

EAST PARCEL CORRECTIVE MEASURES IMPLEMENTATION OPERATIONS AND MAINTENANCE REPORT, 2016

Former Rhone-Poulenc Site
Tukwila, Washington

Prepared for:

Container Properties, LLC
Tukwila, Washington

Prepared by:

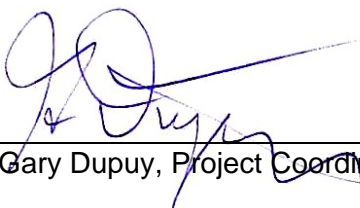
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March 2017

Project No. 0087690060



On behalf of the respondents, I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to evaluate the information submitted. I certify that the information contained in or accompanying this East Parcel Corrective Measures Implementation Operations and Maintenance Report, 2016, is true, accurate, and complete. As to those portions of the report for which I cannot personally verify accuracy, I certify under penalty of law that this report and all attachments were prepared in accordance with procedures designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who may manage the system, or those directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

By: 
Mr. Gary Dupuy, Project Coordinator

Date: March 14, 2017




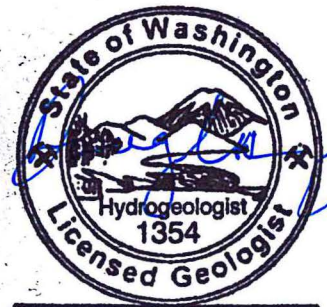
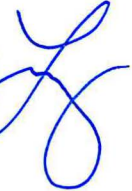
**EAST PARCEL CORRECTIVE MEASURES
IMPLEMENTATION OPERATIONS AND MAINTENANCE
REPORT, 2016**

Former Rhone-Poulenc Site
Tukwila, Washington

March 14, 2017
Project 0087690060

This report was prepared by the staff of Amec Foster Wheeler Environment & Infrastructure, Inc., under the supervision of the Geologist whose seal and signature appear hereon.

The findings, recommendations, specifications, or professional opinions are presented within the limits described by the client, in accordance with generally accepted professional geologic practice. No warranty is expressed or implied.

   3/14/17

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EXECUTIVE SUMMARY

This report summarizes operation and maintenance activities in 2016 and evaluates the performance of corrective measures implementation (CMI) on the East Parcel (now known as the Museum of Flight Property) and in the southeastern corner of the International Auto Auctions, Inc. (IAAI), Lease Property of the former Rhone-Poulenc facility in Tukwila, Washington. The groundwater was monitored in the first half of 2016 to evaluate toluene concentrations in groundwater after the biosparge system was shut down in August 2015. The CMI was dismantled and groundwater monitoring wells, air sparge wells, and associated piping were decommissioned and removed in November 2016, after approval from the United State Environmental Protection Agency (EPA).

OPERATIONS SUMMARY

A remedy was not employed during 2016. Groundwater was monitored during the first two quarters of 2016 to evaluate groundwater conditions for the final two of four consecutive quarters after the system was shut down in August 2015.

PROGRESS WITH RESPECT TO SYSTEM GOALS

Toluene concentrations in groundwater and a suite of groundwater quality parameters are monitored on a regular basis to assess performance of the remedy toward achieving cleanup goals. Toluene concentrations in all groundwater samples were below the final media cleanup standard during the two quarterly monitoring events completed in 2016. After the second quarter monitoring event, EPA approved the dismantling of the CMI and to cease groundwater monitoring.

MODIFICATIONS TO CMI OPERATION AND MONITORING

Groundwater monitoring has not been conducted in the east parcel since the June 2016 sampling event, which was the fourth consecutive sampling event since shut-down of the biosparge system, in which toluene concentrations in groundwater were below the final media cleanup standard. We request formal approval from EPA for closure of the Museum of Flight Property.



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ACRONYMS AND ABBREVIATIONS

µg/L	micrograms per liter
Amec Foster Wheeler	Amec Foster Wheeler Environment & Infrastructure, Inc. (formerly AMEC Geomatrix, Inc., and Geomatrix Consultants, Inc.)
BTEX	benzene, toluene, ethylbenzene, and xylenes
CMI	corrective measures implementation
COC	constituent of concern
EPA	Environmental Protection Agency
GAC	granular activated carbon
HCIM	hydraulic control interim measure
IAAI	International Auto Auctions, Inc.
ICE	internal combustion engine
O&M	operations and maintenance
Order	Administrative Order on Consent No. 1091-11-20-3008(h)
RCRA	Resource Conservation and Recovery Act
site	former Rhone-Poulenc facility located at 9229 East Marginal Way South, Tukwila, Washington
SVE	soil vapor extraction

EAST PARCEL CORRECTIVE MEASURES IMPLEMENTATION OPERATIONS AND MAINTENANCE REPORT, 2016

Former Rhone-Poulenc Site
Tukwila, Washington

1.0 INTRODUCTION

Amec Foster Wheeler Environment & Infrastructure, Inc. (Amec Foster Wheeler) has prepared this annual operations and maintenance (O&M) report on behalf of Container Properties, LLC. This report has been prepared pursuant to the requirements of the Final East Parcel Corrective Measures Implementation (CMI) Work Plan (Geomatrix, 2007), which was approved by the U.S. Environmental Protection Agency (EPA) on January 28, 2008. The former Rhone-Poulenc facility (the site) is located along the Duwamish Waterway at 9229 East Marginal Way South, Tukwila, Washington (Figure 1). Two separate corrective measures are being conducted at the site: a hydraulic control interim measure (HCIM) and the CMI on the East Parcel. The 2016 O&M report for the HCIM has been submitted to EPA as a separate document (Amec Foster Wheeler, 2017). The CMI work at the site is currently being conducted pursuant to the March 31, 1993, Administrative Order on Consent No. 1091-11-20-3008(h) (Order) between the Respondents (Container Properties, Rhodia, Inc., and Bayer CropScience) and EPA Region 10, as amended. Corrective actions under the Order are being overseen directly by EPA.

Since site closure in 1991, extensive investigations have been completed at the site to evaluate environmental impacts on soil and groundwater from the former vanillin plant. The investigations have followed the Resource Conservation and Recovery Act (RCRA) process from an initial RCRA Facility Assessment (PRC, 1990) through a 1991 site assessment (Landau, 1991), a RCRA Facility Investigation (CH2M HILL, 1995), and a Risk Assessment/Media Cleanup Standards Report (AGI Technologies, 1999). Studies completed subsequent to the RCRA facility investigation include geoprobe and geotechnical investigations conducted in support of the interim measure design (URS, 2002) and a geoprobe investigation (AGI Technologies, 2001).

The entire site was redeveloped, and additional investigations were performed in 2006. The site was divided into two parcels, the East Parcel and the West Parcel. The East Parcel was extensively investigated and remediated. EPA provided a partial determination of “Corrective Action Complete without Controls” for the East Parcel in a letter dated December 20, 2006 (EPA, 2006). The West Parcel was graded and repaved as part of the redevelopment. The East Parcel is now owned by the Museum of Flight, and the West Parcel is now leased by International Auto Auctions, Inc. (IAAI).



Toluene is the only constituent of concern (COC) pursuant to the requirements of the East Parcel CMI work plan and the only remaining COC on the Museum of Flight property, although other COCs exist on the IAAI lease property. Toluene-affected groundwater is found primarily in the southwest portion of the West Parcel, but has been detected in soil and groundwater in one small area along the southern end of the boundary between the IAAI lease property and the Museum of Flight property. The corrective measures discussed in this report targeted the small area of affected groundwater near the parcel boundary, which is referred to as the CMI Area (Figure 2).

1.1 PURPOSE OF THIS REPORT

The purpose of this CMI O&M report is to evaluate the performance of the corrective measures in remediating the toluene-contaminated groundwater beneath the CMI Area during 2016. The final CMI work plan (Geomatrix, 2007) required evaluation of the effectiveness of the CMI system in treating groundwater, using data collected from monitoring wells MW-64, MW-65, and MW-66 (Figure 2). The organization of this CMI O&M report is consistent with the EPA report template (EPA, 2005). This O&M report will also request formal approval of remedy completion in the CMI Area.

The initial groundwater remedy used in the East Parcel CMI Area consisted of a biosparge/vent system, which was installed in February 2008. Soil vapor was treated using granular activated carbon (GAC). The GAC vapor treatment system was replaced in December 2008 with a soil vapor extraction–internal combustion engine (SVE-ICE) system. The SVE-ICE system used an ICE to create a vacuum to extract soil vapor and then treat the extracted soil vapors by combustion. The SVE-ICE system was installed to extract toluene at a higher rate, because the toluene concentrations in the vapor were initially higher than expected. Once the toluene concentrations had decreased, there was no need for the SVE-ICE system, and the original biosparge/vent system was sufficient for treating the remaining toluene collected by the system. In November 2009, the SVE-ICE system was shut down, and the biosparge/vent system was reconnected. In the 2009 East Parcel CMI O&M report (AMEC Geomatrix, 2010), Amec Foster Wheeler proposed to shut down active operation of the biosparge/vent system and to continue to monitor toluene concentrations for four post-shutdown sampling events. In a letter dated March 30, 2010, EPA approved the proposal to shut down active operation of the biosparge/vent system, with modifications (EPA, 2010).

