS ENVIRONMENTAL LAND USE CONTROL ("ELUC") is made this 27th day of April, 2009, by Solutia Inc., (the "Property Owner") of the real property located at the common address 500 Monsanto Avenue, Sauget, Illinois 62206 (the "Property").

WHEREAS, 415 ILCS 5/58.17 and 35 Ill. Adm. Code 742 provide for the use of an ELUC as an institutional control in order to impose land use limitations or requirements related to environmental contamination so that persons conducting remediation can obtain a No Further Remediation determination from the Illinois Environmental Protection Agency ("IEPA"). The reason for an ELUC is to ensure protection of human health and the environment. The limitations and requirements contained herein are necessary in order to protect against exposure to contaminated soil or groundwater, or both, that may be present on the property as a result of historical chemical operations including the storage, manufacture, and disposal of chemicals and related activities. Under 35 Ill. Adm. Code 742, the use of risk-based, site-specific remediation objectives may require the use of an ELUC on real property, and the ELUC may apply to certain physical features (e.g., engineered barriers, monitoring wells, caps, etc.).

WHEREAS, Solutia Inc. intends to perform certain corrective measures on the Property pursuant to an Administrative Order on Consent (AOC) issued by the United States Environmental Protection Agency ("USEPA") on May 3, 2000, under the Resource Conservation and Recovery Act (EPA Docket No. R8H-5-00-003), which involves requesting risk-based, site-specific soil and groundwater remediation objectives from USEPA and/or IEPA under 35 Ill. Adm. Code 742 for the site identified by the IEPA Bureau of Land Identification Number 1631210006 (and USEPA Identification Number ILD 000 802 702) by using an ELUC. This AOC requires Solutia Inc. to complete RCRA closure of several former hazardous waste management units for which IEPA was overseeing remedial efforts.

NOW, THEREFORE, the recitals set forth above are incorporated by reference as if fully set forth herein, and the Property Owner agrees as follows:

Section One. Property Owner does hereby establish an ELUC on the real estate, situated in the County of St. Clair, State of Illinois and further described in Exhibit A, attached hereto and

incorporated herein by reference (the "Property"), which includes the legal descriptions and surveys of the Property and the individual lots making up the Property (Lots A, B, C, D, F, G and H – 2nd Addition), along with a Key Map showing location of all Lots.

Attached as Exhibit B are site maps that show the legal boundary of the property, any physical features to which the ELUC applies, the horizontal and vertical extent of contaminants of concern over the applicable remediation objectives for soil or groundwater or both, and the nature, location of the source, and direction of movement of contaminants of concern, as required under 35 Ill. Adm. Code 742.

Section Two. Property Owner represents and warrants that it is the current owner of the Property and has the authority to record this ELUC on the chain of title for the Property with the Office of the Recorder or Registrar of Titles in St. Clair County, Illinois.

Section Three. The Property Owner hereby agrees, for itself, and its heirs, grantees, successors, assigns, transferees and any other owner, occupant, lessee, possessor or user of the Property or the holder of any portion thereof or interest therein, that:

1. The Property shall be restricted for use for industrial purposes only. Industrial uses permitted include manufacturing, associated office space and light industrial, but specifically excludes residential housing and similar uses.
2. Groundwater underlying the Property is restricted so that it shall not be used or otherwise consumed for potable, industrial, agricultural or other supply purposes. Such restriction shall not limit or otherwise inhibit or prevent the monitoring, sampling, investigation or remediation of groundwater underlying the Property.
3. Excavation and construction work disturbing the ground surface/groundwater on the Property is restricted and may only be performed pursuant to a permit program administered by the then current property owner which requires, among other things: i) a site safety plan to be developed and implemented that meets the requirements of 29 CFR and restricts exposure to soil and groundwater of workers and other persons any time that excavation/construction work takes place at the Property; and ii) all soil and groundwater removed during the excavation/construction work be managed in accordance with applicable Illinois Environmental Protection Act and 35 Ill. Admin. Code, Subtitle G: Waste Disposal requirements.
4. Operation, maintenance, and/or monitoring of ongoing or completed remedies shall be performed in accordance with work plans, Construction Completion Reports, and similar documents submitted to and approved by USEPA pursuant to the AOC. Specific requirements are as follows:
 - Route 3 Drum Site: This site (Exhibit B-9) is to be inspected three times per year, in April, July, and October, and corrective action taken as necessary to maintain cap integrity. In addition, groundwater monitoring wells GM-31A and GM-58A (Exhibits B-8, B-9, and B-11) are to be maintained and samples are to be

collected quarterly and analyzed for semivolatile organic compounds (SVOCs) and monitored natural attenuation (MNA) parameters.

- Lead Remediation Areas: These areas (Exhibit B-10) are to be inspected one time per year, in November, and corrective action taken as necessary to maintain integrity of the asphalt or gravel covers.
- Long-Term Groundwater Monitoring Program: The following monitoring wells (Exhibits B-8 and B-11) are to be maintained and samples are to be collected quarterly and analyzed for volatile organic compounds (VOCs), semivolatile organic compounds (SVOCs), and monitored natural attenuation (MNA) parameters: BSA(Benzene Storage Area)-MW-01S, BSA-MW-02D, BSA-MW-03D, BSA-MW-04D, and BSA-MW-05D, and CPA(Chlorobenzene Process Area)-MW-01D, CPA-MW-02D, CPA-MW-03D, CPA-MW-04D, and CPA-MW-05D.
- PCB Groundwater Quality Assessment Program: The following monitoring wells (Exhibits B-8 and B-11) are to be maintained and samples are to be collected quarterly and analyzed for polychlorinated biphenyls (PCBs): PMA(PCB Manufacturing Area)-MW-01S, PMA-MW-01M, PMA-MW-02S, PMA-MW-02M, PMA-MW-03S, PMA-MW-03M, PMA-MW-04S, PMA-MW-04D, PMA-MW-05M, and PMA-MW-06D.

5. If any new building is to be constructed on the Property, a review first shall be conducted to determine if soil vapor data evidences a concern with vapor intrusion in that area. If vapor intrusion is a concern, a proper vapor barrier shall be provided for the new building. This effort must be carried out by a licensed professional engineer and meet the requirements of applicable regulations in 35 Ill. Adm. Code 742.

6. The restrictions of only Items 1, 2, 3, and 5 above must be met within a portion of the facility referred to as Lot G.

Section Four. This ELUC is binding on the Property Owner, its heirs, grantees, successors, assigns, transferees and any other owner, occupant, lessee, possessor or user of the Property or the holder of any portion thereof or interest therein. This ELUC shall apply in perpetuity against the Property and shall not be released until the IEPA determines there is no longer a need for this ELUC as an institutional control; until the IEPA, upon written request, issues to the site that received the no further remediation determination a new no further remediation determination approving modification or removal of the limitation(s) or requirement(s); the new no further remediation determination is filed on the chain of title of the Property subject to the no further remediation determination; and until a release or modification of the land use limitation or requirement is filed on the chain of title for the Property.

Section Five. Information regarding the remediation performed on the Property may be obtained from: i) the IEPA through a request under the Freedom of Information Act (5 ILCS 140) and rules promulgated thereunder by providing the IEPA with the IEPA Bureau of Land

APR. 30. 2009

1605

Identification Number 1631210006; and 2) from the USEPA by providing the USEPA Identification Number ILD 000 802 702.

Section Six. The effective date of this ELUC shall be the date that it is officially recorded in the chain of title for the Property to which the ELUC applies.

WITNESS the following signature:

Solutia Inc.



By: Craig Branchfield

Its: Plant Manager

Date: 4/23/09

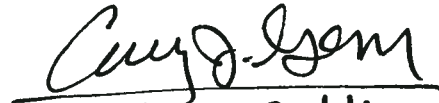
STATE OF MISSOURI)
) SS:
COUNTY OF ST. LOUIS)

I, Cory J. Isom the undersigned, a Notary Public for said County and State, DO HEREBY CERTIFY, that Craig Branchfield, personally known to me to be Solutia Inc.'s Plant Manager of the W.G. Krummrich Plant Property located at 500 Monsanto Avenue, Sauget, Illinois, and personally known to me to be the same person whose name is subscribed to the foregoing instrument, appeared before me this day in person and acknowledged that in said capacity he signed and delivered the said instrument as his free and voluntary act for the uses and purposes therein set forth.

Given under my hand and official seal, this 23rd day of April, 2009
Notary Public



CORY J. ISOM
My Commission Expires
November 1, 2011
St. Charles County
Commission #07342264


Notary Public



ILLINOIS ENVIRONMENTAL PROTECTION AGENCY

2021 NORTH GRAND AVENUE EAST, P.O. BOX 19276, SPRINGFIELD, ILLINOIS 62794-9276 - (217) 782-2829

JAMES R. THOMPSON CENTER, 100 WEST RANDOLPH, SUITE 11-300, CHICAGO, IL 60601 - (312) 814-6026

ROD R. BLAGOJEVICH, GOVERNOR

DOUGLAS P. SCOTT, DIRECTOR

217/524-3300

Solutia, Inc.

Attn: Mr. Gerald Rinaldi

575 Maryville Centre Drive

St. Louis, Missouri 63141

Re: 1631210006 -St. Clair County

Solutia

ILD000802702

Log No. C-777-M-4

Received: April 9, 2009

RCRA Closure

Dear Mr. Rinaldi:

This is in response to your April 8, 2009 submittal regarding remedial activities at the Solutia facility located at 500 Monsanto Avenue, Sauget, Illinois. Your submittal contained a draft Environmental Land Use Control which is to be established to restrict certain activities at this facility (such restrictions are necessary for proper remediation of the facility).

The Solutia facility is currently coordinating RCRA interim status closure efforts of six former hazardous waste management units with corrective measures being carried out at the facility pursuant to an Administrative Order of Consent (AOC) issued by the United States Environmental Protection Agency under the Resource Conservation and Recovery Act. A plan to complete closure of the six former hazardous waste management units at the facility was approved by Illinois EPA on May 21, 1997 (Log No. C-777) and was last modified on January 23, 2003.

Your submittal was reviewed as a request to modify the approved RCRA interim closure plan for the six former hazardous waste management units identified above and is hereby approved subject to the following conditions and modifications:

1. The proposed Environmental Land Use Control (ELUC) for the Solutia facility located at 500 Monsanto Avenue in Sauget, Illinois in St. Clair County is hereby approved subject to the following conditions and modifications.

Mr. Gerald Rinaldi
C-777-M-4
Page 2

- a. The subject facility is comprised of several "lots", each of which have one or more Parcel Index Numbers (PINs). A listing of these lots and their associated PINs follows (it must be noted that a drawing showing the layout of these various lots is attached):

<u>Lot Name</u>	<u>Lot Size</u>	<u>PIN(s) of Lot</u>
Lot A	33.05 acres	01-25.0-112-002 01-25.0-112-006 01-25.0-112-007 01-25.0-115-001
Lots B and C	95.81 acres	01-26.0-201-003 01-26.0-201-004
Lot D	1.84 acres	01-26.0-202-013
Lot F	15.58 acres	01-26.0-103-002
Lot G	27.17 acres	01-27.0-401-004 01-34.0-100-009 01-34.0-100-008
Lot H (2 nd Add.)	3.54 acres	01-23.0-300-002

- b. The final ELUC filed with the Office of the Recorder or Registrar of Titles for St. Clair County must include a dated and notarized signature of the property owner.
2. The ELUC approved herein places the following restrictions on the subject property:
- a. The Property shall be restricted for use for industrial purposes only. Industrial uses permitted include manufacturing, associated office space and light industrial, but specifically excludes residential housing and similar uses.
- b. Groundwater underlying the Property is restricted so that it shall not be used or otherwise consumed for potable, industrial, agricultural or other supply purposes. Such restriction shall not limit or otherwise inhibit or prevent the monitoring, sampling, investigation or remediation of groundwater underlying the Property.
- c. Excavation and construction work disturbing the ground surface/groundwater on the Property is restricted and may only be performed pursuant to a permit

Mr. Gerald Rinaldi
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program administered by the then current property owner which requires, among other things: (i) a site safety plan to be developed and implemented that meets the requirements of 29 CFR and restricts exposure to soil and groundwater of workers and other persons any time that excavation/construction work takes place at the Property; and (ii) all soil and groundwater removed during the excavation/construction work be managed in accordance with applicable Illinois Environmental Protection Act and 35 Ill. Admin. Code, Subtitle G: Waste Disposal requirements.

- d. Operation, maintenance, and/or monitoring of ongoing or completed remedies shall be performed in accordance with work plans, Construction Completion Reports, and similar documents submitted to and approved by USEPA pursuant to the AOC. Specific requirements are as follows (the location of these areas or monitoring wells are shown in the attached drawing entitled "Map of Physical Features Subject to Environmental Land Use Control"):
- (1) Route 3 Drum Site This site is to be inspected three times per year, in April, July, and October, and corrective action taken as necessary to maintain cap integrity. In addition, groundwater monitoring wells GM-31A and GM-58A (Exhibits B-8, B-9 and B-11) are to be maintained and samples are to be collected quarterly and analyzed for semivolatile organic compounds (SVOCs) and monitored natural attenuation (MNA) parameters.
 - (2) Lead Remediation Areas: These areas are to be inspected one time per year, in November, and corrective action taken as necessary to maintain integrity of the asphalt or gravel covers.
 - (3) Long-Term Groundwater Monitoring Program The following monitoring wells are to be maintained and samples are to be collected quarterly and analyzed for volatile organic compounds (VOCs), semivolatile organic compounds (SVOCs), and monitored natural attenuation (MNA) parameters: BSA (Benzene Storage Area)-MW-01S, BSA-MW-02D, BSA-MW-03D, BSA-MW-04D and BSA-MW-05D, and CPA (Chlorobenzene Process Area)-MW-01D, CPA-MW-02D, CPA-MW-03D, CPA-MW-04D, and CPA-MW-05D.
 - (4). PCB Groundwater Quality Assessment Program: The following monitoring wells are to be maintained and samples are to be collected quarterly and analyzed for polychlorinated biphenyls (PCBs): PMA (PCB Manufacturing Area)-MW-01S, PMA-MW-01M, PMA-MW-02S, PMA-

Mr. Gerald Rinaldi
C-777-M-4
Page 4

MW-02M, PMA-MW-03S, PMA-MW-03M, PMA-MW-04S, PMA-MW-04D, PMA-MW-05M, and PMA-MW-06D.

- e. If any new building is to be constructed on the Property, a review first shall be conducted to determine if soil vapor data evidences a concern with vapor intrusion in that area. If vapor intrusion is a concern, a proper vapor barrier shall be provided for the new building. This effort must be carried out by a licensed professional engineer and meet the requirements of applicable regulations in 35 Ill. Adm. Code 742.
 - f. The restrictions of only Items a, b, c, and e above must be met within a portion of the facility referred to as Lot G.
- 3. In accordance with the AOC, by May 1, 2009, the ELUC approved herein must be fully executed, notarized and recorded in the chain of title for the subject property in the Office of the Recorder or Registrar of Titles for St. Clair County, along with this letter. The approved ELUC will not become effective until officially recorded in the chain of custody for the subject property.
 - 4. Within 30 days after filing the approved ELUC in accordance with Condition 3 above, a certified true copy of the filed ELUC, along with certification for the Office of the Recorder or Registrar of Titles for St. Clair County that the ELUC was properly filed, must be submitted to Illinois EPA.
 - 5. Failure to comply with the limitations or requirements of an ELUC may result in avoidance of an Agency no further remediation determination in accordance with the program under which the determination was made. The failure to comply with the limitations or requirements of an ELUC may also be grounds for an enforcement action pursuant to Title VIII of the Illinois Environmental Protection Act.
 - 6. The limitations or requirements of the ELUC apply in perpetuity or until:
 - a. The Illinois EPA issues a new no further remediation determination approving modification or removal of the limitation/requirement; and
 - b. A release or modification of the land use limitation is filed on the chain of title for the property that is the subject of the ELUC.
 - 7. At no time shall this site be used in a manner inconsistent with the land use limitations established in the approved ELUC, unless: (1) attainment of objectives appropriate for the new land use is achieved, and (2) a new no further action determination is obtained

APR 30 2009

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Mr. Gerald Rinaldi
C-777-M-4
Page 5

from Illinois EPA and subsequently recorded in accordance with 35 Ill. Adm. Code 742.

- a. Requests to release or modify an ELUC must be formally requested in writing from Illinois EPA as a: (1) request to amend the certification of closure; or (2) a permit modification request. Sufficient information must be provided in these requests to demonstrate that the requested change meets all the requirements of 35 IAC 742.
- b. Any final approval by Illinois EPA of a request to release or modify an ELUC must be filed with the chain of title for the subject facility.

This action shall constitute Illinois EPA's final action on the subject submittal. Within 35 days after the date of mailing of Illinois EPA's final decision, the applicant may petition for a hearing before the Illinois Pollution Control Board to contest the decision of Illinois EPA, however, the 35-day period for petitioning for a hearing may be extended for a period of time not to exceed 90 days by written notice provided to the Board from the applicant and the Illinois EPA within the 35-day initial appeal period.

Work required by this letter, your submittal(s) or the regulations may also be subject to other laws governing professional services, such as the Illinois Professional Land Surveyor Act of 1989, the Professional Engineering Practice Act of 1989, the Professional Geologist Licensing Act, and the Structural Engineering Licensing Act of 1989. This letter does not relieve anyone from compliance with these laws and the regulations adopted pursuant to these laws. All work that falls within the scope and definitions of these laws must be performed in compliance with them. The Illinois EPA may refer any discovered violation of these laws to the appropriate regulating authority.

Sincerely,



Stephen F. Nightingale, P.E.
Manager, Permit Section
Bureau of Land

SFN:JKM:mls/092733s.doc

Attachments: Legal Description of Property
Map of Physical Features Subject to ELUC

APR.30.2009 1611

APR.30.2009 1612

LOT "H"
2nd
ADDITION

MISSISSIPPI RIVER

LOT "D"

LOT "A"

LOT "B"

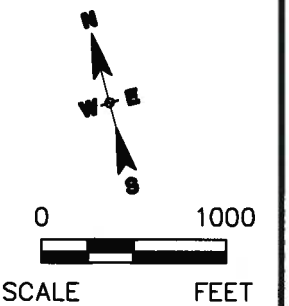
LOT "C"

LOT "F"

LOT "G"

LEGEND

— PROPERTY BOUNDARY



SOLUTIA INC. W.G. KRUMMRICH FACILITY SAUGET, ILLINOIS ENVIRONMENTAL LAND USE CONTROL (ELUC)		PROJECT NO. 21561996.00005
URS		
DRN. BY: djd 4/8/09 DSGN. BY: tja CHKD. BY: <i>Jeff Adams</i>	Legal Description of Property	EXHIBIT B-1

NOTE: SEE EXHIBITS B-9 AND B-10 FOR
LEGAL DESCRIPTIONS AND SURVEYS OF ROUTE
3 DRUM SITE CAP AND LEAD REMEDIATION
AREAS, RESPECTIVELY.