The biosparge/vent system was shut down on June 2, 2010. In a letter dated April 22, 2011 (EPA, 2011), EPA approved the 2010 East Parcel CMI O&M report (AMEC Geomatrix, 2011a) and noted the rebound in toluene concentrations in groundwater samples collected during the December 2010 sampling event. EPA approved continuation of quarterly monitoring for the March 2011 sampling event to monitor toluene concentrations in groundwater (EPA, 2011). The toluene results reported in the first quarter 2011 groundwater monitoring report (AMEC Geomatrix, 2011b) were below the action

levels discussed in EPA's letter; therefore, groundwater samples were collected again in June 2011 for the second quarter sampling event, during which the toluene concentrations exceeded the action levels. EPA was notified of this exceedance in late July 2011 (AMEC Geomatrix, 2011c).

Amec Foster Wheeler submitted a work plan for restarting the biosparge system to EPA (AMEC, 2011). EPA approved this work plan on September 29, 2011. The new biosparge compressor was installed in the pretreatment building, and installation of new biosparge distribution piping was completed in January 2012. Biosparging operations began on January 5, 2012, focused on three biosparge wells (AS-1, AS-2, and AS-4), which are located downgradient of the toluene source area and shown on Figure 2 (AMEC, 2011). In the 2014 East Parcel CMI O&M report (Amec Foster Wheeler, 2015), we recommended shutting down the biosparge system due to the low toluene concentrations. The biosparge system was shut down on August 11, 2015, following receipt of EPA's approval letter dated July 14, 2015.

Four subsequent groundwater sampling events were conducted in September and December 2015, and March and July 2016, during which toluene concentrations remained below detection in groundwater samples collected from all of the monitoring wells. In the second quarter 2016 groundwater monitoring report (Amec Foster Wheeler, 2016a), Amec Foster Wheeler requested permission to end groundwater sampling and to decommission the air sparge, soil vapor extraction, and groundwater monitoring wells and the associated piping. EPA concurred with our request in a letter dated August 26, 2016; however, EPA requested that monitoring wells MW-64 and MW-66 on the IAAI Lease property not be abandoned at this time.

1.2 BRIEF SUMMARY OF CONCEPTUAL SITE MODEL

This section briefly summarizes the conceptual site model for the site. The source of the toluene has not been positively identified; however, a toluene transfer line associated with the former Rhone-Poulenc facility is the most likely source of the toluene identified in soils (Figure 3) and groundwater (Figure 4) within the CMI Area. An extensive review of historical plant drawings and previous site investigation reports indicates the toluene transfer line as the only known source of toluene near the boundary between the Museum of Flight Property and the IAAI Lease Property. No other potential toluene sources or uses have been identified near this area. The date of the toluene release is unknown.

A conceptual site model for the toluene release addressed by the CMI is presented in Figure 5 and summarized below.



Toluene was released into the subsurface and exceeded residual saturation levels in the vicinity of the release, causing toluene to flow downward through the generally silty soils present in the upper portion of the vadose zone. Although the released toluene may have spread laterally along contacts between different soil units, it is likely that the toluene generally flowed downward, toward the water table (Figure 5).

Once the toluene reached the groundwater, it spread laterally within more highly permeable sandy units and was adsorbed within less highly permeable silts. Considerable smearing may have occurred as a result of the tidally induced fluctuations in the water table.

Toluene that reached the higher permeability, saturated sands present at 12 to 13 feet below ground surface was observed as a separate hydrocarbon phase at the top of the water table during the excavation on the Museum of Flight Property.

Although free product was known to be present over a small area along the boundary between the IAAI Lease Property and the Museum of Flight Property, dissolved-phase toluene also was identified in groundwater monitoring wells.

Tidal variation in groundwater level affects the patterns of migration of toluene-affected groundwater and results in low groundwater velocities with a flow direction downgradient toward Slip No. 6.

The rebound in toluene concentrations in the June 2011 groundwater sample from MW-64 combined with the delay in the rebound indicates that adsorbed toluene present in the finer grained silts is dissolving back into groundwater. The SVE/air sparging system reduced toluene concentrations in groundwater but had more difficulty reducing concentrations of toluene adsorbed in the silt.

Past operation of the biosparge/vent system removed most of the easily accessible toluene from the subsurface. The biosparge component of the CMI introduced additional oxygen to the subsurface to stimulate aerobic biodegradation of dissolved and adsorbed toluene in the silt, although removal of toluene within the silt was expected to be slow. The daily tidal fluctuation in water levels helped distribute the dissolved oxygen through the subsurface, to both saturated and unsaturated soils. Toluene concentrations in groundwater samples collected quarterly from the monitoring wells in the CMI were below cleanup levels for nine consecutive sampling events during biosparge operation and for four consecutive sampling events after the biosparge system was shut down.

1.3 STATEMENT OF REMEDY GOALS AND CONDITIONS FOR TERMINATING THE GROUNDWATER REMEDY

The remedy used at this site initially consisted of a biosparge/vent system. This original system was replaced by an SVE-ICE system, and then the original biosparge/vent system was reconnected once the toluene concentrations had decreased. Operation of the biosparge/vent system continued until June 2010. A revised biosparge system was restarted in January 2012 and operation continued until August 2015. The remedy goal is to reduce toluene concentrations in groundwater to the final media cleanup standard of 1,000 micrograms per liter ($\mu\text{g/L}$) for the Museum of Flight Property. The toluene concentrations have decreased to below the final medial cleanup standard for 13 consecutive quarters, with the final four quarters remaining below the final media cleanup standard after the biosparge system was shut down.

To evaluate whether goals are being attained and progress is being made with respect to these goals, the following were monitored during the first two quarters of 2016:

- Remediation system operating parameters;
- Groundwater elevations;
- Toluene concentrations in groundwater; and
- The groundwater quality parameters pH, specific conductivity, dissolved oxygen, oxygen-reduction potential, turbidity, and temperature.

As described in the CMI work plan (Geomatrix, 2007), three monitoring wells in the CMI Area (MW-64, MW-65, and MW-66 on Figure 2) were monitored during the first and second quarters for water levels, general water quality parameters, and COCs.

The toluene concentrations have decreased to below the final medial cleanup standard for 13 consecutive quarters, with the final four quarters remaining below the final media cleanup standard after the biosparge system was shut down. Amec Foster Wheeler requested to terminate the Corrective Measure and cease groundwater monitoring after the second quarter 2016 sampling event.

1.4 REMEDY DESCRIPTION

The remedy employed through August 2015 consisted of a revised biosparge system to treat the affected groundwater in situ. Biosparging involves injecting air into the groundwater to increase dissolved oxygen concentrations in groundwater, creating conditions that are more favorable to microbial degradation of hydrocarbons in groundwater and in the capillary fringe. The piping and instrumentation diagram for the revised biosparge system is shown in Figure 6. The system consisted



of three biosparge wells (AS-1, AS-2, and AS-4) located on the IAAI Lease Property (Figure 2). Typical details of the biosparge wells are shown in Figure 7. A rotary vane compressor installed in the groundwater pretreatment building was used to inject air at low pressure into the well screens (below the water table) to enhance biodegradation of the remaining toluene. Air distribution to the three wells is provided by aboveground piping.

The biosparge wells (AS-1 through AS-7), vent wells (Vent-1 and Vent-3 through Vent-7), the piping associated with the biosparge and vent wells, and monitoring well MW-65 were decommissioned and removed in November of 2016 (Table 1). Monitoring wells MW-64 and MW-66 remain intact. The well decommissioning logs are included in Attachment A. Figure 10 shows the site layout after dismantling the CMI.

1.5 INTERACTION WITH PUBLIC AND/OR AGENCIES

There has been occasional interaction between Amec Foster Wheeler and EPA throughout 2016, via emails and telephone conversations with the EPA project manager and staff. No other regulatory agencies were associated with the site during 2016. There was no significant interaction with the public during 2016.

2.0 OPERATIONS SUMMARY

Section 2.0 describes O&M activities that occurred in 2016. A timeline of events documenting operation of the systems is provided in Table 2. The biosparge system was not in operation during 2016, so there are no downtime events to report. Operational issues that occurred in 2016 are detailed in Table 3, which includes dates and causes of problems, as well as the actions taken to resolve the problems.

2.1 OPERATIONAL DATA AND PROCESS MONITORING DATA

Table 2 presents a timeline of events for the biosparge system from January through December 2016. This table summarizes the major deliverables and milestones related to operation of the system in 2016. Information in this table was summarized from the monthly progress reports submitted to EPA as required under the Order, and the information was verified against operational records.

2.2 UTILITIES, CONSUMABLES, AND WASTE HANDLING/DISPOSAL

This section describes on-site utilities and the procedures for handling waste and consumables associated with the East Parcel CMI.

2.2.1 Utilities Used

No utilities were used during 2016.

2.2.2 Consumables Used

No consumables were used during 2016.

2.2.3 Waste Handling/Disposal

Purge water from groundwater monitoring was treated by the HCIM pretreatment system and discharged to the sanitary sewer under the existing King County authorization.

2.3 PROBLEMS ENCOUNTERED WITH SYSTEM COMPONENT OPERATION

The biosparge system was not in operation during 2016.