APR.30.2009 1613

APR.30.2009 1614

LEGEND

- PCB GROUNDWATER QUALITY ASSESSMENT MONITORING WELLS
- LONG-TERM GROUNDWATER MONITORING WELLS
- ROUTE 3 DRUM SITE MONITORING WELLS
- LEAD REMEDIATION AREAS

MISSISSIPPI RIVER

BSAMW05D

CPAMW05D

CPAMW04D

CPAMW03D

PMAMW05M

PMAMW01S
PMAMW01M

PMAMW04S
MAMW04D

PMAM 02S
PMAMW02M

PMAMW03S
PMAMW03M

CPAMW01D

PMAMW06D

CPAMW02D

BSAMW02D

BSAMW03D

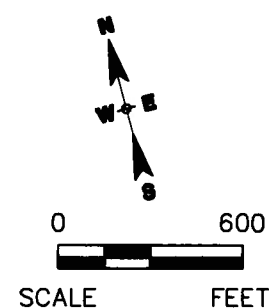
BSAMW04D

S0716
S0707
S0720
S0717
S0715
S0703
S0610

RTE 3 DRUM SITE CAP

GM-58A

GM-31A



SOLUTIA INC. W.G. KRUMMRICH FACILITY SAUGET, ILLINOIS ENVIRONMENTAL LAND USE CONTROL (ELUC)		PROJECT NO. 21561996.00005
URS		
DRN. BY:djd 4/8/09 DSGN. BY:tja CHKD. BY: <i>[Signature]</i>	Map of Physical Features Subject to Environmental Land Use Control	EXHIBIT B-8

LIST OF EXHIBITS

APR. 30. 2009

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Exhibit A:

- A-1 Krummrich Property Boundaries Key Map**
- A-2 Legal Description of Lot A**
- A-3 Legal Description of Lots B and C**
- A-4 Survey Drawing of Lots A, B, and C**
- A-5 Legal Description of Lot D**
- A-6 Legal Description of Lot F**
- A-7 Legal Description of Lot G**
- A-8 Legal Description of Lot H – 2nd Addition**

Exhibit B:

- B-1 Legal Description of Property**
- B-2 Contaminants in Soil Exceeding Tier 1 Remediation Objectives (0'-5' bgs)**
- B-3 Contaminants in Soil Exceeding Tier 1 Remediation Objectives (5'-10' bgs)**
- B-4 Contaminants in Soil Exceeding Tier 1 Remediation Objectives (10'-15' bgs)**
- B-5 Contaminants in Groundwater Exceeding Tier 1 Remediation Objectives (Shallow Hydrogeologic Unit)**
- B-6 Contaminants in Groundwater Exceeding Tier 1 Remediation Objectives (Middle Hydrogeologic Unit)**
- B-7 Contaminants in Groundwater Exceeding Tier 1 Remediation Objectives (Deep Hydrogeologic Unit)**
- B-8 Map of Physical Features Subject to Environmental Land Use Control**
- B-9 Legal Description and Survey of Route 3 Drum Site Cap**
- B-10 Legal Descriptions and Surveys of Lead Remediation Areas**
- B-11 Groundwater Monitoring Wells to Be Maintained**

Exhibit A

The subject Property is located in the City of Sauget, St. Clair County, State of Illinois, commonly known as the W.G. Krummrich Plant, 500 Monsanto Avenue, Sauget, Illinois. The Property is comprised of seven "lots" (Lots A, B, C, D, F, G and H – 2nd Addition) being a total of 176.99 acres. This exhibit contains the following information:

- Exhibit A-1 Krummrich Property Boundaries Key Map
(shows relative location of each of the lots identified above)
- Exhibit A-2 Legal Description of Lot A
- Exhibit A-3 Legal Description of Lots B and C
- Exhibit A-4 Survey Drawing of Lots A, B, and C
- Exhibit A-5 Legal Description of Lot D
- Exhibit A-6 Legal Description of Lot F
- Exhibit A-7 Legal Description of Lot G
- Exhibit A-8 Legal Description of Lot H – 2nd Addition

An overall summary follows of the various lots, lot size, legal description of each lot, and Parcel Identification Number(s) associated with each lot.

<u>Lot Name</u>	<u>Lot Size</u>	<u>Legal Description in Exhibit</u>	<u>PIN(s) of Lot</u>
Lot A	33.05 acres	Exhibit A-2	01-25.0-112-002 01-25.0-112-006 01-25.0-112-007 01-25.0-115-001
Lots B and C	95.81 acres	Exhibit A-3	01-26.0-201-003 01-26.0-201-004
Lot D	1.84 acres	Exhibit A-5	01-26.0-202-013
Lot F	15.58 acres	Exhibit A-6	01-26.0-103-002

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Lot G	27.17 acres	Exhibit A-7	01-27.0-401-004 01-34.0-100-009 01-34.0-100-008
Lot H – 2 nd Addition	3.54 acres	Exhibit A-8	01-23.0-300-002

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Exhibit A-1

Krummrich Property Boundaries Key Map

APR.30.2009 1619

APR.30.2009 1620

LOT "H"
2nd
ADDITION

MISSISSIPPI RIVER

LOT "D"

LOT "A"

LOT "B"

LOT "C"

LOT "F"

LOT "G"

LEGEND

— PROPERTY BOUNDARY



0 1000
SCALE FEET

SOLUTIA INC.
W.G. KRUMMRICH FACILITY
SAUGET, ILLINOIS
ENVIRONMENTAL LAND USE CONTROL (ELUC)

PROJECT NO.
21561996.00005

URS

DRN. BY: djd 4/8/09
DSGN. BY: tja
CHKD. BY: *[Signature]*

Krummrich Property Boundaries
Key Map

EXHIBIT
A-1

APR. 30. 2009

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Exhibit A-2

Legal Description of Lot A

LOT A (Parking Lot, etc.) – Parcels 1 and 2:

PIN NO.
01-25.0-112-002
01-25.0-112-006
01-25.0-112-007
01-25.0-115-001

See Attached Legal Descriptions

The total area of Lot A is **33.05 Acres**, more or less.

APR 30 2009

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KERR SURVEYING COMPANY, INC.

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BOOK 3192 PAGE 47

LAND DESCRIPTION - TAX LOT A (PARTIAL)
BAX PROJECT NO. 92K0737F
1.853 ACRES
MAY 9, 1997
REVISED MAY 22, 1997
REVISED JULY 16, 1997
MEC

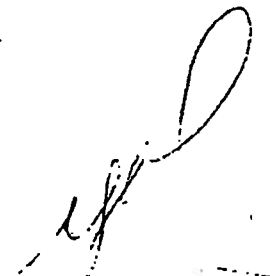
PARCEL 1:

A tract of land being part of Lots No. 74 and 77 of the Commonfields of Cahokia, as recorded in Plat Book "E" Pages 16 and 17 of the St. Clair County Records, St. Clair County Records, St. Clair County, Illinois and being more particularly described as follows:

Commencing at the intersection of the Southwest line of relocated Monsanto Avenue as recorded in Book 2485 Page 1855 of the St. Clair County Records, with the Northwest line of State Aid Route 10, (150.00 feet wide); thence along the said Northwest line of State Aid Route 10, North 33 degrees 42 minutes 55 seconds East 80.00 feet to the Actual Point of Beginning of the description herein; thence along the Northeast line of said relocated Monsanto Avenue, North 55 degrees 51 minutes 20 seconds West 531.78 feet to a point; thence North 34 degrees 13 minutes 10 seconds East 60.00 feet to a point; thence along the South line of Illinois Central right-of-way, South 74 degrees 59 minutes 35 seconds East 560.87 feet to a point in the aforesaid Northwest line of State Aid Route 10, (150.00 feet wide); thence along the Northwest line of State Aid Route 10, South 33 degrees 42 minutes 55 seconds West 243.88 feet to the Point of Beginning and containing 1.853 Acres according to a survey by Kerr Surveying during May, 1997.

The bearing of North 24 degrees 22 minutes 25 seconds West on the line between Monsanto Control Monument #8 and Monsanto Control Monument #25 was adopted for this description.

END OF DESCRIPTION



1052 South Cloverleaf Drive • St. Peters, MO 63376-6445 • Phone 314 928-8994 • Fax 314 928-1718

Land Surveyors • Civil Engineers • Land Planners • Construction Surveyors

APR. 30. 2009

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KERR SURVEYING COMPANY, INC.

Serving the Wentzville Area • A Subsidiary of Bax Engineering Company

BOOK 3192 PAGE 48

LAND DESCRIPTION - TAX LOT A (PARTIAL)
BAX PROJECT NO. 92K0737F
31.199 ACRES
MAY 9, 1997
REVISED JULY 16, 1997
REVISED AUGUST 19, 1997
MEC



PARCEL 2:

A tract of land being part of Lot No. 75, 76, 77 and 122 of the Commonfields of the St. Clair County Records, St. Clair County, Illinois and being more particularly described as follows:

Beginning at the intersection of the Southwest line of relocated Monsanto Avenue as recorded in Book 2485 Page 1855 of the St. Clair County Records, with the Northwest line of State Aid Route 10, (150.00 feet wide); thence along the said Northwest line of State Aid Route 10 and the direct Southwestwardly prolongation thereof, South 33 degrees 42 minutes 55 seconds West 1005.47 feet to the most Southern corner of property conveyed to Monsanto Company by instrument recorded in Book 2485 Page 1851 of the St. Clair County Records; thence along the Southwest line of said Monsanto Company property being also the Northeast line of right-of-way conveyed to Illinois Transfer Company by instrument recorded in Book 324 Page 502 of the St. Clair County Records, North 56 degrees 06 minutes 24 seconds West 1531.21 feet to a point in the aforesaid Southeast right-of-way line of relocated Monsanto Avenue; thence along said right-of-way line of relocated Monsanto Avenue, the following courses and distances; North 89 degrees 47 minutes 13 seconds East 105.40 feet to a point along a curve to the left whose chord bears North 61 degrees 54 minutes 49 seconds East 215.06 feet and whose radius point bears North 00 degrees 12 minutes 47 seconds West 230.00 feet from the last mentioned point, an arc distance of 223.78 feet to a point; North 34 degrees 02 minutes 25 seconds East 602.07 feet to a point; South 55 degrees 57 minutes 35 seconds East 10.00 feet to a point; along a curve to the right whose chord bears North 79 degrees 05 minutes 32 seconds East 226.48 feet and whose radius point bears South 55 degrees 57 minutes 35 seconds East 160.00 feet from the last mentioned point, an arc distance of 251.62 feet to a point; and South 55 degrees 51 minutes 20 seconds East 1167.55 feet to the Point of Beginning and containing 31.199 Acres according to a survey by Kerr Surveying during May, 1997.

The bearing of North 24 degrees 22 minutes 25 seconds West on the line between Monsanto Control Monument #8 and Monsanto Control Monument #25 was adopted as the basis of bearings for this description.

END OF DESCRIPTION

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APR. 30. 2009

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Exhibit A-3 Legal Description of Lots B and C

LOTS B and C (Main Plant) – Parcel 3: PIN NO. 01-26.0-201-003
01-26.0-201-004

See Attached Legal Description

The total area of Lots B and C (Parcel 3) is **95.81 Acres**, more or less.

KERR SURVEYING COMPANY, INC.*Serving the Wentzville Area • A Subsidiary of Bax Engineering Company*

BOOK 3192 PAGE 49

LAND DESCRIPTION - TAX LOTS B & C

BAX PROJECT NO. 92K0737F

95.812 ACRES

MAY 8, 1997

REVISED JULY 16, 1997

MEC

PARCEL 3:

A tract of land being part of Lots No. 215, 218, 219, 222, 223, 226, 227, 230 and 231 of the "Third Subdivision of the Cahokia Commons", as recorded in Plat Book "A" Page 60 of the St. Clair County Records, part of vacated Falling Springs Road 50 feet wide, vacated by Ordinance No. 53 of the Village of Monsanto, and part of lots 120, 121 and 125 of the Commonfields of Cahokia, as recorded in Plat Book "E" Pages 16 and 17 of the St. Clair County Records. St. Clair, Illinois, and being more particularly described as follows:

Beginning at the intersection of the East line of Illinois Route 3, (100 feet wide), also known as Mississippi Avenue with the Northwest line of Alton and Southern Railroad right-of-way, said point being also the intersection of the East line of a 12.00 feet wide strip granted to County of St. Clair for highway purposes by instrument recorded in Book 568 Page 327 of the St. Clair County, Illinois records with the northwest line of a 30.00 feet wide strip granted to Alton and Southern Railroad by instrument recorded in Book 995 Page 34 of the St. Clair County Records, said point being 57.00 feet perpendicularly distant East of the centerline of said Illinois Route 3; thence Northwardly along the aforesaid North line of Illinois Route 3 (100.00 feet wide), also known as Mississippi Avenue, being also the said East line of a 12.00 feet wide strip granted to the County of St. Clair Illinois by Book 568 Page 327 of the St. Clair County Records and being 57.00 feet perpendicularly distant East of and parallel to the aforesaid centerline of Illinois Route 3 (100.00 feet wide), North 01 degrees 49 minutes 43 seconds East 2635.15 feet to a point in the South line of Terminal Railroad Association right-of-way; thence along said South line of Terminal Railroad Association the following courses and distances, North 89 degrees 47 minutes 13 seconds East 1442.97 feet to a point; South 00 degrees 12 minutes 47 seconds East 2.00 feet to a point; and North 89 degrees 47 minutes 13 seconds East 74.00 feet to a point in the West line of Falling Springs Road (50.00 feet wide), as vacated by Ordinance No. 53 of the Village of Monsanto; thence continuing along said South line of Terminal Railroad Association right-of-way, South 67 degrees 34 minutes 39 seconds East 232.28 feet to a point in the Southwest line of 50.00 feet wide right-of-way conveyed to Illinois Transfer Company by instrument recorded in Book 324 Page 502 of the St. Clair County Records; thence along said Southwest right-of-way line, South 56 degrees 06 minutes 24 seconds East 1249.91 feet to a point in the Northwest line of State Aid Route 10; thence along the said Northwest line of State Aid Route 10 as established by Ordinance No. 44 of the Village of Monsanto and as recorded in Plat Book 28 Page 47 of the St. Clair County Records, South 33 degrees 53 minutes 36 seconds West 18.00 feet

KERR SURVEYING COMPANY, INC.*Serving the Wentzville Area • A Subsidiary of Bax Engineering Company*

BOOK 3192 PAGE 50

LAND DESCRIPTION

BAX PROJECT NO. 92K0737F

95.812 ACRES

MAY 8, 1997

REVISED JULY 16, 1997

PAGE 2

to a point; along a curve to the right whose chord bears South 48 degrees 38 minutes 59 seconds West 250.03 feet and whose radius point bears North 56 degrees 46 minutes 35 seconds West 470.00 feet from the last mentioned point, an arc distance of 253.08 feet to a point; South 64 degrees 04 minutes 32 seconds West 754.69 feet to a point; and along a curve to the left whose chord bears South 50 degrees 30 minutes 38 seconds West 256.32 feet and whose radius point bears South 26 degrees 03 minutes 23 seconds East 551.67 feet from the last mentioned point, an arc distance of 258.68 feet to a point in the Northwest line of aforesaid Alton and Southern Railroad right-of-way; thence along the said Northwest line of Alton and Southern Railroad right-of-way, South 64 degrees 06 minutes 20 seconds West 558.38 feet to a point; along a curve to the left whose chord bears South 57 degrees 49 minutes 47 seconds West 426.34 feet and whose radius point bears South 25 degrees 53 minutes 40 seconds East 1950.00 feet from the last mentioned point, an arc distance of 427.20 feet to a point; and South 51 degrees 33 minutes 13 seconds West 430.39 feet to a point in the North line of aforesaid Lot 218 of "Third Subdivision of the Cahokia Commons", thence along the said North line of Lot 218 of "Third Subdivision of the Cahokia Commons", South 89 degrees 47 minutes 13 seconds West 24.24 feet to a point; thence continuing along said Northwest line of Alton and Southern Railroad right-of-way, being 65.00 feet perpendicularly distant Northwest of and parallel to the centerline of the Southeast tract, South 51 degrees 33 minutes 13 seconds West 707.99 feet to the Point of Beginning and containing 95.812 Acres according to a survey by Kerr Surveying, during May, 1997.

The bearing of North 24 degrees 22 minutes 25 seconds West on the line between Monsanto Control Monument #8 and Monsanto Control Monument #25 was adopted as the basis of bearings for this survey.

END OF DESCRIPTION

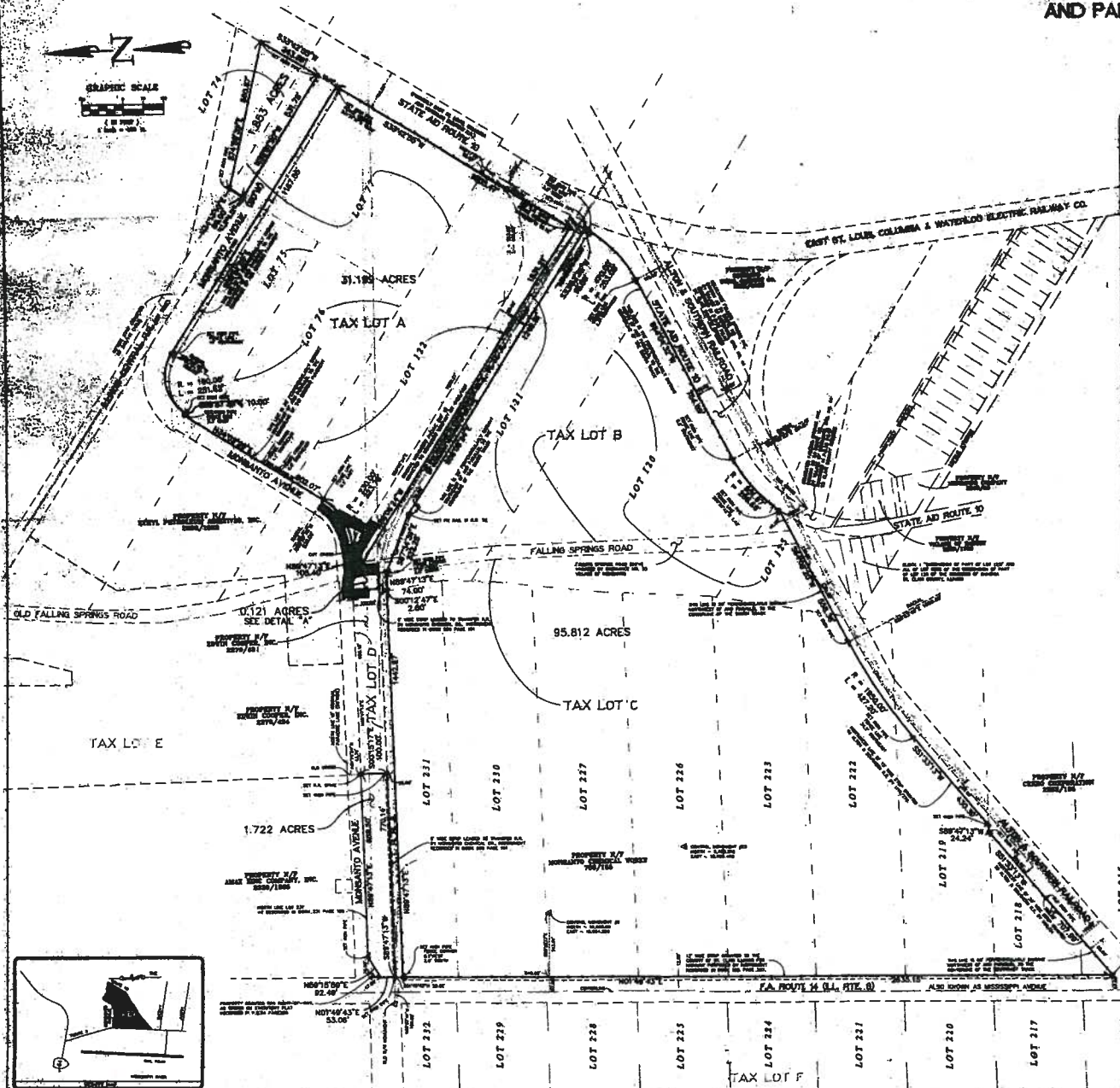
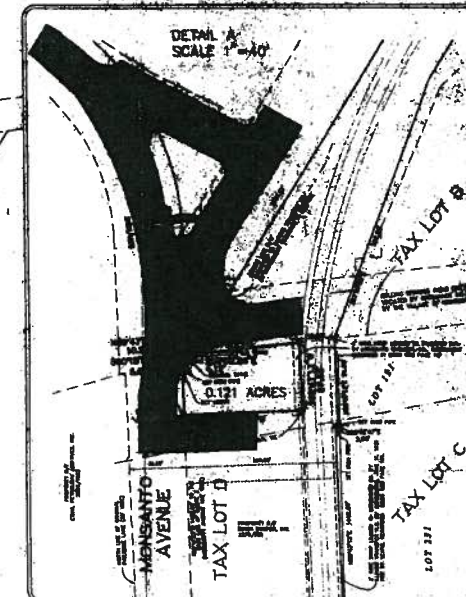
APR. 30. 2009

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Exhibit A-4 Survey Drawing of Lots A, B, and C

A02158120

TRACTS OF LAND BEING PART OF LOTS NO. 215, 218, 219, 222, 223, 226, 227, 230, AND 231 OF THE THIRD SUBDIVISION OF THE CAHOKIA COMMONS AND PART OF LOTS NO. 75, 76, 77, 120, 121, 122, AND 123 OF THE COMMONFIELDS OF CAHOKIA, TOWNSHIP 2 NORTH, RANGE 10 WEST OF THE THIRD PRINCIPAL MERIDIAN, ST. CLAIR COUNTY, ILLINOIS



- GENERAL NOTES
1. THE LOTS, TAX LOTS AND TRACTS OF LAND SHOWN ON THIS PLAT ARE THE BASIS OF RECORD FOR THE COUNTY.
 2. THE LOTS, TAX LOTS AND TRACTS OF LAND SHOWN ON THIS PLAT ARE THE BASIS OF RECORD FOR THE COUNTY.
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 9. THE LOTS, TAX LOTS AND TRACTS OF LAND SHOWN ON THIS PLAT ARE THE BASIS OF RECORD FOR THE COUNTY.
 10. THE LOTS, TAX LOTS AND TRACTS OF LAND SHOWN ON THIS PLAT ARE THE BASIS OF RECORD FOR THE COUNTY.

THIS PLAT WAS PREPARED BY THE MONSANTO COMPANY, 300 MONSANTO AVENUE, ST. LOUIS, MO. 63101, FOR THE RECORD OF THE ST. CLAIR COUNTY CLERK, ILLINOIS. THE MONSANTO COMPANY IS THE OWNER OF THE LAND SHOWN ON THIS PLAT. THE MONSANTO COMPANY IS THE OWNER OF THE LAND SHOWN ON THIS PLAT. THE MONSANTO COMPANY IS THE OWNER OF THE LAND SHOWN ON THIS PLAT.

PREPARED FOR
MONSANTO COMPANY
300 MONSANTO AVENUE
ST. LOUIS, MO. 63101

KEEP

APR. 30. 2009

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Exhibit A-5 Legal Description of Lot D

Lot D (Vacant Land Along Monsanto Avenue) – Parcels 4 and 5: PIN NO 01-26.0-202-013

See Attached Legal Descriptions

The total area of Lot D (Parcels 4 and 5) is **1.84 Acres**, more or less.

APR. 30. 2009

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BOOK 3192 PAGE

51

LAND DESCRIPTION - TAX LOT D (PARTIAL)

BAX PROJECT NO. 92K0737F

1.722 ACRES

MAY 14, 1997

REVISED MAY 22, 1997

REVISED JULY 16, 1997

MEC

PARCEL 4:

A tract of land being part of Lot No. 231 of the "Third Subdivision of the Cahokia Commons", as recorded in Plat Book "A" Page 60 of the St. Clair County Records, St. Clair County Records, St. Clair County, Illinois and being more particularly described as follows:

Commencing at the intersection of the East line of Illinois Route 3, (100.00 feet wide), also known as Mississippi Avenue with the Northwest line of Alton and Southern Railroad right-of-way, said point being also the intersection of the East line of a 12.00 feet wide strip granted to County of St. Clair for highway purposes by instrument recorded in Book 568 Page 327 of the St. Clair County Records with the Northwest line of a 30.00 feet wide strip granted to Alton and Southern Railroad by instrument recorded in Book 995 Page 34 of the St. Clair County Records, said point being 57.00 feet perpendicularly distant East of the centerline of said Illinois Route 3; thence Northwardly along the aforesaid North line of Illinois Route 3 (100.00 feet wide), also known as Mississippi Avenue, being also the said East line of a 12.00 feet wide strip granted to the County of St. Clair, Illinois by Book 568 Page 327 of the St. Clair County Records, and being 57.00 feet perpendicularly distant East of and parallel to the aforesaid centerline of Illinois Route 3 (100.00 feet wide), North 01 degrees 49 minutes 43 seconds East 2663.17 feet to the Actual Point of Beginning of the description herein; thence continuing along said East line, North 01 degrees 49 minutes 43 seconds East 53.06 feet to a point in the South line of property granted for right-of-way, as shown on Statutory Plat prepared for F.A.P. Route 14 Section (64-1) TS; thence along said South line, North 59 degrees 15 minutes 59 seconds East 92.49 feet to a point in the South line of Monsanto Avenue, (50.00 feet wide), said line being also the North line of aforesaid Lot 231 of "Third Subdivision of the Cahokia Commons"; thence along the said South line of Monsanto Avenue, (50.00 feet wide), North 89 degrees 47 minutes 13 seconds East 688.50 feet to a point in the West line of property conveyed to Edwin Cooper, Inc. by deed recorded in Book 2279 Page 431 of the St. Clair County Records; thence along the said West line of said Edwin Cooper, Inc. property, South 00 degrees 15 minutes 17 seconds East 100.00 feet to a point; thence South 89 degrees 47 minutes 13 seconds West 770.14 feet to the Point of Beginning and containing 1.722 Acres according to a survey by Kerr Surveying during May, 1997.

END OF DESCRIPTION

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KERR SURVEYING COMPANY, INC.*Serving the Wentzville Area • A Subsidiary of Bax Engineering Company*

BOOK 3192 PAGE 52

LAND DESCRIPTION - TAX LOT D (PARTIAL)
 BAX PROJECT NO. 92K0737F
 0.121 ACRES
 MAY 14, 1997
 MEC

PARCEL 5:

A tract of land being part of Lot No. 121 of the "Commonfields of Cahokia, as recorded in Plat Book "E" Pages 16 and 17 of the St. Clair County Records, St. Clair County, Illinois and being more particularly described as follows:

Commencing at the intersection of the East line of Illinois Route 3, 100.00 feet wide, also known as Mississippi Avenue with the Northwest line of Alton and Southern Railroad right-of-way, said point being also the intersection of the East line of a 12.00 feet wide strip granted to County of St. Clair for highway purposes by instrument recorded in Book 568 Page 327 of the St. Clair County Records with the Northwest line of a 30.00 feet wide strip granted to Alton and Southern Railroad by instrument recorded in Book 995 Page 34 of the St. Clair County Records, said point being 57.00 feet perpendicularly distant East of the centerline of said Illinois Route 3; thence Northwardly along the aforesaid North line of Illinois Route 3 (100.00 feet wide), also known as Mississippi Avenue, being also the said East line of a 12.00 feet wide strip granted to the County of St. Clair, Illinois by Book 568 Page 327 of the St. Clair County Records, and being 57.00 feet perpendicularly distant East of and parallel to the aforesaid centerline of Illinois Route 3 (100.00 feet wide), North 01 degrees 49 minutes 43 seconds East 2763.23 feet to a point in the South line of Monsanto Avenue, 50.00 feet wide, said line being also the North line of Lot 231 of the Third Subdivision of the Cahokia Commons as recorded in Plat Book A Page 60 of the St. Clair County, Illinois Records; thence along the said South line of Monsanto Avenue, 50.00 feet wide, North 89 degrees 47 minutes 13 seconds East 1452.60 feet to a point in the East line of property conveyed to Edwin Cooper, Inc. by deed recorded in Book 2279 Page 431 of the St. Clair County Record; being the Actual Point of Beginning of the description herein; thence continuing along said South line of Monsanto Avenue, 50.00 feet wide, North 89 degrees 47 minutes 13 seconds East 36.22 feet to a point in the South right-of-way line of relocated Monsanto Avenue as described by instrument recorded in Book 2485 Page 1855 of the St. Clair County Records; thence along said right-of-way line of relocated Monsanto Avenue, South 00 degrees 15 minutes 50 seconds East 5.00 feet to a point; and North 89 degrees 47 minutes 13 seconds East 10.55 feet to a point in the Southwest line of a 60.00 feet wide strip conveyed to Monsanto Company by instrument recorded in Book 2485 Page 1851 of the St. Clair County Records; thence along said Southwest line, South 56 degrees 06 minutes 24 seconds East 4.12 feet to a point in the West line of Falling Springs Road (50.00 feet wide), vacated by Ordinance No. 53 of the Village of Monsanto; thence along said West line of vacated Falling Springs Road, South 04

APR. 30. 2009 1631

KERR SURVEYING COMPANY, INC.

Serving the Wentzville Area • A Subsidiary of Bax Engineering Company

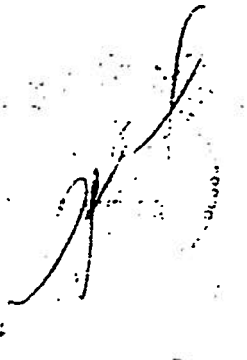
BOOK 3192 PAGE 53

LAND DESCRIPTION
BAX PROJECT NO. 92K0737F
0.121 ACRES
MAY 14, 1997
PAGE 2

degrees 41 minutes 47 seconds East 92.98 feet to a point; thence South 89 degrees 47 minutes 13 seconds West 57.38 feet to a point in the aforesaid East line of property conveyed to Edwin Cooper, Inc.; thence along said East line North 00 degrees 15 minutes 17 seconds West 100.00 feet to the Point of Beginning and containing 0.121 Acres according to a survey by Kerr Surveying during May, 1997.

The bearing of North 24 degrees 22 minutes 25 seconds West on the line between Monsanto Control Monument #8 and Monsanto Control Monument #25 was adopted as the basis of bearings for this description.

END OF DESCRIPTION



1052 South Cloverleaf Drive • St. Peters, MO 63376-6445 • Phone 314 928-8994 • Fax 314 928-1718

Land Surveyors • Civil Engineers • Land Planners • Construction Surveyors

APR. 30. 2009

1632

Exhibit A-6 Legal Description of Lot F

LOT F (including Route 3 Drum Site): PIN NO. 01-26.0-103-002

See Attached Legal Description and Survey

The total area of Lot F is **15.58 Acres**, more or less.



APR. 30, 2009

ZAHNER & ASSOCIATES, INC.
PROFESSIONAL LAND SURVEYORS

1633

26 North Jackson Street
Perryville, Missouri 63775

(573) 547-1771
Fax (573) 547-1452

1-800-773-1771
zahner@zahnerinc.com

Lot F
15.58 Acres

A tract of land being parts of Lot Nos. 209, 212, 213, 216, 217, 220, 221, 224, 225, 228, and 229 of the "Third Subdivision of the Cahokia Commons" as per plat thereof recorded in Plat Book A, Page 60 of the St. Clair County Records, in Township 2 North, Range 10 West of the Third Principal Meridian, St. Clair County, Illinois and being more particularly described as follows:

Commencing at a point at the intersection of the West line of a strip of land 10.00 feet in width conveyed to St. Clair County, Illinois for highway purposes by deed recorded in Book 845, Page 258 in the St. Clair County, Illinois land records with the Northwest line of a strip of land 30.00 feet in width conveyed to Alton and Southern Railroad by deed recorded in Book 995, Page 34 in said land records; Thence South 64 degrees 48 minutes 18 seconds West along said Northwest line of said 30.00 foot wide strip a distance of 219.26 feet to a point at the intersection of said Northwest line with the North line of aforesaid Lot 213, said point being the point of beginning of the tract herein described; Thence continuing South 64 degrees 48 minutes 18 seconds West along said Northwest line a distance of 1233.65 feet to a point on the East right-of-way line of the East St. Louis and Carondelet Railroad, now know as the Terminal Railroad Association (TRRA); Thence along and with said East right-of-way line as follows: North 17 degrees 28 minutes 56 seconds East a distance of 2096.45 feet to a point; North 17 degrees 29 minutes 09 seconds East a distance of 925.01 feet to a point; North 17 degrees 53 minutes 01 seconds East a distance of 275.00 feet to a point in the Southeast line of a 28.00 foot wide right-of-way conveyed to the Terminal Railroad Association; Thence along said Southeast line Northeasterly along the arc of a curve to the right having a radius of 559.79 feet and a central angle of 10 degrees 19 minutes 42 seconds a distance of 100.91 feet (chord bearing and distance = North 42 degrees 47 minutes 49 seconds East, 100.77 feet) to a point at the intersection of said Southeast line with the Northwest line of a 57.714 acre tract of land conveyed to Center Ethanol Company, LLC by deed recorded as Document No. A01997050 in the St. Clair County, Illinois land records; Thence along and with said Northwest line of said 57.714 acre tract as follows: South 06 degrees 14 minutes 00 seconds West a distance of 480.19 feet to a point; South 17 degrees 47 minutes 04 seconds West a distance of 676.00 feet to a point; South 17 degrees 33

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1634

minutes 27 seconds West a distance of 1346.42 feet to a point; South 13 degrees 02 minutes 18 seconds West a distance of 85.27 feet to a point; South 06 degrees 17 minutes 32 seconds West a distance of 32.96 feet to a point, said point being the Southwest corner of said 57.714 acre tract; Thence South 76 degrees 59 minutes 04 seconds East along the South line of said 57.714 acre tract a distance of 762.86 feet to the point of beginning containing 15.58 acres and subject to any easements, reservations or restrictions on record or now in effect.

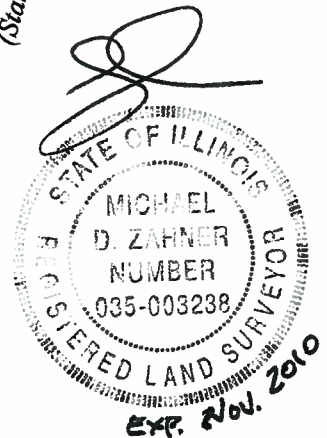
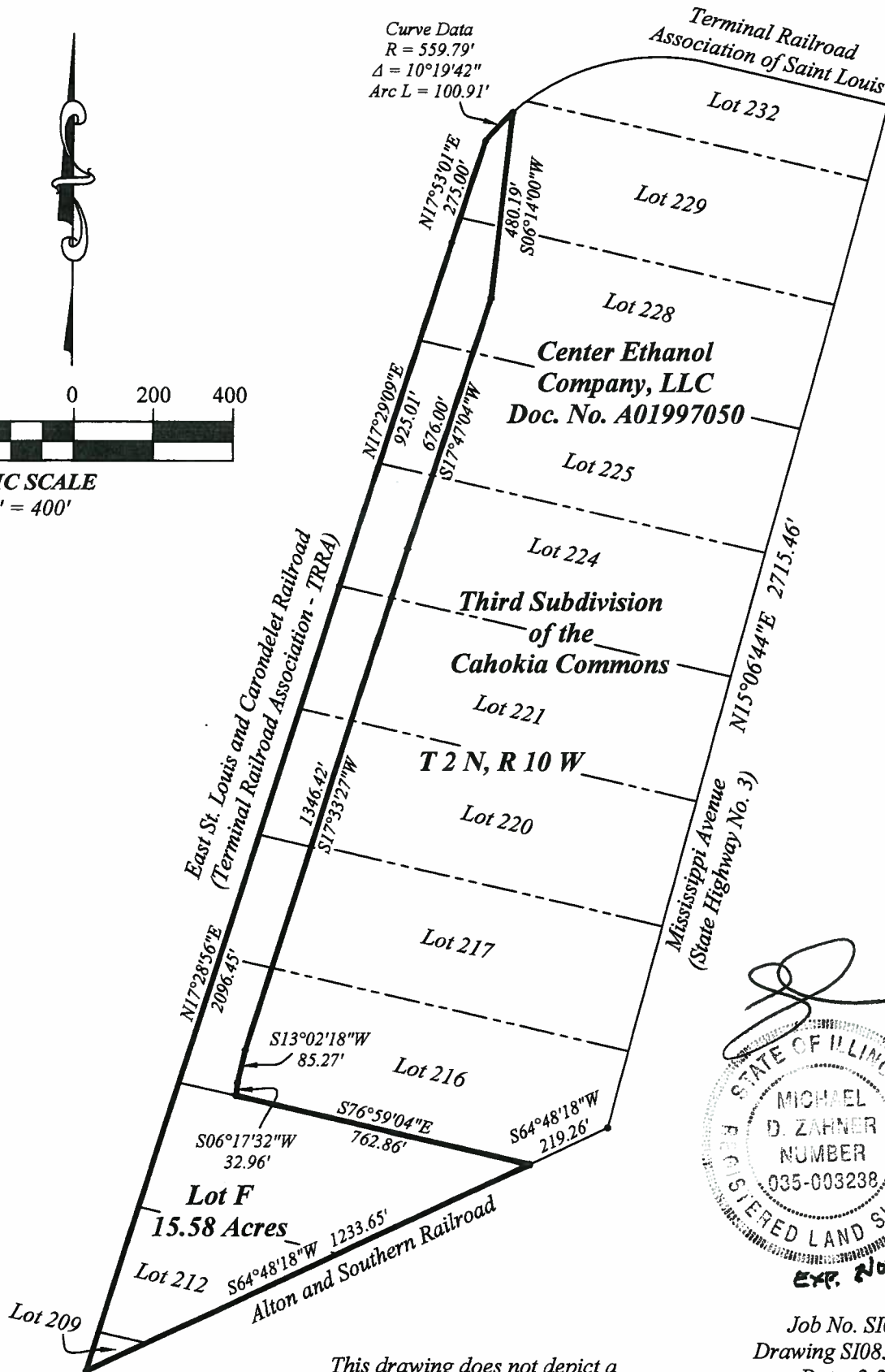
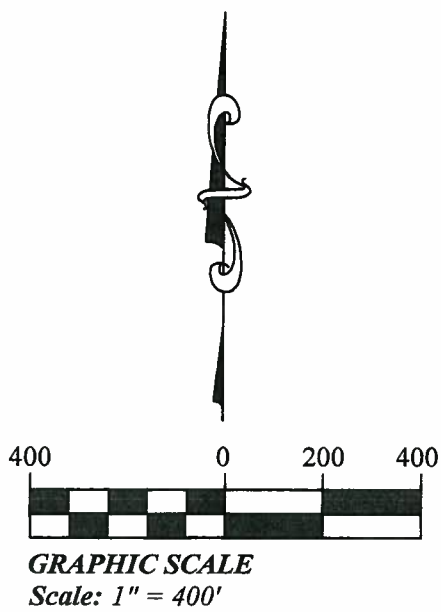
This description was written from documents provided.