2.4 SYSTEM MODIFICATIONS AND MAINTENANCE

The biosparge system was not in operation during 2016, so there were no system modifications or maintenance performed in 2016.

3.0 SUBSURFACE PERFORMANCE SUMMARY

This section summarizes the results of performance monitoring performed during 2016.

3.1 SAMPLING EVENTS DURING THIS REPORTING PERIOD

Amec Foster Wheeler conducted two quarterly groundwater monitoring events for the CMI Area in 2016 (Amec Foster Wheeler 2016a and 2016b). Performance monitoring of the CMI was performed pursuant to the East Parcel CMI work plan (Geomatrix, 2007), which specified the following:

- Collection of groundwater samples from MW-64, MW-65, and MW-66; and
- Analysis of groundwater samples from MW-64, MW-65, and MW-66 for benzene, toluene, ethylbenzene, and xylenes (BTEX).

The well sampling locations are shown in Figure 2. Construction data for monitoring wells within the CMI Area are provided in Table 4. Groundwater elevations measured during the 2016 monitoring events are provided in Table 5. Field measurements of water quality parameters and laboratory analytical results for the 2016 groundwater monitoring events are summarized in Tables 6 and 7, respectively. Analytical results for toluene in groundwater samples from each well during the 2016 performance monitoring events are shown on Figure 8.



3.2 SAMPLING RESULTS AND INTERPRETATION

This section describes the results of water level measurements and water quality analyses, and analyzes CMI performance based on the data.

3.2.1 Water Levels

Table 5 summarizes the water levels measured at the site in 2016.

3.2.2 General Parameter Field Measurements

Table 6 summarizes results for general field parameters measured at the site in 2016.

3.2.3 Groundwater Analytical Results

Table 7 summarizes analytical results for toluene, BTEX and soluble reactive phosphorus from the 2016 performance monitoring events.

3.2.3.1 Toluene

The final media cleanup standard for toluene in groundwater at the Museum of Flight Property is 1,000 µg/L (EPA, 2006). The toluene concentrations in groundwater samples collected from the East Parcel CMI wells are shown in Table 7 and on Figure 8. Figure 9 presents a graph of toluene concentrations and water level over time in each well. Toluene was not detected in the groundwater samples collected from monitoring wells MW-64, MW-65 or MW-66 during the two monitoring events conducted in 2016.

3.2.3.2 Benzene, Ethylbenzene, and Xylenes

Cleanup standards have not been established for the other BTEX compounds (benzene, ethylbenzene, m,p-xylene, and o-xylene). As shown in Table 7, there were no detectable concentrations of any other BTEX compounds in groundwater samples collected during the 2016 monitoring events.

3.3 INTERPRETATION OF PROGRESS TOWARD SYSTEM GOALS

This section evaluates progress toward achieving the goals of the CMI. The goals of the CMI at the site are (1) to attain the final media cleanup standard established for toluene in groundwater beneath the Museum of Flight Property, and (2) to reduce toluene contamination within a defined area in the eastern portion of the IAAI Lease Property in order to prevent toluene migration from the IAAI Lease Property to the Museum of Flight Property. Toluene was not detected in groundwater during the monitoring events that took place in 2016 and the second quarter sampling event marked the fourth

consecutive quarter with toluene concentrations in all wells below the final media cleanup standard. EPA approved the request to dismantle the CMI and to cease groundwater monitoring.

4.0 RECOMMENDED ACTIONS

There are no further recommended actions, and the Respondents request a formal acknowledgement of completion of the CMI.

5.0 REFERENCES

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- AGI Technologies, 2001, Summer 2001 Geoprobe Investigation Report, Former Rhone-Poulenc East Marginal Way Facility, Tukwila, Washington, October 8.
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- Amec Foster Wheeler, 2016a, East Parcel Corrective Measures Implementation Groundwater Monitoring Report, Second Quarter 2016, Former Rhone-Poulenc Site, Tukwila, Washington: Prepared for Container Properties LLC, July 18.
- Amec Foster Wheeler, 2016b, East Parcel Corrective Measures Implementation Groundwater Monitoring Report, First Quarter 2016, Former Rhone-Poulenc Site, Tukwila, Washington: Prepared for Container Properties LLC, May 10.
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- AMEC Geomatrix, Inc. (AMEC Geomatrix), 2010, East Parcel Corrective Measures Implementation Operations and Maintenance Report, 2009, Former Rhone-Poulenc Site, Tukwila, Washington: Prepared for Container Properties LLC, March.
- AMEC Geomatrix, 2011a, East Parcel Corrective Measures Implementation Operations and Maintenance Report, 2010, Former Rhone-Poulenc Site, Tukwila, Washington: Prepared for Container Properties LLC, March 15.



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PRC Environmental Management (PRC), 1990, Rhone-Poulenc, Inc., Marginal Way Facility, Seattle, Washington, RCRA Facility Assessment, March 19.

URS Corporation (URS), 2002, Hydraulic Control Interim Measure Construction Work Plan, October 25.

U.S. Environmental Protection Agency (EPA), 2005, O&M Report Template for Ground Water Remedies, EPA 542-R-05-010, April.

U.S. Environmental Protection Agency (EPA), 2006, Letter to Gary Dupuy (Geomatrix Consultants, Inc.) from Richard Albright, RE: Final Decisions Regarding Corrective Action for the East Parcel Administrative Order on Consent for Corrective Action (Order) Under the Resource Conservation and Recovery Act (RCRA), December 20.

U.S. Environmental Protection Agency (EPA), 2010, Letter to Gary Dupuy (AMEC Geomatrix, Inc.) from Christy Brown, RE Approval of Request for Direct Vapor Discharge, Administrative Order on Consent for Corrective Action ("Order") Under the Resource Conservation and Recovery Act ("RCRA") Docket No. 1091-11-20-3008(h), Rhone-Poulenc Inc. Marginal Way Facility WAD 00928 2302, January 26.

U.S. Environmental Protection Agency (EPA), 2011, Letter to Gary Dupuy (AMEC Geomatrix, Inc.) from Christy Brown, RE Approval of East Parcel Corrective Measures Implementation Operations and Maintenance Report, 2010, Administrative Order on Consent for Corrective Action ("Order") Under the Resource Conservation and Recovery Act ("RCRA") Docket No. 1091-11-20-3008(h), Rhone-Poulenc Inc. Marginal Way Facility WAD 00928 2302, April 22.



TABLE 1

WELLS ABANDONED AFTER SHUTDOWN

Former Rhone-Poulenc Site

Tukwila, Washington

Well Name	Abandoned	Method Used
MW-65	yes	bentonite chips/hydrated
V-1	yes	bentonite chips/hydrated
V-2	no	overdrilled/grouted
V-3	yes	bentonite chips/hydrated
V-4	yes	bentonite chips/hydrated
V-5	yes	bentonite chips/hydrated
V-6	yes	bentonite chips/hydrated
V-7	yes	bentonite chips/hydrated
AS-1	yes	bentonite chips/hydrated
AS-2	yes	bentonite chips/hydrated
AS-3	yes	bentonite chips/hydrated
AS-4	yes	bentonite chips/hydrated
AS-5	yes	bentonite chips/hydrated
AS-6	yes	bentonite chips/hydrated
AS-7	yes	bentonite chips/hydrated

Notes:

1. V-2 was damaged and thus must be overdrilled.

TABLE 2
EAST PARCEL CORRECTIVE MEASURES IMPLEMENTATION
TIMELINE FOR 2016 ¹
Former Rhone-Poulenc Site
Tukwila, Washington

Approximate Date	Description or Activity
January 2016	<ul style="list-style-type: none"> The Monthly Progress Report for December 2015 was submitted to EPA on January 8.
February 2016	<ul style="list-style-type: none"> The East Parcel CMI Groundwater Monitoring Report, Fourth Quarter 2015, was submitted to EPA on February 4. The Monthly Progress Report for January 2016 was submitted to EPA on February 10.
March 2016	<ul style="list-style-type: none"> The Monthly Progress Report for February 2016 was submitted to EPA on March 10. The East Parcel CMI 2015 Operations and Maintenance Report was submitted to EPA on March 14. The First Quarter 2016 groundwater samples were collected in the CMI Area on March 16 and groundwater elevations were measured on March 17.
April 2016	<ul style="list-style-type: none"> The Monthly Progress Report for March 2016 was submitted to EPA on April 11.
May 2016	<ul style="list-style-type: none"> The Monthly Progress Report for April 2016 was submitted to EPA on May 10. The East Parcel CMI Groundwater Monitoring Report, First Quarter 2016, was submitted to EPA on May 10.
June 2016	<ul style="list-style-type: none"> The Monthly Progress Report for May 2016 was submitted to EPA on June 10. The Second Quarter 2016 groundwater samples were collected on June 7, and quarterly groundwater elevations were measured in the CMI Area on June 8.
July 2016	<ul style="list-style-type: none"> The Monthly Progress Report for June 2016 was submitted to EPA on July 11. The East Parcel CMI Groundwater Monitoring Report, Second Quarter 2016, was submitted to EPA on July 18.
August 2016	<ul style="list-style-type: none"> The Monthly Progress Report for July 2016 was submitted to EPA on August 10. EPA provided approval to dismantle the CMI biosparge/vent system and to decommission monitoring well MW-64 in their letter approving the East Parcel Corrective Measures Implementation Groundwater Monitoring Report Second Quarter 2016
September 2016	<ul style="list-style-type: none"> The Monthly Progress Report for August 2016 was submitted to EPA on September 9.
October 2016	<ul style="list-style-type: none"> The Monthly Progress Report for September 2016 was submitted to EPA on October 10.