Drawing of
"Lot F"

APR. 30, 2009

1635



This drawing does not depict a
property boundary survey.

Job No. SI08305
Drawing SI08305 Lot F
Date: 2-23-09
Drawn By: LH

APR. 30. 2009

1636

Exhibit A-7 Legal Description of Lot G

LOT G: PIN NO. 01-27.0-401-004
01-34.0-100-008
01-34.0-100-009

See Attached Legal Description and Survey

The total area of Lot G is **27.17 Acres**, more or less.

APR. 30, 2009

1637



ZAHNER & ASSOCIATES, INC.

PROFESSIONAL LAND SURVEYORS

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zahner@zahnerinc.com

"Lot G – Tract 1"

21.44 Acres

Part of Lot No. 304 of the Sixth Subdivision of the Cahokia Village Commons as recorded in Plat Book B, Page 25 in the St. Clair County, Illinois, land records in Township 2 North, Range 10 West of the Third Principal Meridian and being part of a 27.170 acre tract of land conveyed to Solutia Inc. by deed recorded in Book 3192, Page 44 in said land records and being more particularly described as follows: Beginning at a point at the intersection of the West right-of-way line of the Gulf Mobile and Ohio Railroad with the Northwest line of a 30.00 feet wide strip conveyed to Alton and Southern Railroad by instrument recorded in Book 995, Page 34 in the St. Clair County, Illinois, land records; Thence South $64^{\circ}01'13''$ West along said Northwest line a distance of 3499.24 feet to a point in the Eastern Inner Harbor line of the Mississippi River as established by the War Department on April 6, 1905; Thence South $35^{\circ}02'13''$ West along said Eastern Inner Harbor line a distance of 32.99 feet to a point; Thence continuing along said Eastern Inner Harbor line North $54^{\circ}57'47''$ West a distance of 250.00 feet to a point in the Eastern Outer Harbor line of the Mississippi River as established by the War Department on April 6, 1905; Thence North $35^{\circ}02'13''$ East along said Eastern Outer Harbor line a distance of 1000.00 feet to a point; Thence South $87^{\circ}04'02''$ East a distance of 1088.39 feet to a point of curvature; Thence Northeasterly along the arc of a curve to the left having a radius of 676.66 feet and a central angle of $28^{\circ}54'59''$ a distance of 341.50 feet (chord bearing and distance = North $78^{\circ}28'29''$ East, 337.89 feet) to a point of tangent; Thence North $64^{\circ}01'13''$ East a distance of 1567.98 feet to a point on the aforesaid West right-of-way line of the Gulf Mobile and Ohio Railroad; Thence South $17^{\circ}46'13''$ West along said right-of-way line a distance of 106.18 feet to the point of beginning containing 21.44 acres.

This description was written from documents provided.

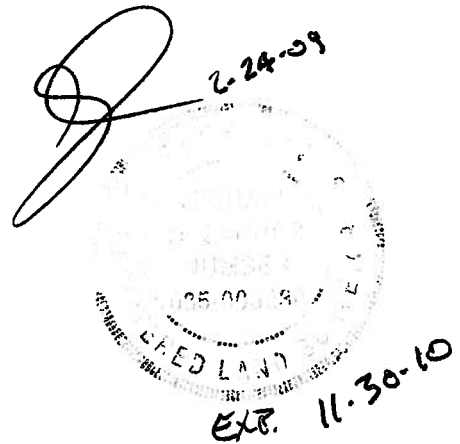
"Lot G – Tract 2"

5.73 Acres

Part of Lot No. 304 of the Sixth Subdivision of the Cahokia Village Commons as recorded in Plat Book B, Page 25 in the St. Clair County, Illinois, land records in Township 2 North, Range 10 West of the Third Principal Meridian and being part of a

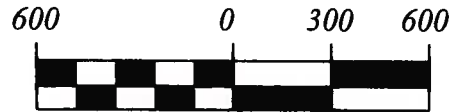
27.170 acre tract of land conveyed to Solutia Inc. by deed recorded in Book 3192, Page 44 in said land records and being more particularly described as follows: Beginning at a point at the intersection of the West right-of-way line of the East St. Louis and Carondelet Railroad, now known as T.R.R.A., with the Northwest line of a 30.00 feet wide strip conveyed to Alton and Southern Railroad by instrument recorded in Book 995, Page 34 in the St. Clair County, Illinois, land records; Thence South $51^{\circ}32'11''$ West along said Northwest line a distance of 2904.89 feet to a point of curvature; Thence continuing along said Northwest line Southwesterly along the arc of a curve to the right having a radius of 1773.38 feet and a central angle of $11^{\circ}41'38''$ a distance of 361.94 feet (chord bearing and distance = South $57^{\circ}23'00''$ West, 361.31 feet) to a point at the intersection of said Northwest line with the East right-of-way line of the Gulf Mobile and Ohio Railroad; Thence North $17^{\circ}46'13''$ East along said right-of-way line a distance of 110.08 feet to a point; Thence Northeasterly along the arc of a curve to the left having a radius of 1696.68 feet and a central angle of $09^{\circ}05'08''$ a distance of 269.05 feet (chord bearing and distance = North $56^{\circ}04'45''$ East, 268.77 feet) to a point of tangent; Thence North $51^{\circ}32'11''$ East a distance of 2975.57 feet to a point on the aforesaid West right-of-way line of the East St. Louis and Carondelet Railroad; Thence South $04^{\circ}11'55''$ West along said right-of-way line a distance of 104.30 feet to the point of beginning containing 5.73 acres.

This description was written from documents provided.



**Drawing of
"Lot G"**

**Lot No. 304
Sixth Subdivision
of the
Cahokia Village Commons
T 2 N, R 10 W**



**GRAPHIC SCALE - FEET
SCALE: 1" = 600'**

Eastern Outer Harbor
line of the
Mississippi River

N35°02'13"E
1000.00'

Solutia Inc.
Bk. 3192, Pg. 44

N54°57'47"W
250.00'

S35°02'13"W
32.99'

Eastern Inner Harbor
line of the
Mississippi River

**Tract 1
21.44 Ac.**

S87°04'02"E
1088.39'

Curve Data
R = 676.66'
Δ = 28°54'59"
Arc L = 341.50'

S64°01'13"W 3499.24'

N64°01'13"E 1567.98'
Alton and Southern
Railroad

S17°46'13"W
106.18'

Curve Data
R = 1696.68'
Δ = 09°05'08"
Arc L = 269.05'

Gulf Mobile and
Ohio Railroad

N17°46'13"E
110.08'

**Tract 2
5.73 Ac.**

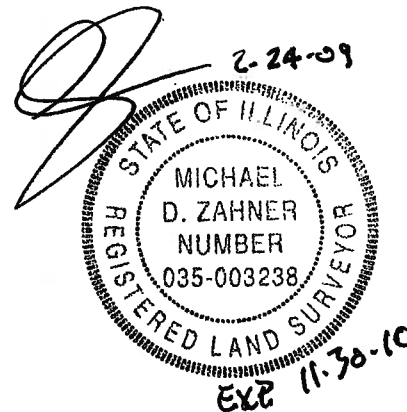
Curve Data
R = 1773.38'
Δ = 11°41'38"
Arc L = 361.94'

Alton and Southern
Railroad

N51°32'11"E 2975.57'
S51°32'11"W 2904.89'

S04°11'55"W
104.30'

East St. Louis and
Carondelet Railroad
n/k/a T.R.R.A.



*This drawing does not depict
a property boundary survey.*

Job No. SI09125
Drawing No. SI09125
Date: 2-24-09
Drawn By: LH

APR. 30. 2009 1639

APR. 30. 2009

1640

Exhibit A-8 Legal Description of Lot H – 2nd Addition

LOT H – 2nd Addition: **PIN NO. 01-23.0-300-002**

See Attached Legal Description and Survey

The total area of Lot H – 2nd Addition is **3.54 Acres**, more or less.



ZAHNER & ASSOCIATES, INC.

PROFESSIONAL LAND SURVEYORS

APR. 30. 2009

1641

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"Lot H – 2nd Addition"
3.54 Acres

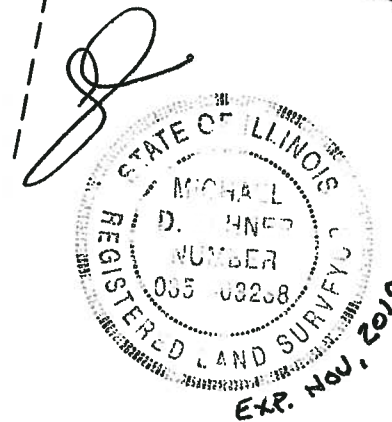
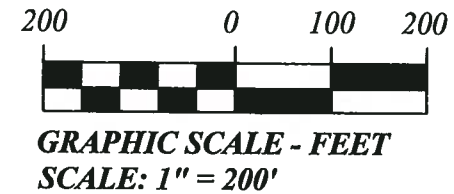
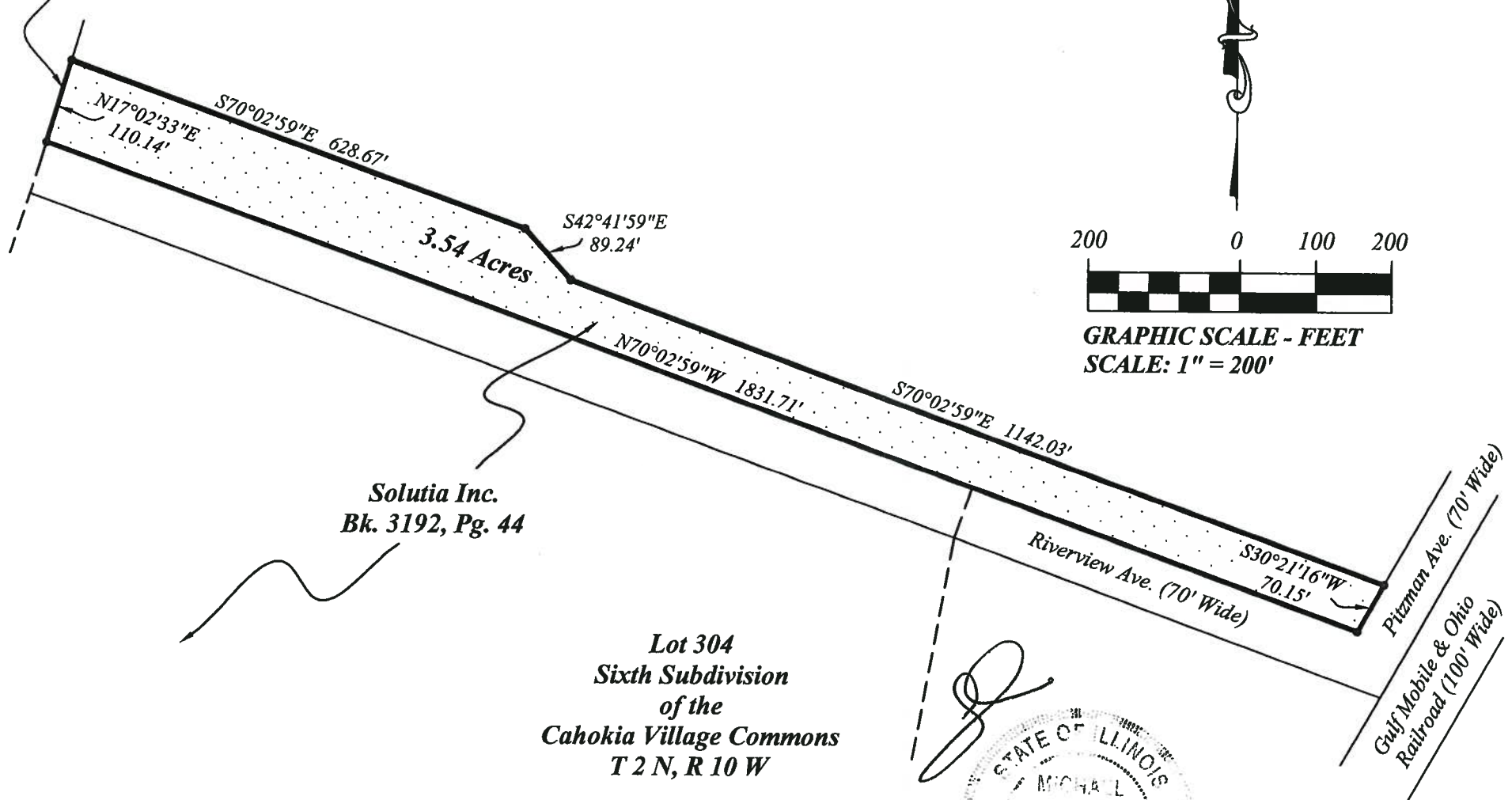
Part of Lot No. 304 of the Sixth Subdivision of the Cahokia Village Commons, as recorded in Plat Book B, Page 25 of the St. Clair County, Illinois, land records, in Township 2 North, Range 10 West of the Third Principal Meridian and being part of a 68.786 acre tract of land conveyed to Solutia Inc. by deed recorded in Book 3192, Page 44 in said land records and being more particularly described as follows: Beginning at a point at the intersection of the North line of Riverview Avenue, seventy (70) feet in width, with the West line of Pitzman Avenue, seventy (70) feet in width; Thence North $70^{\circ}02'59''$ West along said North line of Riverview Avenue a distance of 1831.71 feet to a point on the Eastern Outer Harbor line of the Mississippi River as established by the War Department on April 6, 1905; Thence North $17^{\circ}02'33''$ East along said Eastern Outer Harbor line a distance of 110.14 feet to a point; Thence South $70^{\circ}02'59''$ East a distance of 628.67 feet to a point; Thence South $42^{\circ}41'59''$ East a distance of 89.24 feet to a point; Thence South $70^{\circ}02'59''$ East a distance of 1142.03 feet to a point on the aforesaid West line of Pitzman Avenue; Thence South $30^{\circ}21'16''$ West along said West line a distance of 70.15 feet to the point of beginning containing 3.54 acres.

This description was written from documents provided.



Drawing of "Lot H - 2nd Addition"

Eastern Outer Harbor
line of the
Mississippi River



This drawing does not depict a
property boundary survey.

Job No. SI09122
Drawing No. SI09122
Date: 2-23-09
Drawn By: LH

APR. 30. 2009

1642

Exhibit B

- B-1 Legal Description of Property
- B-2 Contaminants in Soil Exceeding Tier 1 Remediation Criteria (0'-5' bgs)
- B-3 Contaminants in Soil Exceeding Tier 1 Remediation Criteria (5'-10' bgs)
- B-4 Contaminants in Soil Exceeding Tier 1 Remediation Criteria (10'-15' bgs)
- B-5 Contaminants in Groundwater Exceeding Tier 1 Remediation Criteria (Shallow Hydrogeologic Unit)
- B-6 Contaminants in Groundwater Exceeding Tier 1 Remediation Criteria (Middle Hydrogeologic Unit)
- B-7 Contaminants in Groundwater Exceeding Tier 1 Remediation Criteria (Deep Hydrogeologic Unit)
- B-8 Map of Physical Features Subject to Environmental Land Use Control
- B-9 Legal Description and Survey of Route 3 Drum Site Cap
- B-10 Legal Descriptions and Surveys of Lead Remediation Areas
- B-11 Groundwater Monitoring Wells to Be Maintained

APR. 30. 2009

1644

Exhibit B-1

Legal Description of Property

APR. 30. 2009 1645

APR. 30. 2009 1646

LOT "H"
2nd
ADDITION

MISSISSIPPI RIVER

LOT "D"

LOT "A"

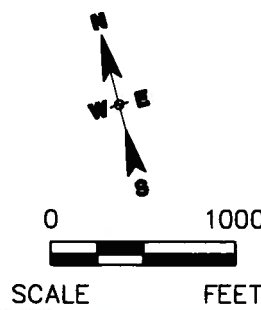
LOT "B"

LOT "C"

LOT "F"

LOT "G"

LEGEND
— PROPERTY BOUNDARY



SOLUTIA INC. W.G. KRUMMRICH FACILITY SAUGET, ILLINOIS ENVIRONMENTAL LAND USE CONTROL (ELUC)		PROJECT NO. 21561996.00005
URS		
DRN. BY: djd 4/8/09 DSGN. BY: tja CHKD. BY: <i>[Signature]</i>	Legal Description of Property	EXHIBIT B-1

FILE: P:\ENVIRONMENTAL\21561996.00005\CHINA\ELUC\FIGURES\1-FINAL\FIGURE 4-B-1-01A EXHIBIT B-1 WORK AREA DESCRIPTION.DWG User: tja Date: 04/29/09 11:08 am WGS-84 UTM NAD83

APR. 30. 2009

1647

Exhibit B-2

Contaminants in Soil Exceeding Tier 1 Remediation Criteria (0'-5' bgs)

LEGEND

◆ LOCATION WITH EXCEEDANCE OF SCREENING LEVEL

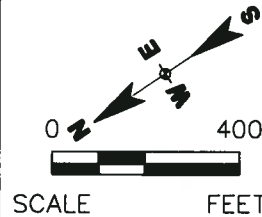
— AREA OF ENVIRONMENTAL LAND USE CONTROL

NOTES:

- 1. SOIL SAMPLE LOCATIONS SHOWN WITH AN EXCEEDANCE ON THIS FIGURE CONTAINED ONE OR MORE CONSTITUENT CONCENTRATIONS THAT EXCEEDED SCREENING LEVELS.
- 2. SCREENING LEVELS WERE OBTAINED FROM: ILLINOIS' TIERED APPROACH TO CORRECTIVE ACTION OBJECTIVES, 35 IAC PART 742 APPENDIX B 1) TABLE B, TIER I SOIL REMEDIATION OBJECTIVES FOR INDUSTRIAL/COMMERCIAL PROPERTIES AND 2) TABLE C pH SPECIFIC SOIL REMEDIATION OBJECTIVES FOR INORGANICS AND IONIZING ORGANICS FOR THE SOIL COMPONENT OF THE GROUNDWATER INGESTION ROUTE (CLASS I GROUNDWATER).
- 3. DATA REPRESENT SOIL SAMPLES COLLECTED FROM LOCATIONS SHOWN BETWEEN 1998 AND 2008.
- 4. NO INVESTIGATION WAS CONDUCTED IN LOTS G AND H – 2ND ADDITION AS NO SOURCES ASSOCIATED WITH THE KRUMMRICH PLANT WERE THOUGHT TO BE PRESENT IN THE LOTS. THUS, LOTS G AND H – 2ND ADDITION ARE NOT SHOWN IN THIS DRAWING.