TABLE 2
EAST PARCEL CORRECTIVE MEASURES IMPLEMENTATION
TIMELINE FOR 2016 ¹
Former Rhone-Poulenc Site
Tukwila, Washington

Approximate Date	Description or Activity
November 2016	<ul style="list-style-type: none"> • A notification of field work was sent to EPA on November 14 for dismantling the CMI biosparge/vent system and abandonment of wells on November 22. • The Monthly Progress Report for October 2016 was submitted to EPA on November 10.
December 2016	<ul style="list-style-type: none"> • The Monthly Progress Report for November 2016 was submitted to EPA on December 9.

Notes

This timeline is based on the Monthly Progress Reports submitted to the EPA and verified by Amec Foster Wheeler documentation.

Abbreviations

Amec Foster Wheeler = Amec Foster Wheeler Environment & Infrastructure, Inc.
CMI = Corrective Measures Implementation
EPA = US Environmental Protection Agency

TABLE 3
EAST PARCEL CORRECTIVE MEASURES IMPLEMENTATION OPERATIONAL
PROBLEM RESOLUTIONS FOR 2016
Former Rhone-Poulenc Site
Tukwila, Washington

Date Issue Encountered	Operational Issue Encountered	Operational Issue Resolution	Date Resolved		
11/2/2016	The following CMI wells were abandoned following EPA approval: <table style="width: 100%; border: none;"> <tr> <td style="width: 50%; border: none;"> <ul style="list-style-type: none"> • MW-65 • V-1 • V-3 • V-4 • V-5 • V-6 • V-7 </td> <td style="width: 50%; border: none;"> <ul style="list-style-type: none"> • AS-1 • AS-2 • AS-3 • AS-4 • AS-5 • AS-6 • AS-7 </td> </tr> </table>	<ul style="list-style-type: none"> • MW-65 • V-1 • V-3 • V-4 • V-5 • V-6 • V-7 	<ul style="list-style-type: none"> • AS-1 • AS-2 • AS-3 • AS-4 • AS-5 • AS-6 • AS-7 	Cascade, Inc., and Amec Foster Wheeler located, chipped in place, and cemented in well boxes. All aboveground piping was removed and stored in the treatment building.	11/22/2016
<ul style="list-style-type: none"> • MW-65 • V-1 • V-3 • V-4 • V-5 • V-6 • V-7 	<ul style="list-style-type: none"> • AS-1 • AS-2 • AS-3 • AS-4 • AS-5 • AS-6 • AS-7 				
11/2/2016	Removal of CMI area fencing on IAAI property.	National Rent-a-Fence picked up fence from site.	11/29/2016		
11/2/2016	A blockage was found while attempting to abandon the Vent-2 well. The well will need to be over drilled to be abandoned properly.	Ongoing	Ongoing		

Abbreviations

Amec Foster Wheeler= Amec Foster Wheeler Environment & Infrastructure, Inc.

CMI = Corrective Measures Implementation

EPA = US Environmental Protection Agency

IAAI = International Auto Auctions, Inc.

TABLE 4
PERFORMANCE MONITORING WELL CONSTRUCTION DATA
Former Rhone-Poulenc Site
Tukwila, Washington

Well ID	Date Installed	Ground Surface Elevation ¹	Measuring Point Elevation (top of PVC)	Northing (feet) ²	Easting (feet) ²	Boring Diameter (inches)	Casing Diameter (inches)	Total Well Depth (feet bgs)	Screened Interval (feet bgs)	Filter Pack Interval (feet bgs)	Screen Specifications
MW-64	2/13/08	18.45	18.18	193244.9	1637295.0	8.5	2	19.03	13.9 - 18.7	3.0 - 19.0	Sch. 40 PVC 0.010-inch slot size
MW-65	2/13/08	17.10	16.48	193176.3	1637337.7	8.5	2	19.79	14.7 - 19.4	12.0 - 21.0	Sch. 40 PVC 0.010-inch slot size
MW-66	2/13/08	17.64	17.34	193168.8	1637297.3	8.5	2	20.67	15.5 - 20.3	3.0 - 21.0	Sch. 40 PVC 0.010-inch slot size

Notes

1. Elevations are in feet measured relative to National Geodetic Vertical Datum of 1929 (NGVD88).
2. Northings and Eastings based on Washington State Plane North coordinates.

Abbreviations

bgs = below ground surface
PVC = polyvinyl chloride
Sch. = schedule

TABLE 5
GROUNDWATER ELEVATIONS, 2016
Former Rhone-Poulenc Site
Tukwila, Washington

Well ID	TOC Elevation ¹	Depth to Water				Groundwater Elevation ¹			
		3/17/16	6/8/16	9/22/16	12/15/16	3/17/16	6/8/16	9/22/16	12/15/16
MW-64	18.18	10.18	12.35	NM	NM	8.00	5.83	NM	NM
MW-65	16.48	8.45	10.60	NM	NM	8.03	5.88	NM	NM
MW-66	17.34	9.87	12.30	NM	NM	7.47	5.04	NM	NM

Notes

1. Elevations are in feet measured relative to North American Vertical Datum of 1988 (NAVD88).

Abbreviations

NM = not measured

TOC = top of casing

TABLE 6
GENERAL FIELD PARAMETER RESULTS, 2016
Former Rhone-Poulenc Site
Tukwila, Washington

Field Data	Well ID Date	MW-64				MW-65				MW-66			
		3/16/16	6/7/16	9/19/16	12/15/16	3/16/16	6/7/16	9/19/16	12/15/16	3/16/16	6/7/16	9/19/16	12/15/16
Temperature (degrees C)		14.40	15.98	NM	NM	12.66	13.81	NM	NM	13.11	14.75	NM	NM
Field pH (units)		6.73	6.90	NM	NM	6.77	6.95	NM	NM	6.42	6.69	NM	NM
Specific Conductivity (mS/cm)		1.045	0.772	NM	NM	0.481	0.472	NM	NM	0.721	2.067	NM	NM
Dissolved Oxygen (mg/L)		0.31	1.00	NM	NM	0.30	1.27	NM	NM	0.44	1.26	NM	NM
Oxidation-Reduction Potential (mV)		-105.9	-141.5	NM	NM	-93.4	-117.4	NM	NM	-65.0	-104.1	NM	NM
Turbidity (NTUs)		2.9	10.4	NM	NM	28.0	12.2	NM	NM	2.7	12.5	NM	NM

Abbreviations

C = Celsius

mg/L = milligrams per liter

mS/cm = millisiemens per centimeter

mV = millivolts

NM = not measured

NTUs = nephelometric turbidity units

TABLE 7

GROUNDWATER ANALYTICAL RESULTS, 2016^{1,2}
Former Rhone-Poulenc Site
Tukwila, Washington

Well ID	MW-64		MW-64 (field duplicate)		MW-65		MW-66		Final Media Cleanup Standard ⁴	
Groundwater Elevation ³ (feet)	8.00	5.83	8.00	5.83	8.03	5.88	7.47	5.04		
Analytes	Sample Date	3/16/16	6/7/16	3/16/16	6/7/16	3/16/16	6/7/16	3/16/16	6/7/16	
Toluene (µg/L)		0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	1,000
Other BTEX (µg/L)										
Benzene		0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	Not established
Ethylbenzene		0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	Not established
m,p-Xylene		0.40 U	0.40 U	0.40 U	0.40 U	0.40 U	0.40 U	0.40 U	0.40 U	Not established
o-Xylene		0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	Not established
Nutrients (mg/L)										
Soluble Reactive Phosphorus		1.17	1.09	1.19	0.626	--	--	--	--	Not applicable

Notes

1. Data qualifiers are as follows:

U = analyte not detected at reporting limit indicated.

2. Wells were not sampled during the third and fourth quarters of 2016.

3. Groundwater elevations measured on 3/17/2016 and 6/8/2016, and measured relative to North American Vertical Datum of 1988.

4. The final media cleanup standard for toluene was established by EPA Region 10 for the Museum of Flight Property in a letter dated

December 20, 2006 (EPA, 2006).