Chemical	Units	Screening Value	Min	Max
Antimony	mg/kg	5	< 1.8	12
Arsenic	mg/kg	13	< 1.1	99
Barium	mg/kg	260	16	15,000
Benzene	ug/kg	30	< 2.8	2,400,000
Benzo(a)anthracene	ug/kg	2,000	240	7,300
Benzo(a)pyrene	ug/kg	800	240	3,800
Benzo(b)fluoranthene	ug/kg	5,000	< 340	5,200
Beryllium	mg/kg	1.1	< 0.36	1.8
Cadmium	mg/kg	1	< 0.46	38
Carbazole	ug/kg	600	< 340	1,300
p-Chloroaniline	ug/kg	700	< 690	16,000
Chlorobenzene	ug/kg	1,000	< 2.8	30,000,000
2-Chlorophenol	ug/kg	4,000	< 340	8,200
Chromium	mg/kg	21	3.3	100
Cobalt	mg/kg	8.9	< 1.1	120
Copper	mg/kg	330	5	2700
Dibenzo(a,h)anthracene	ug/kg	800	< 340	1200
1,2-Dichlorobenzene	ug/kg	17,000	240	200,000
1,4-Dichlorobenzene	ug/kg	2,000	< 320	4,000,000
3,3'-Dichlorobenzidine	ug/kg	7	< 690	17,000
1,2-Dichloroethane	ug/kg	20	< 2.8	4,700
2,4-Dichlorophenol	ug/kg	1,000	300	57,000
1,2-Dichloropropane	ug/kg	30	< 2.8	19,000
2,4-Dinitrotoluene	ug/kg	0.8	< 340	420
2,6-Dinitrotoluene	ug/kg	0.7	< 340	560
Ethylbenzene	ug/kg	13,000	< 2.8	3,300,000
Hexachlorobenzene	ug/kg	1,800	260	23,000
Lead	mg/kg	23	7.1	19,000
Manganese	mg/kg	636	5.3	3,800
Mercury	mg/kg	0.1	0.014	160
Methylene chloride	ug/kg	20	< 2.8	1,500
Naphthalene	ug/kg	1,800	< 4.9	15,000
Nickel	mg/kg	20	< 4.2	38,000
Nitrobenzene	ug/kg	100	< 340	20,000
PCBs (Total)	ug/kg	1,000	< 3.5	61,670,000
Pentachlorophenol	ug/kg	30	< 8.3	1,900,000
Selenium	mg/kg	1.3	< 0.91	2.6
Silver	mg/kg	0.24	< 0.91	11
Tetrachloroethene	ug/kg	60	< 2.8	40,000
Thallium	mg/kg	1.6	< 0.91	6.4
Toluene	ug/kg	12,000	< 2.8	34,000
1,2,4-Trichlorobenzene	ug/kg	5,000	< 4.9	7,200,000
1,1,2-Trichloroethane	ug/kg	20	< 2.8	4,800
2,4,6-Trichlorophenol	ug/kg	200	< 340	22,000
o-Xylene	ug/kg	6,500	< 2.8	38,000,000
p-Xylene/m-Xylene	ug/kg	5,900	< 2.8	15,000,000
Xylenes, Total	ug/kg	5,600	< 5.7	23,000
Zinc	mg/kg	1,000	19	13,000

FILE: P:\ENVIRONMENTAL\21561996 (NEW) (C:\ELUC\FIGURES) - FINAL\FINAL FIGURES 4-8-09\EXHIBIT B-2-B-3-B-4 WORK (SOL) ALL DEPT/PLANS Last edited: APR. 08, 09 @ 11:58 a.m. BY: dms_jm



SOLUTIA INC.
W.G. KRUMMRICH FACILITY
SAUGET, ILLINOIS
ENVIRONMENTAL LAND USE CONTROL (ELUC)

PROJECT NO.
21561996.00005

URS

DRN. BY: djd 4/8/09
DSGN. BY: tja
CHKD. BY: *[Signature]*

Contaminants in Soil Exceeding Tier 1
Remediation Objectives (0'-5' bgs)

EXHIBIT
B-2

APR. 30. 2009

1650

Exhibit B-3

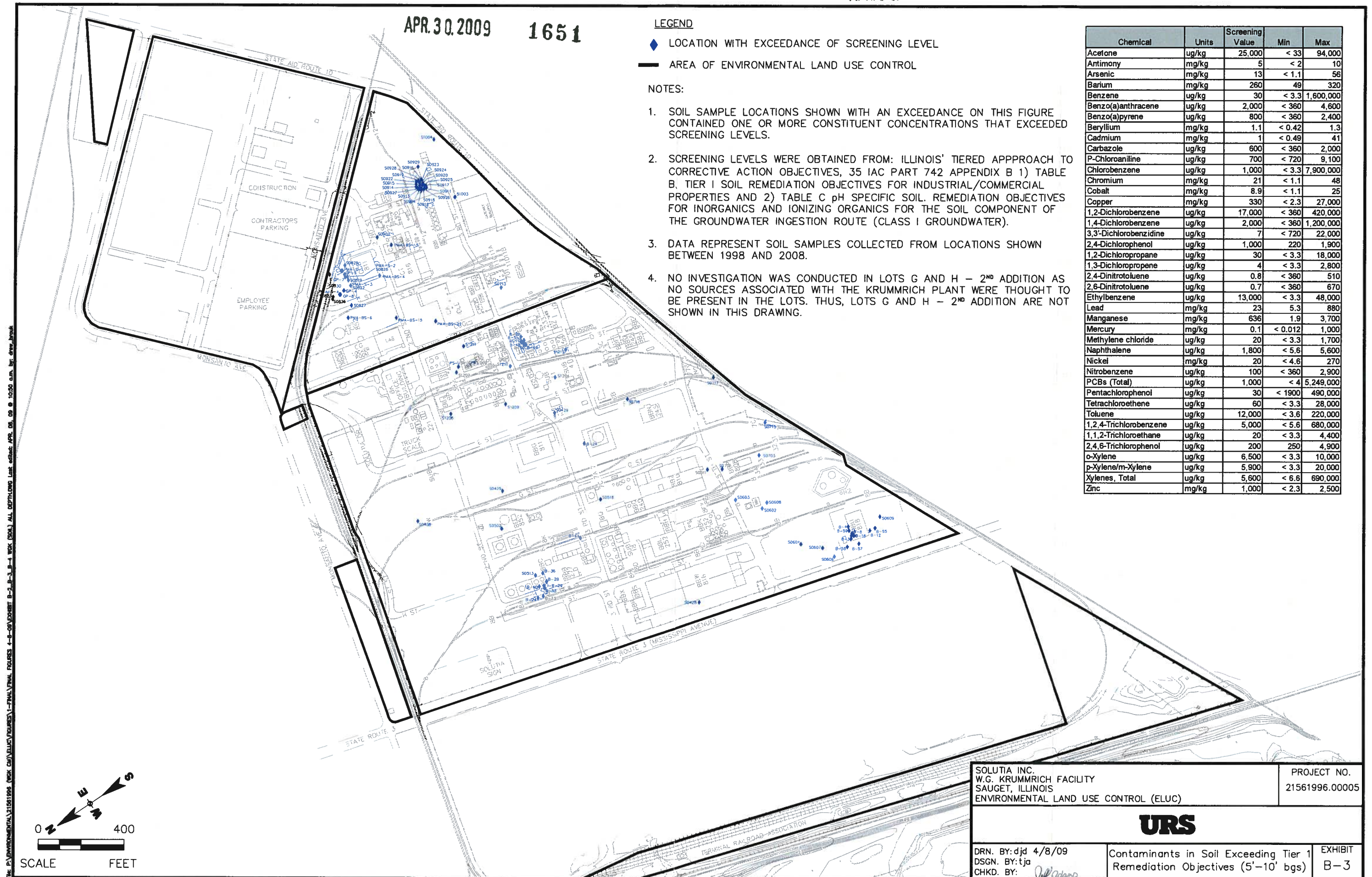
Contaminants in Soil Exceeding Tier 1 Remediation Criteria (5'-10' bgs)

— AREA OF ENVIRONMENTAL LAND USE CONTROL

NOTES:

1. SOIL SAMPLE LOCATIONS SHOWN WITH AN EXCEEDANCE ON THIS FIGURE CONTAINED ONE OR MORE CONSTITUENT CONCENTRATIONS THAT EXCEEDED SCREENING LEVELS.
2. SCREENING LEVELS WERE OBTAINED FROM: ILLINOIS' TIERED APPROACH TO CORRECTIVE ACTION OBJECTIVES, 35 IAC PART 742 APPENDIX B 1) TABLE B. TIER I SOIL REMEDIATION OBJECTIVES FOR INDUSTRIAL/COMMERCIAL PROPERTIES AND 2) TABLE C pH SPECIFIC SOIL REMEDIATION OBJECTIVES FOR INORGANICS AND IONIZING ORGANICS FOR THE SOIL COMPONENT OF THE GROUNDWATER INGESTION ROUTE (CLASS I GROUNDWATER).
3. DATA REPRESENT SOIL SAMPLES COLLECTED FROM LOCATIONS SHOWN BETWEEN 1998 AND 2008.
4. NO INVESTIGATION WAS CONDUCTED IN LOTS G AND H - 2ND ADDITION AS NO SOURCES ASSOCIATED WITH THE KRUMMRICH PLANT WERE THOUGHT TO BE PRESENT IN THE LOTS. THUS, LOTS G AND H - 2ND ADDITION ARE NOT SHOWN IN THIS DRAWING.

Chemical	Units	Screening Value	Min	Max
Acetone	ug/kg	25,000	< 33	94,000
Antimony	mg/kg	5	< 2	10
Arsenic	mg/kg	13	< 1.1	56
Barium	mg/kg	260	49	320
Benzene	ug/kg	30	< 3.3	1,600,000
Benzo(a)anthracene	ug/kg	2,000	< 360	4,600
Benzo(a)pyrene	ug/kg	800	< 360	2,400
Beryllium	mg/kg	1.1	< 0.42	1.3
Cadmium	mg/kg	1	< 0.49	41
Carbazole	ug/kg	600	< 360	2,000
P-Chloroaniline	ug/kg	700	< 720	9,100
Chlorobenzene	ug/kg	1,000	< 3.3	7,900,000
Chromium	mg/kg	21	< 1.1	48
Cobalt	mg/kg	8.9	< 1.1	25
Copper	mg/kg	330	< 2.3	27,000
1,2-Dichlorobenzene	ug/kg	17,000	< 360	420,000
1,4-Dichlorobenzene	ug/kg	2,000	< 360	1,200,000
3,3'-Dichlorobenzidine	ug/kg	7	< 720	22,000
2,4-Dichlorophenol	ug/kg	1,000	220	1,900
1,2-Dichloropropane	ug/kg	30	< 3.3	18,000
1,3-Dichloropropene	ug/kg	4	< 3.3	2,800
2,4-Dinitrotoluene	ug/kg	0.8	< 360	510
2,6-Dinitrotoluene	ug/kg	0.7	< 360	670
Ethylbenzene	ug/kg	13,000	< 3.3	48,000
Lead	mg/kg	23	5.3	880
Manganese	mg/kg	636	1.9	3,700
Mercury	mg/kg	0.1	< 0.012	1,000
Methylene chloride	ug/kg	20	< 3.3	1,700
Naphthalene	ug/kg	1,800	< 5.6	5,600
Nickel	mg/kg	20	< 4.6	270
Nitrobenzene	ug/kg	100	< 360	2,900
PCBs (Total)	ug/kg	1,000	< 4	5,249,000
Pentachlorophenol	ug/kg	30	< 1900	490,000
Tetrachloroethene	ug/kg	60	< 3.3	28,000
Toluene	ug/kg	12,000	< 3.6	220,000
1,2,4-Trichlorobenzene	ug/kg	5,000	< 5.6	680,000
1,1,2-Trichloroethane	ug/kg	20	< 3.3	4,400
2,4,6-Trichlorophenol	ug/kg	200	250	4,900
o-Xylene	ug/kg	6,500	< 3.3	10,000
p-Xylene/m-Xylene	ug/kg	5,900	< 3.3	20,000
Xylenes, Total	ug/kg	5,600	< 6.6	690,000
Zinc	mg/kg	1,000	< 2.3	2,500



SOLUTIA INC.
W.G. KRUMMRICH FACILITY
SAUGET, ILLINOIS
ENVIRONMENTAL LAND USE CONTROL (ELUC)

PROJECT NO.
21561996.00005

URS

DRN. BY:djd 4/8/09
DSGN. BY:tja
CHKD. BY:

Contaminants in Soil Exceeding Tier 1 Remediation Objectives (5'-10' bgs)

EXHIBIT
B-3

APR. 30. 2009

1653

Exhibit B-4

Contaminants in Soil Exceeding Tier 1 Remediation Criteria (10'-15' bgs)

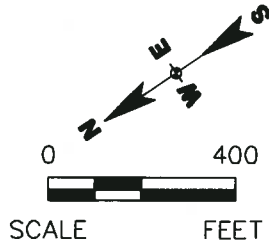
LEGEND

- ◆ LOCATION WITH EXCEEDANCE OF SCREENING LEVEL
- AREA OF ENVIRONMENTAL LAND USE CONTROL

- NOTES:
1. SOIL SAMPLE LOCATIONS SHOWN WITH AN EXCEEDANCE ON THIS FIGURE CONTAINED ONE OR MORE CONSTITUENT CONCENTRATIONS THAT EXCEEDED SCREENING LEVELS.
 2. SCREENING LEVELS WERE OBTAINED FROM: ILLINOIS' TIERED APPROACH TO CORRECTIVE ACTION OBJECTIVES, 35 IAC PART 742 APPENDIX B 1) TABLE B, TIER I SOIL REMEDIATION OBJECTIVES FOR INDUSTRIAL/COMMERCIAL PROPERTIES AND 2) TABLE C pH SPECIFIC SOIL REMEDIATION OBJECTIVES FOR INORGANICS AND IONIZING ORGANICS FOR THE SOIL COMPONENT OF THE GROUNDWATER INGESTION ROUTE (CLASS I GROUNDWATER).
 3. DATA REPRESENT SOIL SAMPLES COLLECTED FROM LOCATIONS SHOWN BETWEEN 1998 AND 2008.
 4. NO INVESTIGATION WAS CONDUCTED IN LOTS G AND H – 2ND ADDITION AS NO SOURCES ASSOCIATED WITH THE KRUMMRICH PLANT WERE THOUGHT TO BE PRESENT IN THE LOTS. THUS, LOTS G AND H – 2ND ADDITION ARE NOT SHOWN IN THIS DRAWING.

Chemical	Units	Screening Value	Min	Max
Acetone	ug/kg	25,000	< 32	64,000
Barium	mg/kg	260	26	390
Benzene	ug/kg	30	< 3.2	1,700,000
Beryllium	mg/kg	1.1	< 0.35	1.3
Cadmium	mg/kg	1	< 0.44	24
Carbazole	ug/kg	600	< 340	17,000
P-Chloroaniline	ug/kg	700	< 680	64,000
Chlorobenzene	ug/kg	1,000	3	23,000,000
2-Chlorophenol	ug/kg	4,000	< 340	12,000
Chromium	mg/kg	21	2.6	35
Cobalt	mg/kg	8.9	< 1.2	25
1,2-Dichlorobenzene	ug/kg	17,000	< 210	3,400,000
1,4-Dichlorobenzene	ug/kg	2,000	< 340	1,000,000
1,2-Dichloroethane	ug/kg	20	< 3.2	950
cis-1,2-Dichloroethene	ug/kg	400	< 3.2	29,000
2,4-Dichlorophenol	ug/kg	1,000	< 340	95,000
2,4-Dinitrotoluene	ug/kg	0.8	< 340	410
2,6-Dinitrotoluene	ug/kg	0.7	< 340	530
Ethylbenzene	ug/kg	13,000	< 3.2	11,000,000
Lead	mg/kg	23	2.7	5,600
Manganese	mg/kg	636	3.1	1100
Mercury	mg/kg	0.1	< 0.018	58
Methylene chloride	ug/kg	20	< 3.2	14,000
Naphthalene	ug/kg	1,800	< 340	2200
Nickel	mg/kg	20	< 4.8	190
N-Nitrosodiphenylamine	ug/kg	1,000	< 340	10,000
PCBs (Total)	ug/kg	1,000	< 3.6	9,300,000
Pentachlorophenol	ug/kg	30	< 8.3	310,000
Silver	mg/kg	0.24	< 0.88	2.8
Tetrachloroethene	ug/kg	60	< 3.2	550,000
Toluene	ug/kg	12,000	< 3.2	16,000
1,2,4-Trichlorobenzene	ug/kg	5,000	< 340	150,000
Trichloroethylene	ug/kg	60	< 3.2	7,600
2,4,6-Trichlorophenol	ug/kg	200	< 340	16,000
o-Xylene	ug/kg	6,500	< 3.2	11,000,000
p-Xylene/m-Xylene	ug/kg	5,900	< 3.2	44,000,000
Xylenes, Total	ug/kg	5,600	< 6.4	54,000,000
Zinc	mg/kg	1,000	4	1,900

FILE: P:\ENVIRONMENTAL\1561996 (WEX CUI)\ELUC FIGURES\1-FINAL\FINAL FIGURES 4-B-3-01\EXHIBIT B-2-B-3-B-4 WEX (SOL) ALL DEPT/ELUC Last edited: APR. 08, 09 @ 10:50 a.m. BY: dms/brn



SOLUTIA INC.
W.G. KRUMMRICH FACILITY
SAUGET, ILLINOIS
ENVIRONMENTAL LAND USE CONTROL (ELUC)

PROJECT NO.
21561996.00005

URS

DRN. BY: djd 4/8/09
DSGN. BY: tja
CHKD. BY: *[Signature]*

Contaminants in Soil Exceeding Tier 1
Remediation Objectives (10'-15' bgs)

EXHIBIT
B-4

Exhibit B-5

APR. 30. 2009

1656

**Contaminants in Groundwater Exceeding Tier 1 Remediation Criteria
(Shallow Hydrogeologic Unit)**

APR.30.2009 1657

APR.30.2009 1658

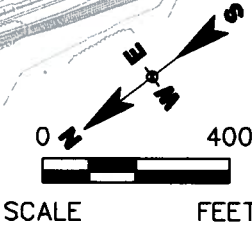
Chemical	Units	Screening Value	Min	Max
Benzene	ug/L	5	< 1	1,300,000
Chloride	mg/L	200	89	240
P-Chloroaniline	ug/L	28	< 19	260
Chlorobenzene	ug/L	100	< 1	9,400
Chloroform	ug/L	0.2	< 1	3.4
1,2-Dichlorobenzene	ug/L	600	< 1	670
1,4-Dichlorobenzene	ug/L	75	< 1	12,000
2,4-Dinitrotoluene	ug/L	0.02	< 9.4	120
2,6-Dinitrotoluene	ug/L	0.31	< 9.4	160
Manganese	mg/L	0.15	0.22	0.54
Nitrobenzene	ug/L	3.5	< 9.4	16
PCBs (Total)	ug/L	0.5	< 0.094	70,009
Pentachlorophenol	ug/L	1	< 47	90
Phenol	ug/L	100	< 9.4	250
1,2,4-Trichlorobenzene	ug/L	70	< 9.4	99,000
Trichloroethylene	ug/L	5	< 1	7.3
2,4,6-Trichlorophenol	ug/L	10	< 9.4	180

LEGEND

- ◆ LOCATION WITH EXCEEDANCE OF SCREENING LEVEL
— AREA OF ENVIRONMENTAL LAND USE CONTROL

NOTES:

- GROUNDWATER SAMPLES FROM LOCATIONS SHOWN ON THIS FIGURE CONTAINED ONE OR MORE CONSTITUENT CONCENTRATIONS THAT EXCEEDED SCREENING LEVELS.
- SCREENING LEVELS WERE OBTAINED FROM ILLINOIS' TIERED APPROACH TO CORRECTIVE ACTION OBJECTIVES, 35 IAC PART 742 APPENDIX B TABLE E (CLASS I GROUNDWATER).
- DATA REPRESENT GROUNDWATER SAMPLES COLLECTED BETWEEN 2003 AND 2008.
- NO INVESTIGATION WAS CONDUCTED IN LOTS G AND H - 2ND ADDITION AS NO SOURCES ASSOCIATED WITH THE KRUMMRICH PLANT WERE THOUGHT TO BE PRESENT IN THE LOTS. THUS, LOTS G AND H - 2ND ADDITION ARE NOT SHOWN IN THIS DRAWING.



SOLUTIA INC. W.G. KRUMMRICH FACILITY SAUGET, ILLINOIS ENVIRONMENTAL LAND USE CONTROL (ELUC)		PROJECT NO. 21561996.00005
URS		
DRN. BY: djd 4/8/09 DSGN. BY: tja CHKD. BY: <i>[Signature]</i>	Contaminants in Groundwater Exceeding Tier 1 Remediation Objectives (Shallow Hydrogeologic Unit)	EXHIBIT B-5

**Contaminants in Groundwater Exceeding Tier 1 Remediation Criteria
(Middle Hydrogeologic Unit)**

APR. 30. 2009 1660

APR. 30. 2009 1661

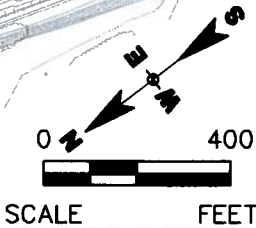
Chemical	Units	Screening Value	Min	Max
Benzene	ug/L	5	1.8	14,000
bis(2-Ethylhexyl)phthalate	ug/L	6	< 9.4	14
P-Chloroaniline	ug/L	28	< 19	300
Chlorobenzene	ug/L	100	15	11,000
Chloroform	ug/L	0.2	< 1	6.2
1,2-Dichloroethane	ug/L	5	< 1	200
1,4-Dichlorobenzene	ug/L	75	4.2	13,000
Ethylbenzene	ug/L	700	< 1	1,900
Iron	mg/L	5	41	41
Manganese	mg/L	0.15	0.8	1.3
Naphthalene	ug/L	140	< 9.4	270
Nitrobenzene	ug/L	3.5	< 9.4	610
PCBs (Total)	ug/L	0.5	< 0.094	395.5
Phenol	ug/L	100	< 9.4	270
1,2,4-Trichlorobenzene	ug/L	70	< 9.4	2,400

LEGEND

- ◆ LOCATION WITH EXCEEDANCE OF SCREENING LEVEL
- AREA OF ENVIRONMENTAL LAND USE CONTROL

NOTES:

- GROUNDWATER SAMPLES FROM LOCATIONS SHOWN ON THIS FIGURE CONTAINED ONE OR MORE CONSTITUENT CONCENTRATIONS THAT EXCEEDED SCREENING LEVELS.
- SCREENING LEVELS WERE OBTAINED FROM ILLINOIS' TIERED APPROACH TO CORRECTIVE ACTION OBJECTIVES, 35 IAC PART 742 APPENDIX B TABLE E (CLASS I GROUNDWATER).
- DATA REPRESENT GROUNDWATER SAMPLES COLLECTED BETWEEN 2003 AND 2008.
- NO INVESTIGATION WAS CONDUCTED IN LOTS G AND H - 2ND ADDITION AS NO SOURCES ASSOCIATED WITH THE KRUMMRICH PLANT WERE THOUGHT TO BE PRESENT IN THE LOTS. THUS, LOTS G AND H - 2ND ADDITION ARE NOT SHOWN IN THIS DRAWING.



SOLUTIA INC. W.G. KRUMMRICH FACILITY SAUGET, ILLINOIS ENVIRONMENTAL LAND USE CONTROL (ELUC)		PROJECT NO. 21561996.00005
URS		
DRN. BY: djd 4/8/09 DSGN. BY: tja CHKD. BY: <i>[Signature]</i>	Contaminants in Groundwater Exceeding Tier 1 Remediation Objectives (Middle Hydrogeologic Unit)	EXHIBIT B-6

APR. 30. 2009

1662

Exhibit B-7

**Contaminants in Groundwater Exceeding Tier 1 Remediation Criteria
(Deep Hydrogeologic Unit)**

APR. 30. 2009 1663

APR. 30. 2009 1664

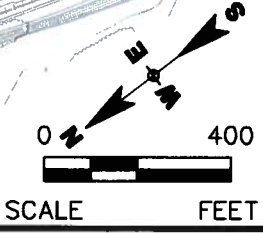
Chemical	Units	Screening Value	Min	Max
Benzene	ug/L	5	18	160,000
bis(2-Ethylhexyl)phthalate	ug/L	6	< 4.7	12
Chloride	mg/L	200	180	220
P-Chloroaniline	ug/L	28	< 19	1,400
Chlorobenzene	ug/L	100	< 40	57,000
2-Chlorophenol	ug/L	35	< 9.4	40
1,2-Dichlorobenzene	ug/L	600	< 1	39,000
1,4-Dichlorobenzene	ug/L	75	2.2	20,000
cis-1,2-Dichloroethene	ug/L	70	< 1	330
2,4-Dichlorophenol	ug/L	21	< 9.4	69
Ethylbenzene	ug/L	700	< 1	1,400
gamma-HCH (Lindane)	ug/L	0.2	< 0.047	1.1
Heptachlor Epoxide	ug/L	0.2	< 0.047	2.7
Iron	mg/L	5	2.3	15
Manganese	mg/L	0.15	0.16	1.4
Naphthalene	ug/L	140	< 9.4	170
Nitrobenzene	ug/L	3.5	< 4.7	48
PCBs (Total)	ug/L	0.5	< 0.094	177.2
Pentachlorophenol	ug/L	1	45	55
Phenol	ug/L	100	< 9.4	200
1,2,4-Trichlorobenzene	ug/L	70	< 9.4	1,900
Vanadium	mg/L	0.049	< 0.01	0.086

LEGEND

- ◆ LOCATION WITH EXCEEDANCE OF SCREENING LEVEL
- AREA OF ENVIRONMENTAL LAND USE CONTROL

NOTES:

- GROUNDWATER SAMPLES FROM LOCATIONS SHOWN ON THIS FIGURE CONTAINED ONE OR MORE CONSTITUENT CONCENTRATIONS THAT EXCEEDED SCREENING LEVELS.
- SCREENING LEVELS WERE OBTAINED FROM ILLINOIS' TIERED APPROACH TO CORRECTIVE ACTION OBJECTIVES, 35 IAC PART 742 APPENDIX B TABLE E (CLASS I GROUNDWATER).
- DATA REPRESENT GROUNDWATER SAMPLES COLLECTED BETWEEN 2003 AND 2008.
- NO INVESTIGATION WAS CONDUCTED IN LOTS G AND H - 2ND ADDITION AS NO SOURCES ASSOCIATED WITH THE KRUMMRICH PLANT WERE THOUGHT TO BE PRESENT IN THE LOTS. THUS, LOTS G AND H - 2ND ADDITION ARE NOT SHOWN IN THIS DRAWING.



SOLUTIA INC.
W.G. KRUMMRICH FACILITY
SAUGET, ILLINOIS
ENVIRONMENTAL LAND USE CONTROL (ELUC)

PROJECT NO.
21561996.00005

URS

DRN. BY:djd 4/8/09
DSGN. BY:tja
CHKD. BY: *[Signature]*

Contaminants in Groundwater Exceeding
Tier 1 Remediation Objectives
(Deep Hydrogeologic Unit)

EXHIBIT
B-7

APR. 30. 2009

1665

Exhibit B-8

Map of Physical Features Subject to Environmental Land Use Control

NOTE: SEE EXHIBITS B-9 AND B-10 FOR
LEGAL DESCRIPTIONS AND SURVEYS OF ROUTE
3 DRUM SITE CAP AND LEAD REMEDIATION
AREAS, RESPECTIVELY.

APR. 30. 2009 1666

LEGEND

- PCB GROUNDWATER QUALITY ASSESSMENT MONITORING WELLS
- LONG-TERM GROUNDWATER MONITORING WELLS
- ROUTE 3 DRUM SITE MONITORING WELLS
- LEAD REMEDIATION AREAS

APR. 30. 2009 1667

MISSISSIPPI RIVER

BSAMW05D

CPAMW05D

CPAMW04D

BSAMW04D

BSAMW03D

CPAMW03D

PMAMW06D

BSAMW02D

PMAMW05M

CPAMW02D

PMAMW01S
PMAMW01M

PMAMW02S
PMAMW02M

CPAMW01D

PMA W04S
PMAMW04D

PMA 03S
PMAMW03M

S0716

S0707

S0720

S0717

S0715

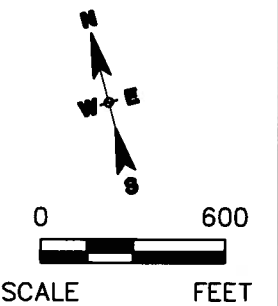
S0703

S0610

RTE 3 DRUM SITE CAP

GM-58A

GM-31A



SOLUTIA INC.
W.G. KRUMMRICH FACILITY
SAUGET, ILLINOIS
ENVIRONMENTAL LAND USE CONTROL (ELUC)

PROJECT NO.
21561996.00005

URS

DRN. BY: djd 4/8/09
DSGN. BY: tja
CHKD. BY: *[Signature]*

Map of Physical Features
Subject to Environmental
Land Use Control

EXHIBIT
B-8

APR. 30, 2009

1668

Exhibit B-9

Legal Description and Survey of Route 3 Drum Site Cap

APR. 30. 2009

1669



ZAHNER & ASSOCIATES, INC.
PROFESSIONAL LAND SURVEYORS

26 North Jackson Street
Perryville, Missouri 63775

(573) 547-1771
Fax (573) 547-1452

1-800-773-1771
zahner@zahnerinc.com

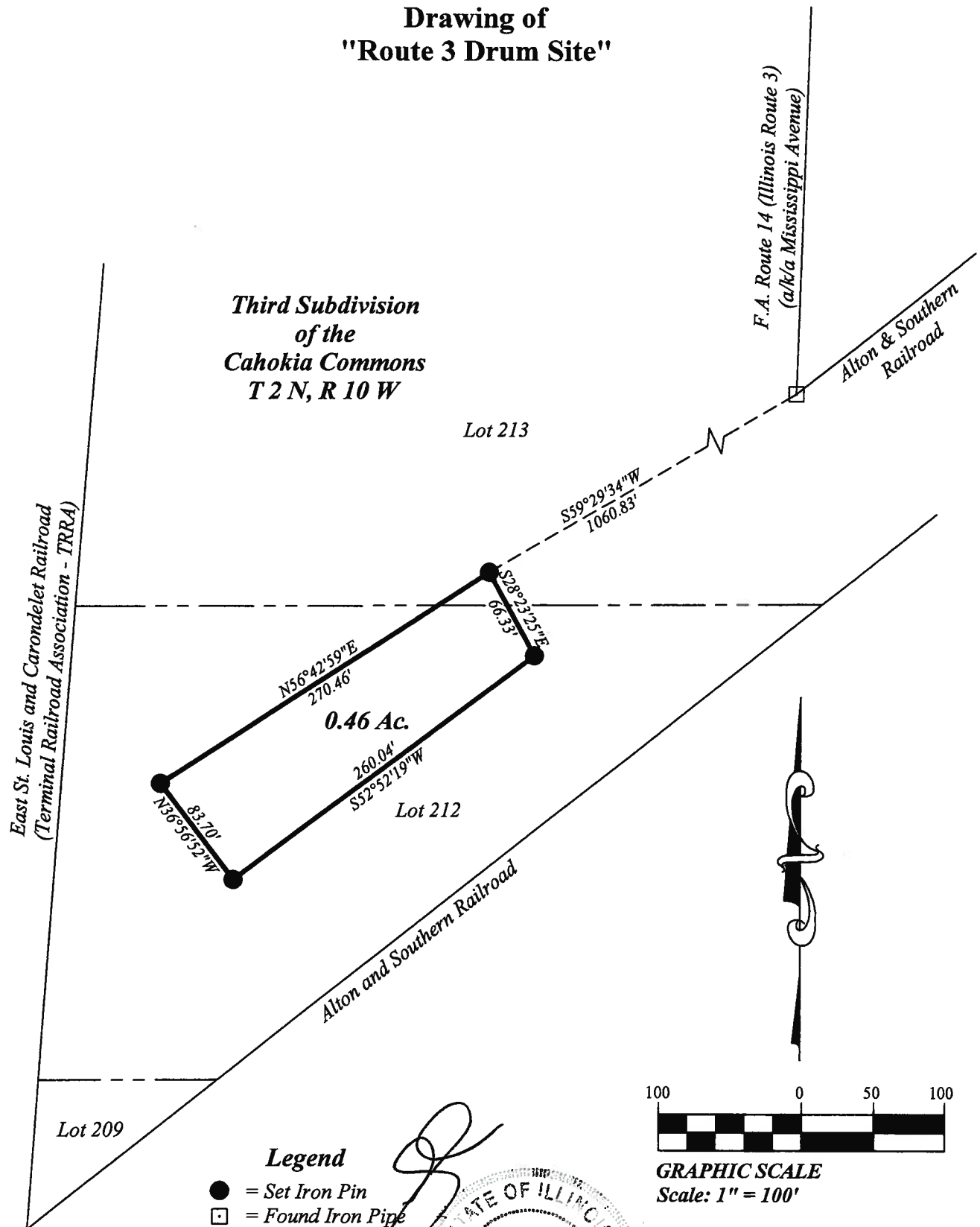
"Route 3 Drum Site"
0.46 Ac.

A tract of land being part of Lot No. 212 and Lot No. 213 of the "Third Subdivision of the Cahokia Commons", Township 2 North, Range 10 West of the Third Principal Meridian, St. Clair County, Illinois, and being more particularly described as follows:

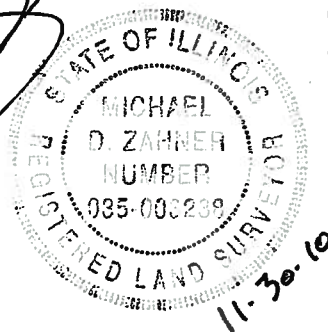
Commencing at an iron pipe at the intersection of the Northwest right-of-way line of the Alton & Southern Railroad with the East line of F.A. Route 14 (Illinois Route 3) (a/k/a Mississippi Avenue); Thence South $59^{\circ}29'34''$ West a distance of 1060.83 feet to an iron pin, said iron pin being the point of beginning of the tract herein described; Thence South $28^{\circ}23'25''$ East a distance of 66.33 feet to an iron pin; Thence South $52^{\circ}52'19''$ West a distance of 260.04 feet to an iron pin; Thence North $36^{\circ}56'52''$ West a distance of 83.70 feet to an iron pin; Thence North $56^{\circ}42'59''$ East a distance of 270.46 feet to the point of beginning containing 0.46 acre.

[Handwritten signature] 2-23-09
EXR. 11-30-10

Drawing of "Route 3 Drum Site"



This drawing does not depict a
property boundary survey and is not
intended for fee conveyance.



Job No. SI09104
Drawing No. SI09104-Drum
Date: 2-23-09
Drawn By: LH

Exhibit B-10**Legal Descriptions and Surveys of Lead Remediation Areas**

An overall summary follows of the various areas, size, and the barrier present over each area.

<u>Area Number</u>	<u>Area Size</u>	<u>Barrier</u>
S0610	507 sq. ft.	24" gravel
S0703	103 sq. ft.	3" asphalt
S0707	100 sq. ft.	3" asphalt
S0715	245 sq. ft.	24" gravel
S0716	1,458 sq. ft.	3" asphalt
S0717	0.14 acre	3" asphalt
S0720	0.14 acre	3" asphalt

Individual legal descriptions and surveys follow this sheet.



ZAHNER & ASSOCIATES, INC.

PROFESSIONAL LAND SURVEYORS

26 North Jackson Street
Perryville, Missouri 63775

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zahner@zahnerinc.com

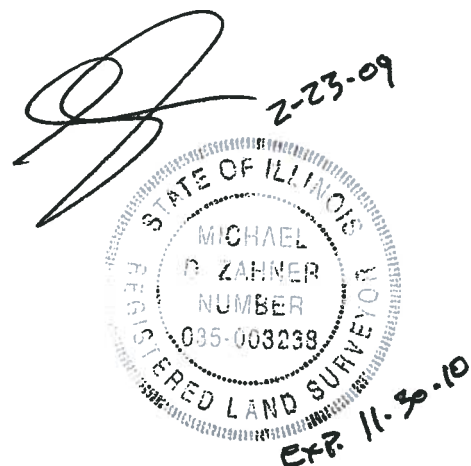
APR. 30. 2009

1672

“Lead Area S0610”
507 Sq.Ft. (0.01 Ac.)