Abbreviations

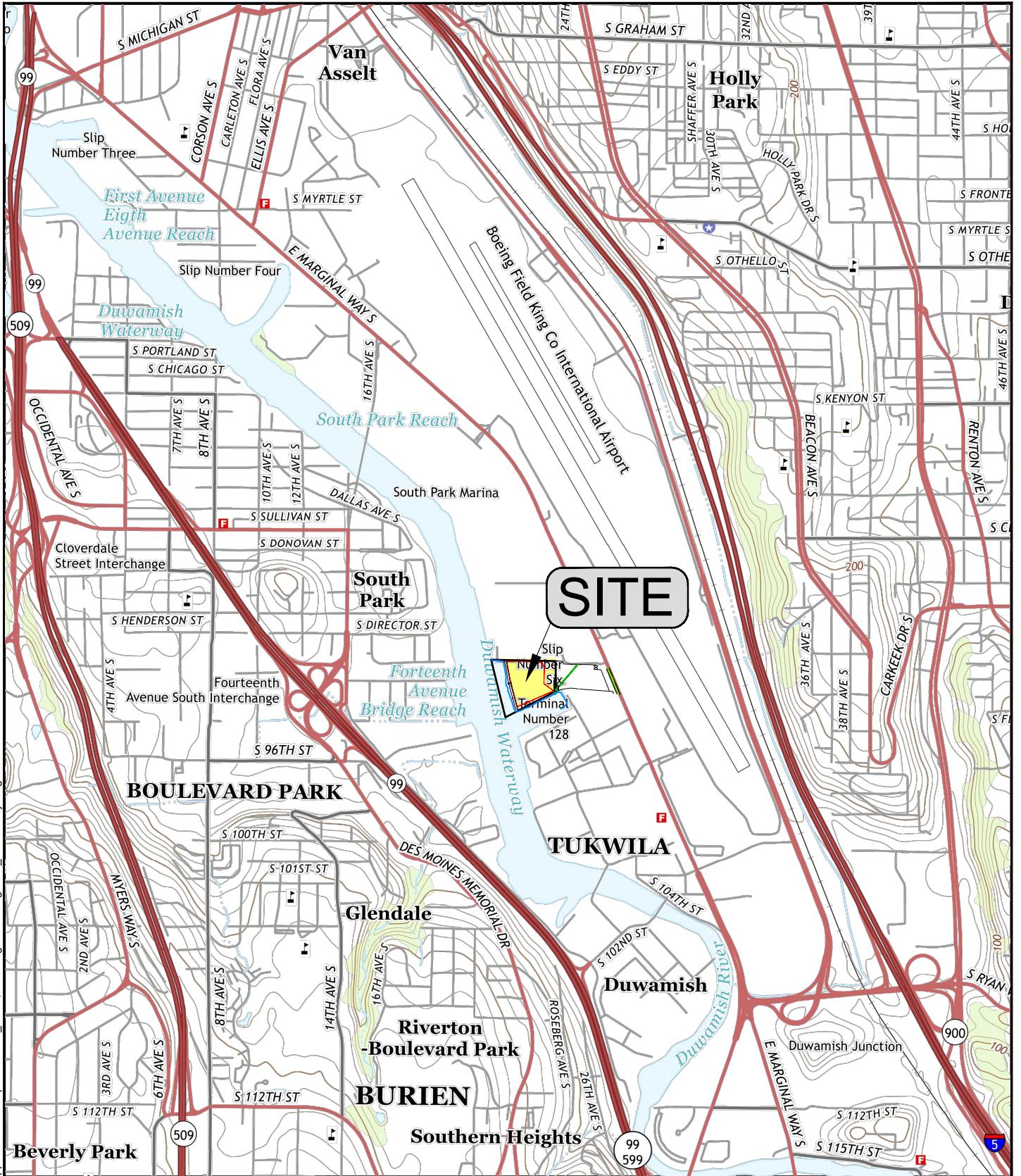
-- = not analyzed

µg/L = micrograms per liter

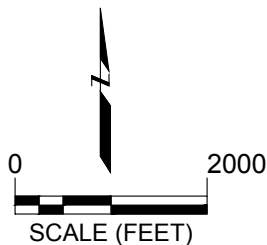
BTEX = benzene, toluene, ethylbenzene, and xylenes

mg/L = milligrams per liter

FIGURES



Reference: USGS Topographic Quadrangle Map, South Seattle, Washington, 2014



SITE VICINITY MAP
Former Rhone-Poulenc Site
Tukwila, Washington

By: APS	Date: 01/25/17	Project No. 8769.005
Amec Foster Wheeler Environment & Infrastructure, Inc.		Figure 1

Plot Date: 01/25/17 - 4:18pm. Plotted by: adam.stenberg
 Drawing Path: C:\Users\adam.stenberg\appdata\localtemp\AcPublish_566521_ Drawing Name: Figure 1_Site Vicinity.dwg

Toluene Soil Concentration Legend

Field Screening Using PID

- Photoionization detector (PID) headspace reading > 1000 ppm
- Photoionization detector (PID) headspace reading > 100 ppm
- Photoionization detector (PID) headspace reading < 10 ppm

Laboratory Analyses

Direct Push Boring I.D.	
Depth bgs	Toluene Concentration in mg/kg (ppm)

NOTE: U = not detected at reporting limit indicated.

ABANDONED (IN PLACE) TOLUENE LINE

CROSS-SECTION LINE

IAAI LEASE PROPERTY

TOLUENE LINE REMOVED

DEEP COMPRESSOR AREA EXCAVATION (>10 FEET)

MUSEUM OF FLIGHT PROPERTY

SOUTHWEST MAINTENANCE AREA EXCAVATION (>10 FEET)

APPROXIMATE LOCATION OF KING COUNTY STORM SEWER

GMX-19	
14.8'	0.23

GMX-16	
10.5'	8,000

GMX-6	
13'	0.014 U

GMX-15	
14'	30,000

GMX-7	
13'	0.012 U

GMX-8	
9'	1,600

GMX-1	
4'	440
8'	5,600

GMX-10	
9'	0.025

GMX-2	
2.5'	43
8'	20,000
8'	23,000

GMX-4	
2'	0.021
4'	1.5

GMX-3	
2'	0.022 U
5.5'	0.022 U

Explanation

- ▲ Direct Push Boring (8/2006)
- ▲ Direct Push Boring (10/2006)
- ▲ Direct Push Boring (12/2006)
- ▲ Direct Push Boring (5/2007)
- Biosparging location
- Vent Well location
- ⊕ Groundwater Monitoring Well location
- Approximate current extent of toluene-affected soils (dashed where uncertain)
- Approximate historical extent of toluene-affected soils

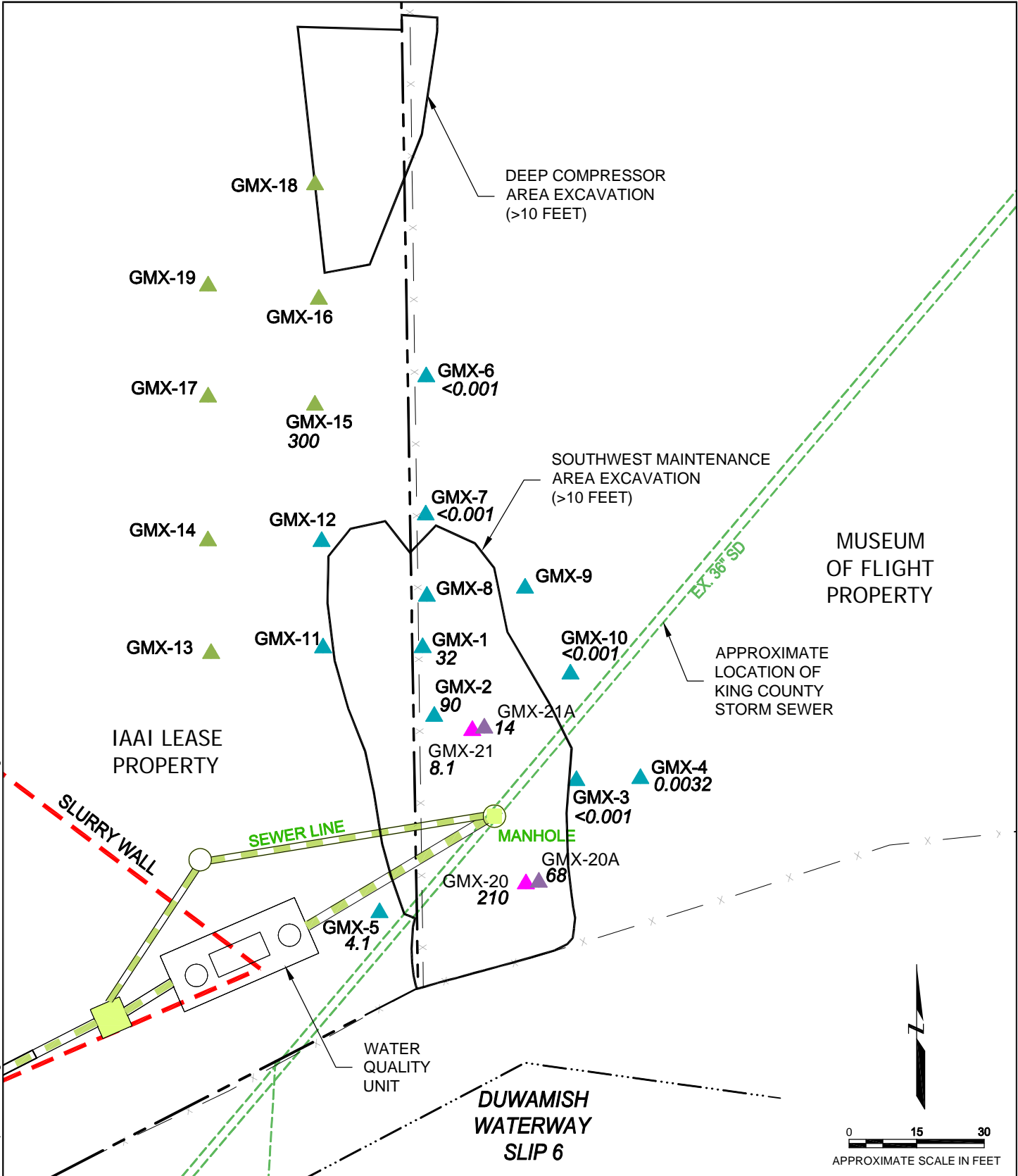


HISTORICAL TOLUENE LEVELS IN SOIL AND LOCATION OF CROSS SECTION
Former Rhone-Poulenc Site
Tukwila, Washington

By: APS	Date: 01/25/17	Project No. 8769
Amec Foster Wheeler Environment & Infrastructure, Inc.		Figure 3

Plot Date: 01/25/17 - 3:51pm. Plotted by: adam.stenberg
Drawing Path: S:\8769_2006\123_CML_2016 Report\ Drawing Name: CML_HistoricTolueneLevelsSoil_Cross-Section_2017.dwg

Plot Date: 01/25/17 - 4:01pm. Plotted by: adam.stenberg
 Drawing Path: S:\8769_2006\123_CML_2016 Report\ Drawing Name: CML_HistoricTolueneConcentrations-2010_2017.dwg



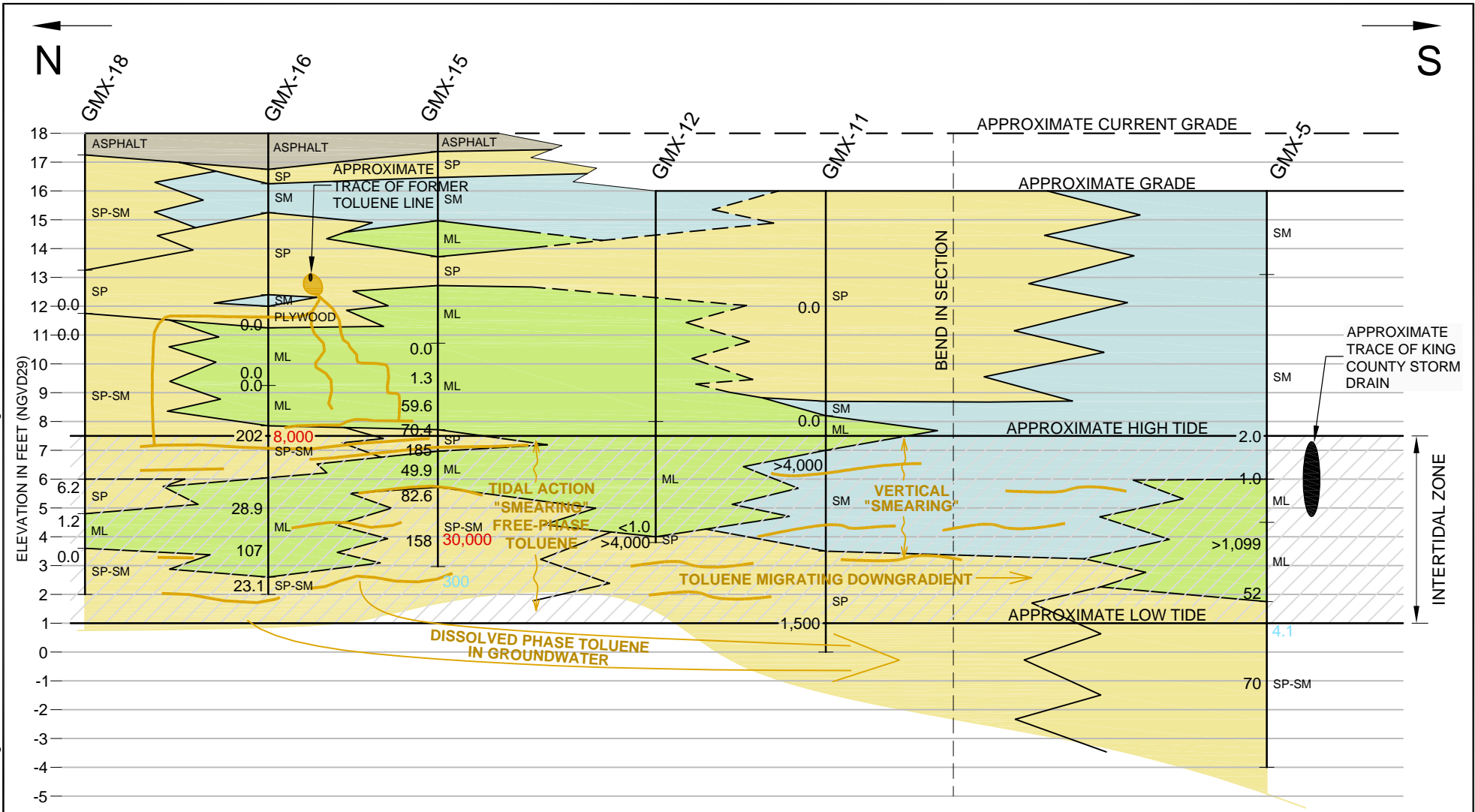
Explanation

- ▲ Direct Push Boring (8/2006)
- ▲ Direct Push Boring (10/2006)
- ▲ Direct Push Boring (12/2006)
- ▲ Direct Push Boring (5/2007)
- 8.1** Toluene concentration in mg/L
- < indicates toluene not detected at reporting limit indicated.



HISTORICAL TOLUENE CONCENTRATIONS IN GROUNDWATER Former Rhone-Poulenc Site Tukwila, Washington			
By: APS	Date: 01/25/17	Project No.	8769
Amec Foster Wheeler Environment & Infrastructure, Inc.		Figure	4

lot Date: 01/25/17 - 3:58pm. Plotted by: adam.stenberg
 Drawing Path: S:\8769_2006\123_CMI_2016 Report\ Drawing Name: CMI_HistoricTolueneLevelsSoil_Cross-Section_2017.dwg



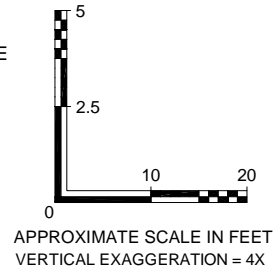
KEY TO SOIL TYPES

- SP / SP-SM = POORLY GRADED SANDS TO SILTY AND POORLY GRADED SAND MIXTURES
- SM = SILTY SAND
- ML = SILT

EXPLANATION

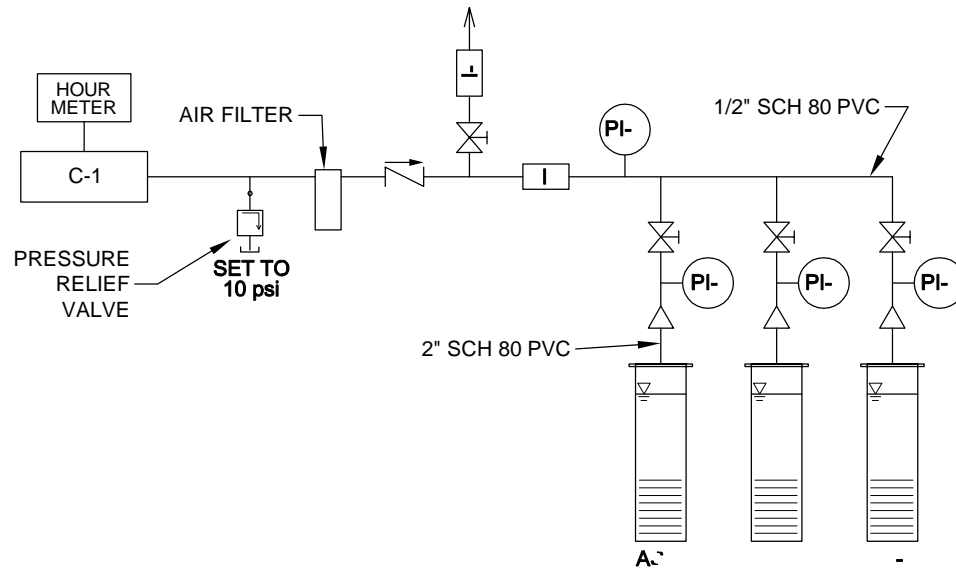
- <30,000 TOLUENE SOIL SAMPLE CONCENTRATION IN mg/kg
- <300 TOLUENE GROUNDWATER SAMPLE CONCENTRATION IN mg/L
- 158 TOLUENE PID READINGS IN ppm
- CONCEPTUAL REPRESENTATION OF TOLUENE PATHWAYS

- NOTES:**
1. TIDAL RANGE BASED ON JULY 4, 2006, TO OCTOBER 4, 2006, DM-8 WATER LEVELS.
 2. LOCATION OF CROSS SECTION IS SHOWN ON FIGURE 3.