A tract of land being part of Lot No. 218 and Lot No. 219 of the “Third Subdivision of the Cahokia Commons”, Township 2 North, Range 10 West of the Third Principal Meridian, St. Clair County, Illinois, and being more particularly described as follows:

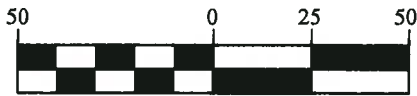
Commencing at an iron pipe at the intersection of the Northwest right-of-way line of the Alton & Southern Railroad with the East line of F.A. Route 14 (Illinois Route 3) (a/k/a Mississippi Avenue); Thence North $48^{\circ}42'48''$ East a distance of 568.32 feet to an iron pin, said iron pin being the point of beginning of the tract herein described; Thence North $54^{\circ}08'16''$ East a distance of 30.00 feet to an iron pin; Thence South $41^{\circ}21'36''$ East a distance of 15.12 feet to an iron pin; Thence South $47^{\circ}11'22''$ West a distance of 30.04 feet to an iron pin; Thence North $40^{\circ}51'13''$ West a distance of 18.75 feet to the point of beginning containing 507 square feet (0.01 acre).



Drawing of
"Lead Area S0610"

APR. 30. 2009

1673



GRAPHIC SCALE
Scale: 1" = 50'

Lot 219

Third Subdivision
of the
Cahokia Commons
T 2 N, R 10 W

507 Sq. Ft.
(0.01 Ac.)

S41°21'36"E
15.12'

N54°08'16"E
30.00'

Lot 218

S47°11'22"W
30.04'

N40°51'13"W
18.75'

Approx. R/W
Alton & Southern Railroad

N48°42'48"E
568.32'

F.A. Route 14 (Illinois Route 3)
(a/k/a Mississippi Avenue)

Alton & Southern Railroad

Legend

- = Set Iron Pin
- = Found Iron Pipe



This drawing does not depict a
property boundary survey and is not
intended for fee conveyance.

Job No. SI09104
Drawing No. SI09104-S0610
Date: 2-23-09
Drawn By: LH



ZAHNER & ASSOCIATES, INC.

PROFESSIONAL LAND SURVEYORS

26 North Jackson Street
Perryville, Missouri 63775

(573) 547-1771
Fax (573) 547-1452

1-800-773-1771
zahner@zahnerinc.com

APR. 30. 2009

1674

“Lead Area S0703”
103 Sq.Ft.

A tract of land being part of Lot No. 219 of the “Third Subdivision of the Cahokia Commons”, Township 2 North, Range 10 West of the Third Principal Meridian, St. Clair County, Illinois, and being more particularly described as follows:

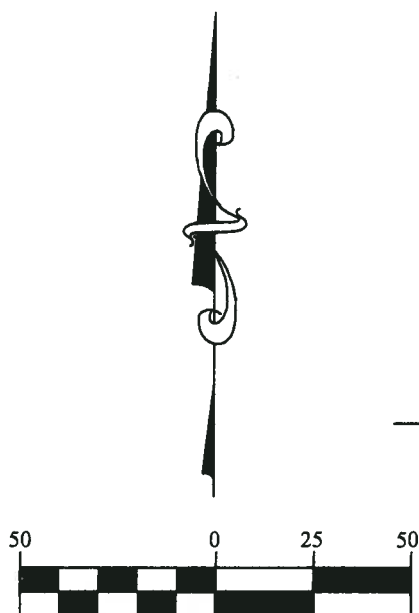
Commencing at an iron pipe at the intersection of the Northwest right-of-way line of the Alton & Southern Railroad with the East line of F.A. Route 14 (Illinois Route 3) (a/k/a Mississippi Avenue); Thence North $41^{\circ}20'42''$ East a distance of 944.18 feet to a cottonpicker spindle, said cottonpicker spindle being the point of beginning of the tract herein described; Thence South $88^{\circ}53'57''$ East a distance of 10.35 feet to a cottonpicker spindle; Thence South $00^{\circ}28'31''$ West a distance of 10.09 feet to a cottonpicker spindle; Thence North $87^{\circ}34'13''$ West a distance of 10.28 feet to a cottonpicker spindle; Thence North $00^{\circ}02'01''$ East a distance of 9.85 feet to the point of beginning containing 103 square feet.



Drawing of "Lead Area S0703"

APR. 30. 2009

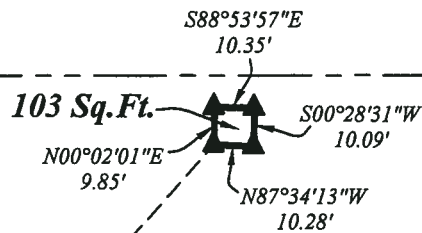
1675



GRAPHIC SCALE
Scale: 1" = 50'

Lot 222

Lot 219



**Third Subdivision
of the
Cahokia Commons
T 2 N, R 10 W**

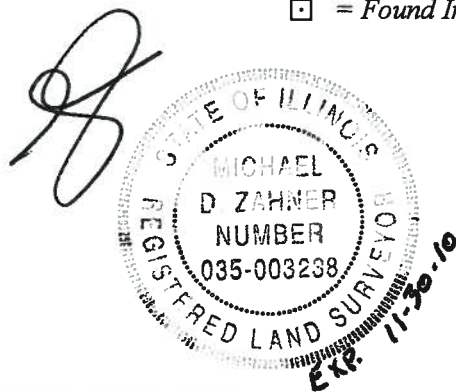
F.A. Route 14 (Illinois Route 3)
(a/k/a Mississippi Avenue)

Alton & Southern Railroad

N41°20'42"E
944.18'

Legend

- ▲ = Set Cottonpicker Spindle
- = Found Iron Pipe



*This drawing does not depict a
property boundary survey and is not
intended for fee conveyance.*

Job No. SI09104
Drawing No. SI09104-S0703
Date: 2-23-09
Drawn By: LH



ZAHNER & ASSOCIATES, INC.

PROFESSIONAL LAND SURVEYORS

26 North Jackson Street
Perryville, Missouri 63775

(573) 547-1771
Fax (573) 547-1452

1-800-773-1771
zahner@zahnerinc.com

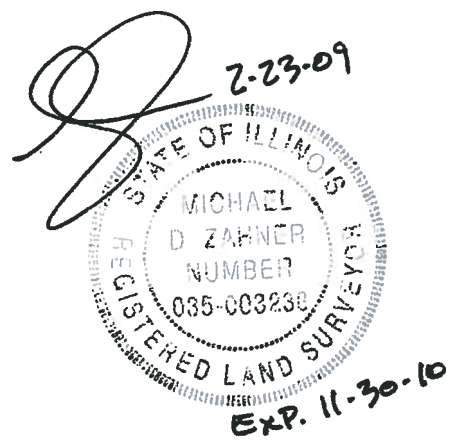
APR 30 2009

1676

“Lead Area S0707”
100 Sq.Ft.

A tract of land being part of Lot No. 222 of the “Third Subdivision of the Cahokia Commons”, Township 2 North, Range 10 West of the Third Principal Meridian, St. Clair County, Illinois, and being more particularly described as follows:

Commencing at an iron pipe at the intersection of the Northwest right-of-way line of the Alton & Southern Railroad with the East line of F.A. Route 14 (Illinois Route 3) (a/k/a Mississippi Avenue); Thence North $48^{\circ}05'42''$ East a distance of 1545.67 feet to a PK nail, said PK nail being the point of beginning of the tract herein described; Thence North $02^{\circ}03'09''$ East a distance of 9.92 feet to a PK nail; Thence South $85^{\circ}29'30''$ East a distance of 10.07 feet to a PK nail; Thence South $02^{\circ}03'00''$ West a distance of 10.05 feet to a PK nail; Thence North $84^{\circ}44'17''$ West a distance of 10.08 feet to the point of beginning containing 100 square feet.



Drawing of
"Lead Area S0707"

APR. 30, 2009

1677



Legend

- = Set PK Nail
- = Found Iron Pipe

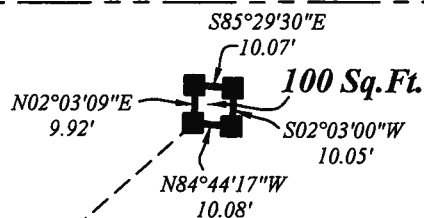


GRAPHIC SCALE

Scale: 1" = 50'

Lot 223

**Third Subdivision
of the
Cahokia Commons
T 2 N, R 10 W**



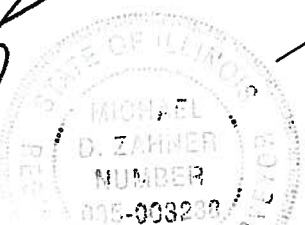
Lot 222

F.A. Route 14 (Illinois Route 3)
(a/k/a Mississippi Avenue)

Alton & Southern Railroad

Approx. R/W
Alton & Southern Railroad

*This drawing does not depict a
property boundary survey and is not
intended for fee conveyance.*



EXP. 11-30-10

Job No. SI09104
Drawing No. SI09104-S0707
Date: 2-23-09
Drawn By: LH



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zahner@zahnerinc.com

APR. 30. 2009

1678

"Lead Area S0715"
245 Sq.Ft.

A tract of land being part of Lot 219 of the "Third Subdivision of the Cahokia Commons", Township 2 North, Range 10 West of the Third Principal Meridian, St. Clair County, Illinois, and being more particularly described as follows:

Commencing at an iron pipe at the intersection of the Northwest right-of-way line of the Alton & Southern Railroad with the East line of F.A. Route 14 (Illinois Route 3) (a/k/a Mississippi Avenue); Thence North $51^{\circ}44'09''$ East a distance of 983.22 feet to an iron pin, said iron pin being the point of beginning of the tract herein described; Thence North $36^{\circ}24'26''$ East a distance of 20.04 feet to an iron pin; Thence South $55^{\circ}58'33''$ East a distance of 12.21 feet to an iron pin; Thence South $36^{\circ}19'05''$ West a distance of 20.00 feet to an iron pin; Thence North $56^{\circ}10'51''$ West a distance of 12.24 feet to the point of beginning containing 245 square feet.



**Drawing of
"Lead Area S0715"**

APR. 30, 2009

1679

Lot 222

Lot 219



GRAPHIC SCALE
Scale: 1" = 50'

**Third Subdivision
of the
Cahokia Commons
T 2 N, R 10 W**

245 Sq. Ft.
(0.01 Ac.)

N36°24'26"E 20.04'
S55°58'33"E 12.21'
N56°10'51"W 12.24'
S36°19'05"W 20.00'

Approx. R/W
Alton & Southern Railroad

F.A. Route 14 (Illinois Route 3)
(a/k/a Mississippi Avenue)

Alton & Southern Railroad

N51°44'09"E 983.22'

Legend

- = Set Iron Pin
- = Found Iron Pipe



*This drawing does not depict a
property boundary survey and is not
intended for fee conveyance.*

Job No. SI09104
Drawing No. SI09104-S0715
Date: 2-23-09
Drawn By: LH



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zahner@zahnerinc.com

APR. 30, 2009

1680

“Lead Area S0716”
1458 Sq.Ft. (0.03 Ac.)

A tract of land being part of Lot No. 223 of the “Third Subdivision of the Cahokia Commons”, Township 2 North, Range 10 West of the Third Principal Meridian, St. Clair County, Illinois, and being more particularly described as follows:

Commencing at an iron pipe at the intersection of the Northwest right-of-way line of the Alton & Southern Railroad with the East line of F.A. Route 14 (Illinois Route 3) (a/k/a Mississippi Avenue); Thence North $43^{\circ}13'38''$ East a distance of 1591.41 feet to a PK nail, said PK nail being the point of beginning of the tract herein described; Thence North $00^{\circ}00'16''$ West a distance of 62.58 feet to a PK nail; Thence South $88^{\circ}28'46''$ East a distance of 23.26 feet to a cottonpicker spindle; Thence South $00^{\circ}25'40''$ East a distance of 61.59 feet to a cottonpicker spindle; Thence South $89^{\circ}05'39''$ West a distance of 23.71 feet to the point of beginning containing 1458 square feet (0.03 acre).

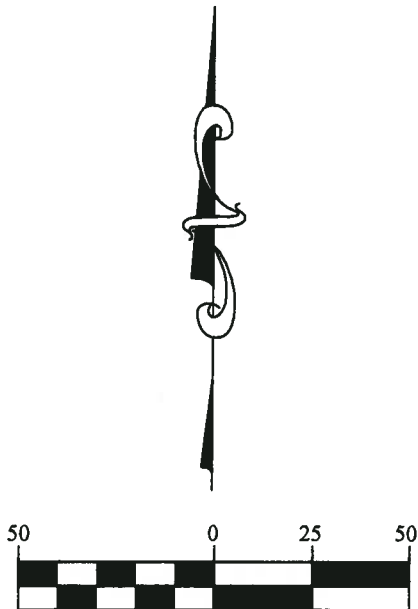


Drawing of "Lead Area S0716"

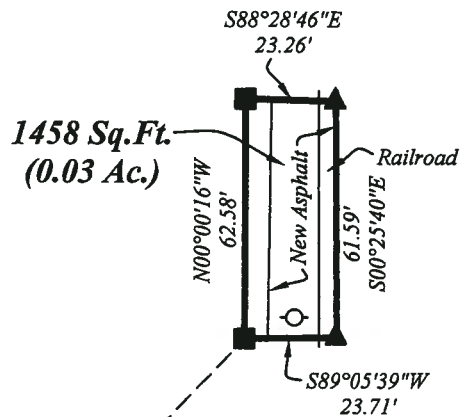
APR. 30. 2009

1681

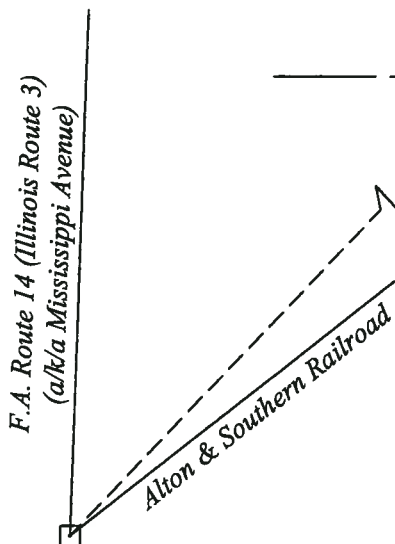
*Third Subdivision
of the
Cahokia Commons
T 2 N, R 10 W*



GRAPHIC SCALE
Scale: 1" = 50'



Lot 223

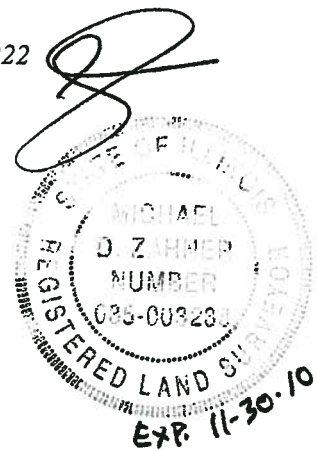


N43°13'38"E
1591.41'

Lot 222

Legend

- = Set PK Nail
- ▲ = Set Cottonpicker Spindle
- = Found Iron Pipe
- = Power Pole



*This drawing does not depict a
property boundary survey and is not
intended for fee conveyance.*

Job No. SI09104
Drawing No. SI09104-S0716
Date: 2-23-09
Drawn By: LH



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zahner@zahnerinc.com

"Lead Area S0717"
0.14 Ac.

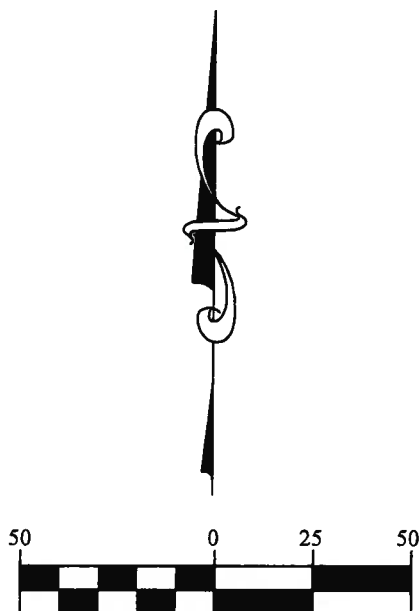
A tract of land being part of Lot No. 222 of the "Third Subdivision of the Cahokia Commons", Township 2 North, Range 10 West of the Third Principal Meridian, St. Clair County, Illinois, and being more particularly described as follows:

Commencing at an iron pipe at the intersection of the Northwest right-of-way line of the Alton & Southern Railroad with the East line of F.A. Route 14 (Illinois Route 3) (a/k/a Mississippi Avenue); Thence North $53^{\circ}28'37''$ East a distance of 1258.55 feet to a cottonpicker spindle, said cottonpicker spindle being the point of beginning of the tract herein described; Thence North $00^{\circ}39'13''$ West a distance of 23.53 feet to a PK nail; Thence North $39^{\circ}45'55''$ East a distance of 2.64 feet to a PK nail; Thence North $02^{\circ}10'02''$ West a distance of 7.08 feet to a PK nail; Thence North $18^{\circ}27'42''$ East a distance of 40.55 feet to a PK nail; Thence North $54^{\circ}55'02''$ East a distance of 50.36 feet to a PK nail; Thence North $28^{\circ}07'36''$ East a distance of 9.07 feet to a cottonpicker spindle; Thence North $80^{\circ}40'41''$ East a distance of 12.27 feet to a PK nail; Thence South $72^{\circ}50'53''$ East a distance of 40.56 feet to a PK nail; Thence South $03^{\circ}03'26''$ West a distance of 9.17 feet to a PK nail; Thence North $53^{\circ}55'49''$ East a distance of 3.64 feet to a PK nail; Thence South $19^{\circ}15'19''$ East a distance of 8.59 feet to a PK nail; Thence South $29^{\circ}45'40''$ East a distance of 6.40 feet to a cottonpicker spindle; Thence South $58^{\circ}09'54''$ West a distance of 55.25 feet to a PK nail; Thence South $56^{\circ}58'29''$ West a distance of 43.17 feet to a PK nail; Thence South $55^{\circ}17'18''$ West a distance of 43.40 feet to feet to the point of beginning containing 0.14 acre.