CONCEPTUAL SITE MODEL CROSS SECTION
Former Rhone-Poulenc Site
Tukwila, Washington

By: APS	Date: 01/25/17	Project No. 8769
Amec Foster Wheeler Environment & Infrastructure, Inc.		Figure 5



PIPING AND INSTRUMENTATION DIAGRAM

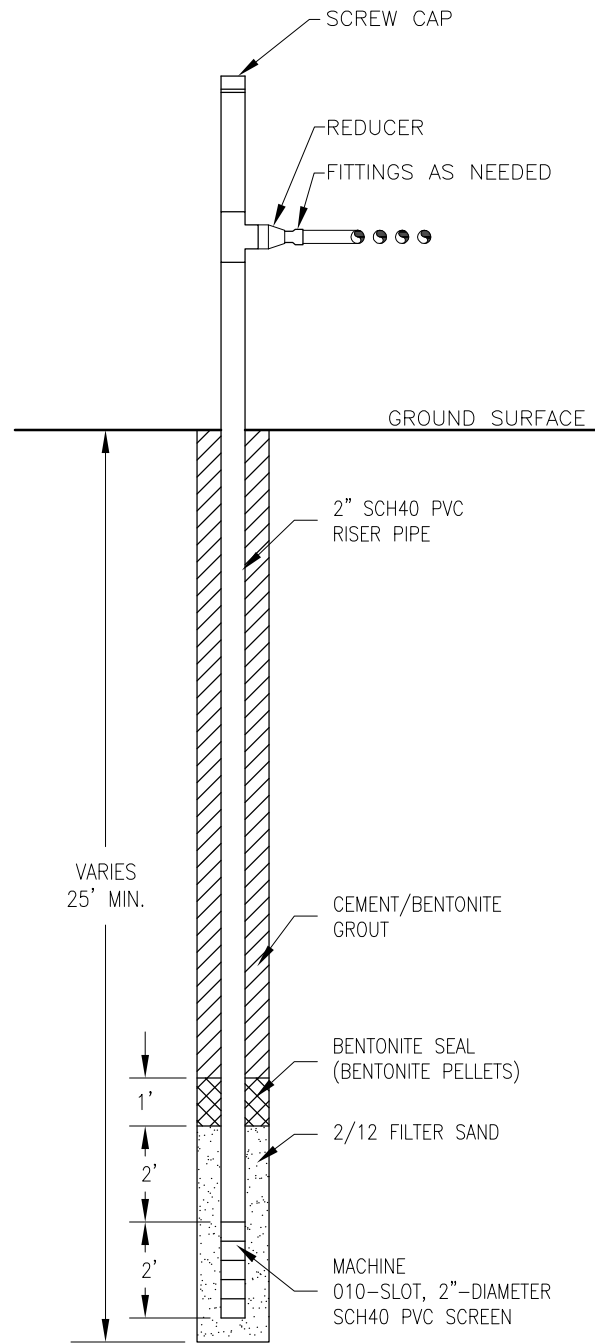
KEY

- PI-** PRESSURE INDICATOR
- GATE VALVE**
- REDUCER**
- CHECK VALVE**
- ROTARY VANE COMPRESSOR**
- ROTAMETER**
- BIOSPARGE WELL**

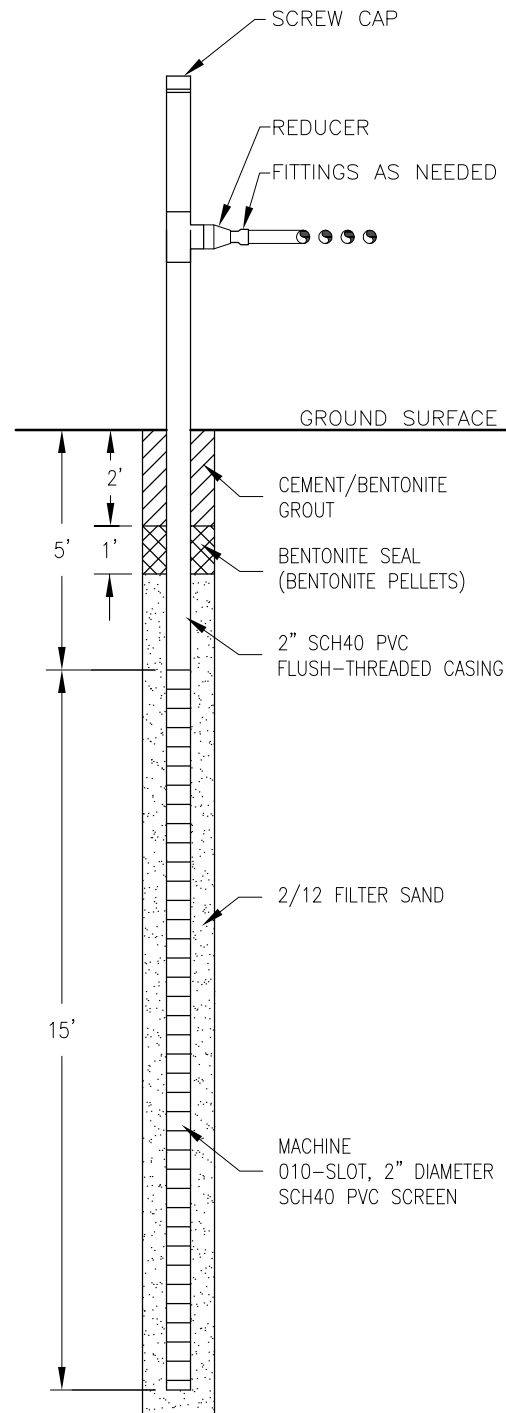


**BIOSPARGE COMPONENT
 PIPING AND INSTRUMENTATION DIAGRAM**
 Former Rhone-Poulenc Site
 Tukwila, Washington

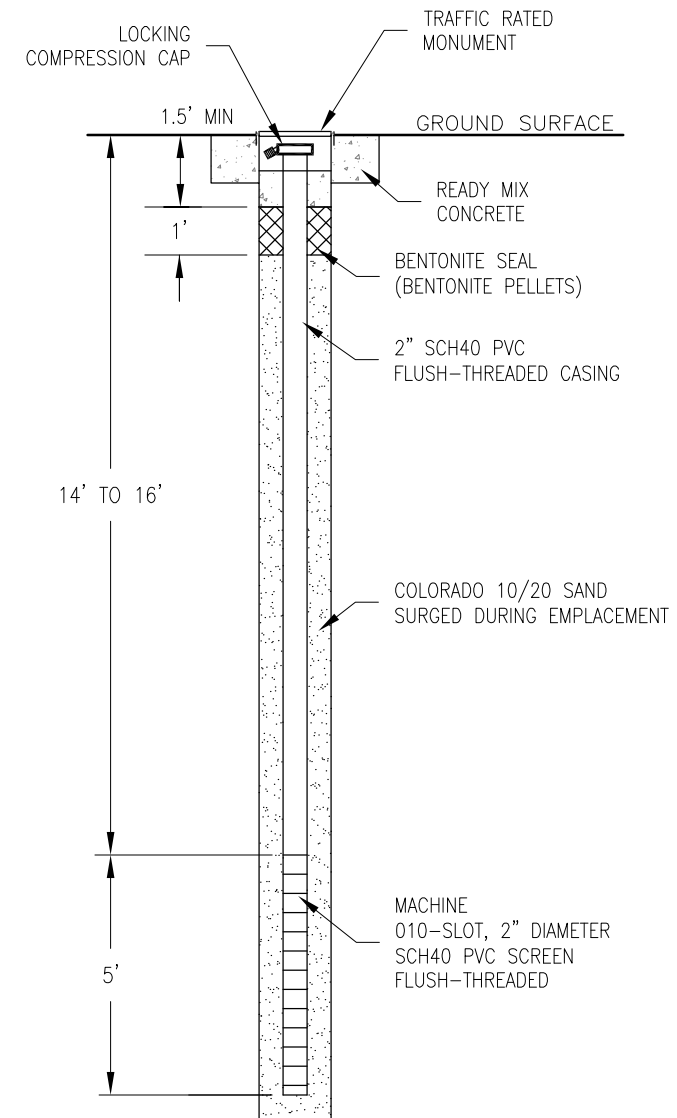
By: APS	Date: 01/25/17	Project No. 8769
Amec Foster Wheeler Environment & Infrastructure, Inc.		Figure 6