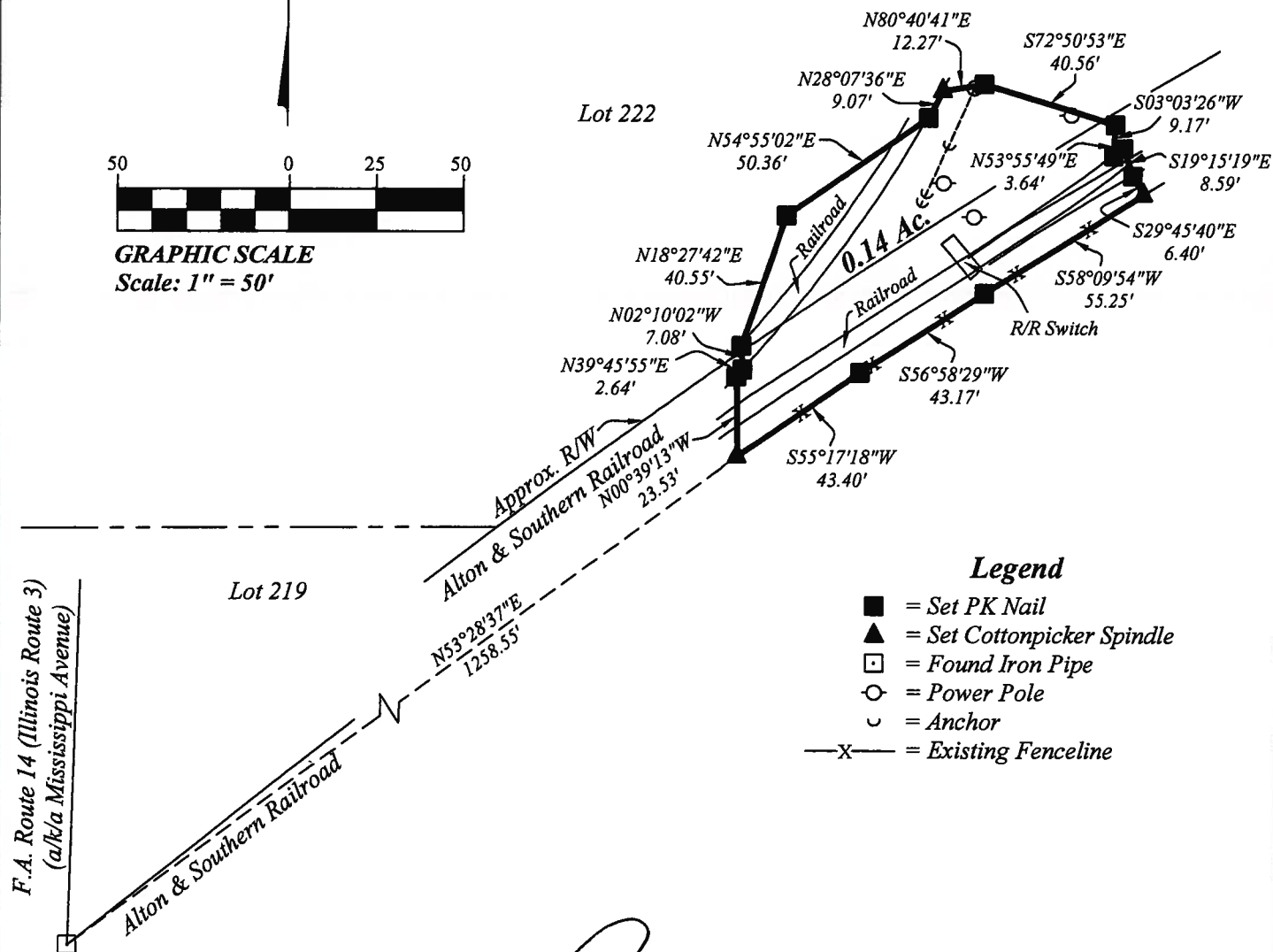


Drawing of "Lead Area S0717"

*Third Subdivision
of the
Cahokia Commons
T 2 N, R 10 W*

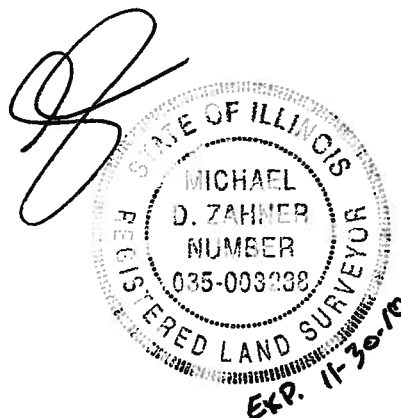


GRAPHIC SCALE
Scale: 1" = 50'



Legend

- = Set PK Nail
- ▲ = Set Cottonpicker Spindle
- = Found Iron Pipe
- = Power Pole
- ⊂ = Anchor
- X— = Existing Fenceline



*This drawing does not depict a
property boundary survey and is not
intended for fee conveyance.*

Job No. SI09104
Drawing No. SI09104-S0717
Date: 2-23-09
Drawn By: LH

APR. 30, 2009

1684



ZAHNER & ASSOCIATES, INC.

PROFESSIONAL LAND SURVEYORS

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zahner@zahnerinc.com

“Lead Area S0720”
0.14 Acre

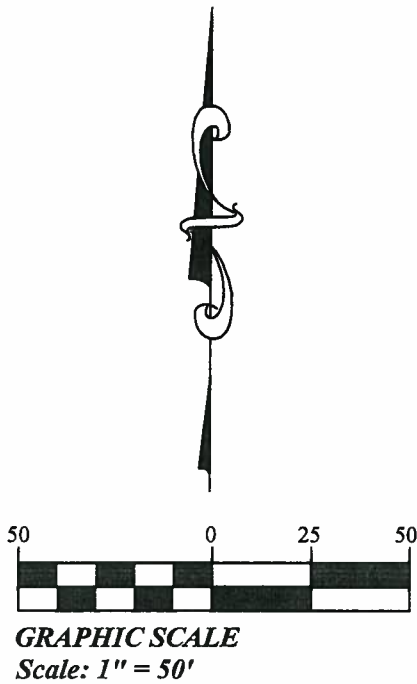
A tract of land being part of Lot No. 223 of the “Third Subdivision of the Cahokia Commons”, Township 2 North, Range 10 West of the Third Principal Meridian, St. Clair County, Illinois, and being more particularly described as follows:

Commencing at an iron pipe at the intersection of the Northwest right-of-way line of the Alton & Southern Railroad with the East line of F.A. Route 14 (Illinois Route 3) (a/k/a Mississippi Avenue); Thence North $31^{\circ}53'30''$ East a distance of 1465.43 feet to a PK nail, said PK nail being the point of beginning of the tract herein described; Thence North $08^{\circ}59'36''$ West a distance of 9.32 to a point; Thence North $06^{\circ}16'35''$ West a distance of 23.83 feet to a point; Thence North $02^{\circ}13'02''$ West a distance of 27.02 feet to a point; Thence North $00^{\circ}59'04''$ East a distance of 25.47 feet to a PK nail; Thence North $85^{\circ}50'39''$ East a distance of 16.43 feet to a PK nail; Thence North $00^{\circ}53'11''$ East a distance of 20.16 feet to a PK nail; Thence South $88^{\circ}40'01''$ East a distance of 21.61 feet to a PK nail; Thence North $87^{\circ}28'56''$ East a distance of 23.97 feet to a cottonpicker spindle; Thence South $10^{\circ}51'11''$ East a distance of 17.61 feet to a point; Thence South $08^{\circ}21'07''$ East a distance of 25.00 feet to a point; Thence South $05^{\circ}28'27''$ East a distance of 19.91 feet to a point; Thence South $02^{\circ}41'35''$ East a distance of 27.14 feet to a cottonpicker spindle; Thence North $89^{\circ}12'04''$ West a distance of 37.68 feet to a PK nail; Thence South $01^{\circ}03'14''$ West a distance of 20.22 feet to a PK nail; Thence North $87^{\circ}19'13''$ West a distance of 29.68 feet to the point of beginning containing 0.14 acre.



Drawing of "Lead Area S0720"

Lot 226

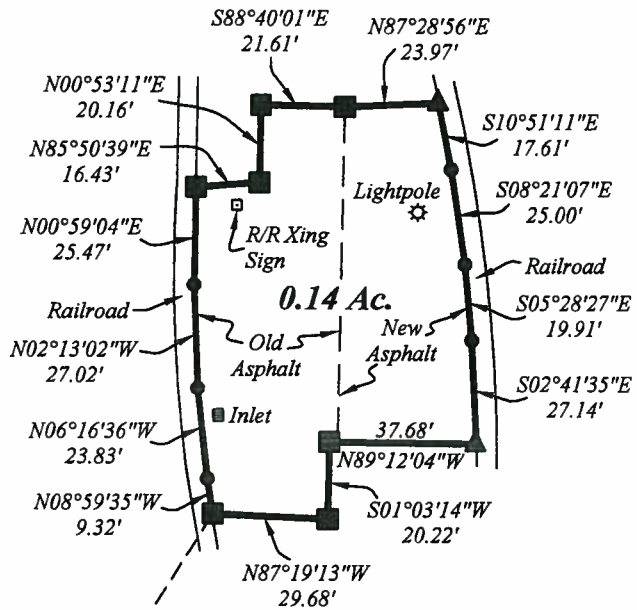


Lot 223

**Third Subdivision
of the
Cahokia Commons
T 2 N, R 10 W**

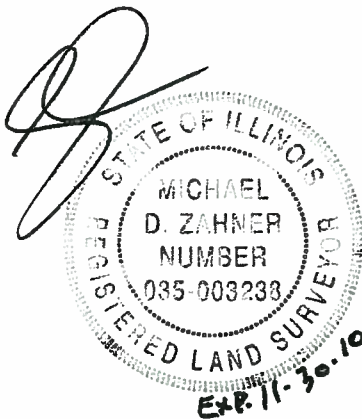
F.A. Route 14 (Illinois Route 3)
(a/k/a Mississippi Avenue)

Alton & Southern Railroad



Legend

- = Set PK Nail
- ▲ = Set Cottonpicker Spindle
- = Found Iron Pipe
- = Calculated Position - No Monument Set



This drawing does not depict a
property boundary survey and is not
intended for fee conveyance.

Job No. SI09104
Drawing No. SI09104-S0720
Date: 2-23-09
Drawn By: LH

Exhibit B-11**Groundwater Monitoring Wells to be Maintained**

The following monitoring wells are to be maintained so that samples can be collected and analyzed on the frequency and for the constituents required by the respective programs:

- Route 3 Drum Site (Exhibits B-8 and B-9): GM-31A and GM-58A
- Long-Term Groundwater Monitoring Program (Exhibit B-8): BSA(Benzene Storage Area)-MW-01S, BSA-MW-02D, BSA-MW-03D, BSA-MW-04D, and BSA-MW-05D, and CPA(Chlorobenzene Process Area)-MW-01D, CPA-MW-02D, CPA-MW-03D, CPA-MW-04D, and CPA-MW-05D.
- PCB Groundwater Quality Assessment Program (Exhibit B-8): PMA(PCB Manufacturing Area)-MW-01S, PMA-MW-01M, PMA-MW-02S, PMA-MW-02M, PMA-MW-03S, PMA-MW-03M, PMA-MW-04S, PMA-MW-04D, PMA-MW-05M, and PMA-MW-06D

★★★★★★★★★★

APPENDIX J

VILLAGE OF SAUGET ORDINANCE DOCUMENTS

STATE OF ILLINOIS)
COUNTY OF ST. CLAIR) ss
VILLAGE OF SAUGET

CERTIFICATE

I, the undersigned, Janice D. Delaney, do hereby CERTIFY that:

1. I am the duly qualified and acting Village Clerk of the Village of Sauget, an Illinois municipal corporation and home rule unit situated in St. Clair County, Illinois. As such, I have the care and custody of its minutes, ordinances, resolutions, and other documents and its official seal.
2. On the 12th day of October, 1999, a meeting of the President and Board of Trustees of said VILLAGE was duly and properly convened, held and conducted. If required, due proper and timely notice was given.
3. At said meeting, a quorum was present throughout.
4. At said meeting, that certain document entitled:
" AN ORDINANCE PROHIBITING THE USE OF GROUNDWATER AS A
POTABLE WATER SUPPLY BY THE INSTALLATION OR USE OF POTABLE
WATER SUPPLY WELLS OR BY ANY OTHER METHOD.

_____ "

Ordinance No. 99-5

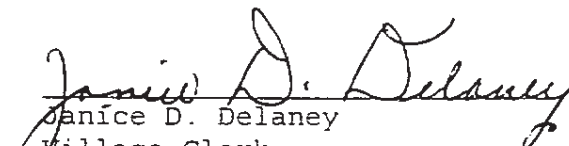
Resolution No. _____

was duly and properly adopted by the President and Board of Trustees of said VILLAGE and was thereupon duly approved by the President of said VILLAGE.

5. A true, correct and complete copy of said document is attached hereto and, by this reference, incorporated herein and made a part hereof.
6. The original of said document is in my possession and control as said Village Clerk.
7. The provisions of said document have not been altered, changed or amended in any manner whatever and are now in full force and effect.

Whereof, I have hereunto set my hand and affixed the official seal of said VILLAGE on this 14th day of June, 2005.

(SEAL)


Janice D. Delaney
Village Clerk
Village of Sauget, Illinois

ORDINANCE NO. 99-5

AN ORDINANCE PROHIBITING THE USE OF GROUNDWATER AS A POTABLE WATER SUPPLY BY THE INSTALLATION OR USE OF POTABLE WATER SUPPLY WELLS OR BY ANY OTHER METHOD

WHEREAS, certain properties in the Village of Sauget, Illinois, have been used over a period of time for commercial/industrial purposes; and

WHEREAS, because of said use, concentrations of certain chemical constituents in the groundwater beneath the Village may exceed Class I groundwater quality standards for potable resource groundwater, as set forth in 35 Illinois Administrative Code Part 620, or Tier I residential remediation objectives, as set forth in 35 Ill. Adm. Code Part 742; and

WHEREAS, the Village of Sauget desires to limit potential threats to human health from groundwater contamination while facilitating the redevelopment and productive use of properties that are the source of said chemical constituents;

NOW, THEREFORE, BE IT ORDAINED BY THE VILLAGE COUNCIL IN THE VILLAGE OF SAUGET, ILLINOIS:

Section One: Use of groundwater as a potable water supply prohibited.

The use or attempted use of groundwater from within the corporate limits of the Village as a potable water supply by the installation or drilling of wells or by any other method is hereby prohibited.

Section Two: Penalties

Any person violating the provisions of this ordinance shall be subject to a fine of up to \$500 for each violation.

Section Three: Definitions.

"Person" is any individual, partnership, co-partnership, firm, company, limited liability company, corporation, association, joint stock company, trust, estate, political subdivision, or any other legal entity, or their representatives, agents or assigns.

"Potable water" is any water used for human or domestic consumption, including, but not limited to, water used for drinking, bathing, swimming, washing dishes, or preparing foods.

Section Four: Repealer.

All ordinances or parts of ordinances in conflict with this ordinance are hereby repealed insofar as they are in conflict with this ordinance.

Section Five: Severability.

If any provision of this ordinance or its application to any person or under any circumstances is adjudged invalid, such adjudication shall not affect the validity of the ordinance as a whole or of any portion not adjudged invalid.

Section Six: Effective Date.

This ordinance shall be in full force and effect from and after its passage, approval and publication, as required by law.

INTRODUCED AND READ FOR THE FIRST TIME: October 12, 1999

READ FOR THE SECOND TIME:
(under suspension of rules): October 12, 1999

READ FOR THE THIRD TIME:
(under suspension of rules): October 12, 1999

ADOPTED AND ENACTED: October 12, 1999

ROLL CALL VOTE:

Ayes: Adele, McDaniel, Rich, Cates, Thornton, Sauget

Nays: NONE

Absent: NONE

Unfilled Vacancy:

APPROVED: October 12, 1999

APPROVED:

Paul Sauget

President (mayor) Pro Temore

ATTEST:

Betty Long Wilson
Village Clerk

STATE OF ILLINOIS)
COUNTY OF ST. CLAIR) ss
VILLAGE OF SAUGET

CERTIFICATE

I, the undersigned, Janice D. Delaney, do hereby CERTIFY that:

1. I am the duly qualified and acting Village Clerk of the Village of Sauget, an Illinois municipal corporation and home rule unit situated in St. Clair County, Illinois. As such, I have the care and custody of its minutes, ordinances, resolutions, and other documents and its official seal.
2. On the 10th day of May, 2005, a meeting of the President and Board of Trustees of said VILLAGE was duly and properly convened, held and conducted. If required, due proper and timely notice was given.
3. At said meeting, a quorum was present throughout.
4. At said meeting, that certain document entitled:
" AMENDING ORDINANCE NO. 99-5 "AN ORDINANCE PROHIBITING
THE USE OF GROUNDWATER AS A POTABLE WATER SUPPLY BY THE
INSTALLATION OR USE OF POTABLE WATER SUPPLY WELLS OR BY
ANY OTHER METHODS".

- Ordinance No. 05-03 Resolution No. _____
- was duly and properly adopted by the President and Board of Trustees of said VILLAGE and was thereupon duly approved by the President of said VILLAGE.
5. A true, correct and complete copy of said document is attached hereto and, by this reference, incorporated herein and made a part hereof.
6. The original of said document is in my possession and control as said Village Clerk.
7. The provisions of said document have not been altered, changed or amended in any manner whatever and are now in full force and effect.

Whereof, I have hereunto set my hand and affixed the official seal of said VILLAGE on this 6th day of June, 20 05.

(SEAL)


Janice D. Delaney
Village Clerk
Village of Sauget, Illinois

VILLAGE OF SAUGET
ORDINANCE NO. 05-03
AMENDING ORDINANCE NO. 99-5 "AN ORDINANCE PROHIBITING THE
USE OF GROUNDWATER AS A POTABLE WATER SUPPLY BY THE
INSTALLATION OR USE OF POTABLE WATER SUPPLY WELLS OR BY ANY
OTHER METHODS

WHEREAS, the Village of Sauget Board of Trustees passed ordinance No. 99-5 which prohibited the use of groundwater as a potable water supply but failed to clearly indicate that said prohibition extends to the Village itself, as a municipal body; and,

WHEREAS, it is necessary to make this clarification to meet certain residential remedial requirements of the Illinois Environmental Protection Agency.

NOW THEREFORE BE IT HEREBY ORDAINED BY THE BOARD OF TRUSTEES OF THE VILLAGE OF SAUGET, ST. CLAIR COUNTY, ILLINOIS AS FOLLOWS:

1. Section 1 Ordinance No. 99-5 is amended by the addition of a final sentence to Section 1 as follows: " This prohibition expressly includes the Village of Sauget as a municipal body."
2. Section 2 All ordinances or parts of ordinances is conflict with this ordinance are hereby repealed insofar as they are in conflict with this ordinance.
3. Section 3 If any provision of this ordinance or its application to any person or under any circumstances is adjudged invalid, such adjudication shall not affect the validity of the ordinance as a whole or of any portion not adjudged invalid.
4. Section 4 This ordinance shall be in full force and effect from and after its passage, approval and publication, as required by law.

INTRODUCED AND READ FOR THE FIRST TIME: May 10, 2005
READ FOR THE SECOND TIME: May 10, 2005
(under suspension of rules)
READ FOR THE THIRD TIME: May 10, 2005
(under suspension of rules)
ADOPTED AND ENACTED: May 10, 2005

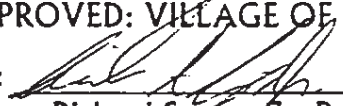
ROLL CALL VOTE:

	AYE	NAY	ABSENT
ADELE	<u>X</u>	_____	_____
MCDANIEL	<u>X</u>	_____	_____
WORS	_____	_____	<u>X</u>
CATES	_____	_____	<u>X</u>
THORNTON	<u>X</u>	_____	_____
NICHOLSON	<u>X</u>	_____	_____

APPROVED: May 10, 2005

APPROVED: VILLAGE OF SAUGET

BY:


Richard Sauget, Jr. President

ATTEST:


Village Clerk
VILLAGE OF SAUGET, ILLINOIS