TYPICAL BIOSPARGE WELL DETAIL



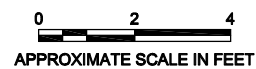
TYPICAL VENT WELL DETAIL



TYPICAL MONITORING WELL DETAIL

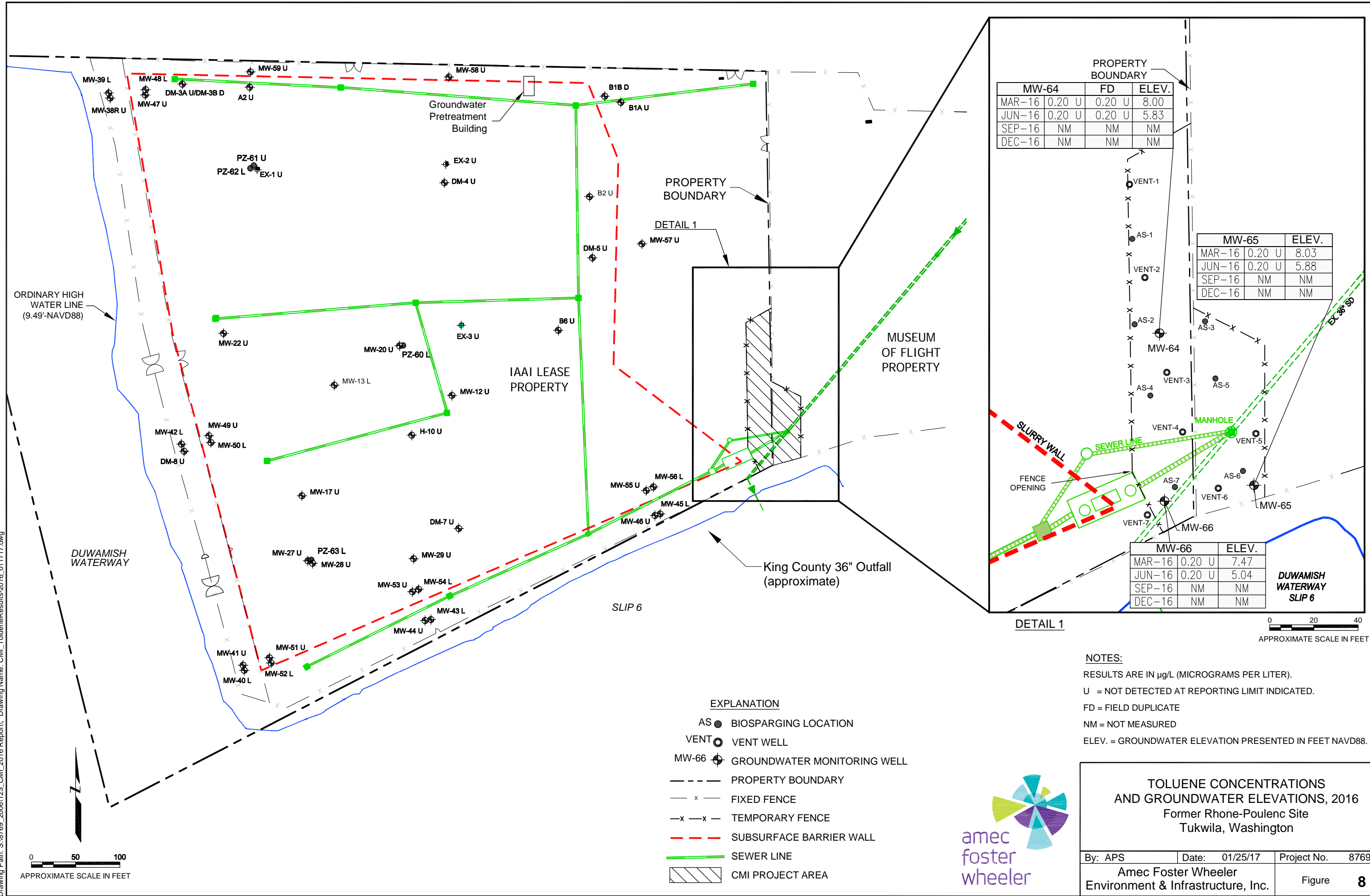
NOTE:
SCREEN DEPTH OF MONITORING WELL
MAY BE ADJUSTED BASED ON DEPTH
TO SILT/SAND LITHOLOGIC CONTACT.

Plot Date: 01/25/17 - 4:05pm, Plotted by: adam.stenberg
Drawing Path: S:\8769_2006\123_CMI_2016 Report\ Drawing Name: CMI_WellDetails_2017.dwg



TYPICAL WELL DETAILS Former Rhone-Poulenc Site Tukwila, Washington		
By: APS	Date: 01/25/17	Project No. 8769
Amec Foster Wheeler Environment & Infrastructure, Inc.		Figure 7

Plot Date: 01/25/17 - 3:37pm, Plotted by: adam.stenberg
 Drawing Path: S:\8769_2006\123_CMI_2016 Report\ Drawing Name: CMI_TolueneResults-2016_011717.dwg



PROPERTY BOUNDARY

MW-64	FD	ELEV.	
MAR-16	0.20 U	0.20 U	8.00
JUN-16	0.20 U	0.20 U	5.83
SEP-16	NM	NM	NM
DEC-16	NM	NM	NM

MW-65	ELEV.	
MAR-16	0.20 U	8.03
JUN-16	0.20 U	5.88
SEP-16	NM	NM
DEC-16	NM	NM

MW-66	ELEV.	
MAR-16	0.20 U	7.47
JUN-16	0.20 U	5.04
SEP-16	NM	NM
DEC-16	NM	NM

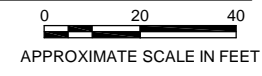
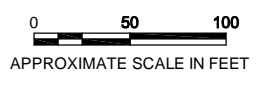
- EXPLANATION**
- AS ● BIOSPARGING LOCATION
 - VENT ○ VENT WELL
 - MW-66 ⊕ GROUNDWATER MONITORING WELL
 - - - PROPERTY BOUNDARY
 - x - FIXED FENCE
 - x - x - TEMPORARY FENCE
 - - - SUBSURFACE BARRIER WALL
 - SEWER LINE
 - ▨ CMI PROJECT AREA

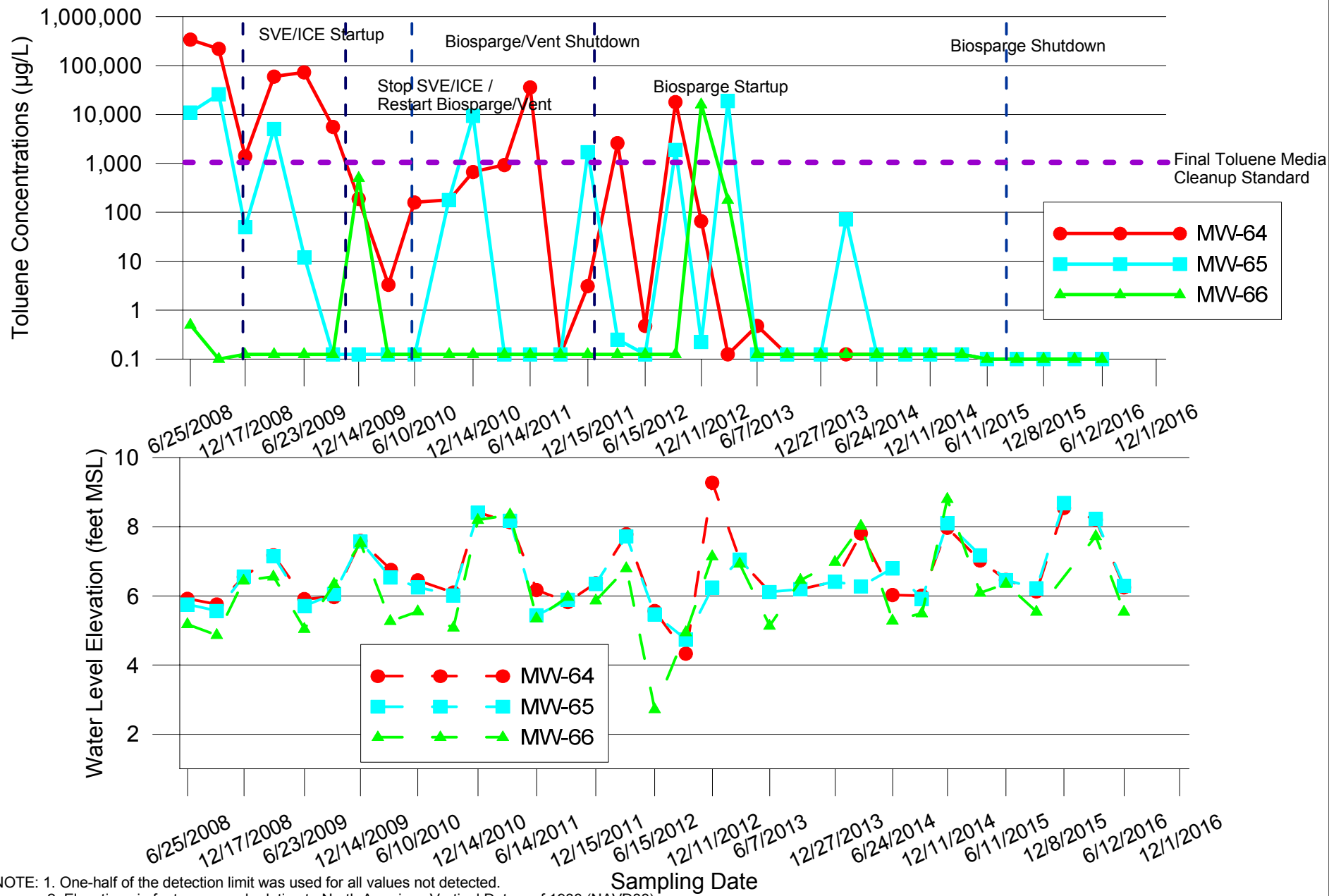
NOTES:
 RESULTS ARE IN µg/L (MICROGRAMS PER LITER).
 U = NOT DETECTED AT REPORTING LIMIT INDICATED.
 FD = FIELD DUPLICATE
 NM = NOT MEASURED
 ELEV. = GROUNDWATER ELEVATION PRESENTED IN FEET NAVD88.



TOLUENE CONCENTRATIONS AND GROUNDWATER ELEVATIONS, 2016
 Former Rhone-Poulenc Site
 Tukwila, Washington

By: APS	Date: 01/25/17	Project No. 8769
Amec Foster Wheeler Environment & Infrastructure, Inc.		Figure 8





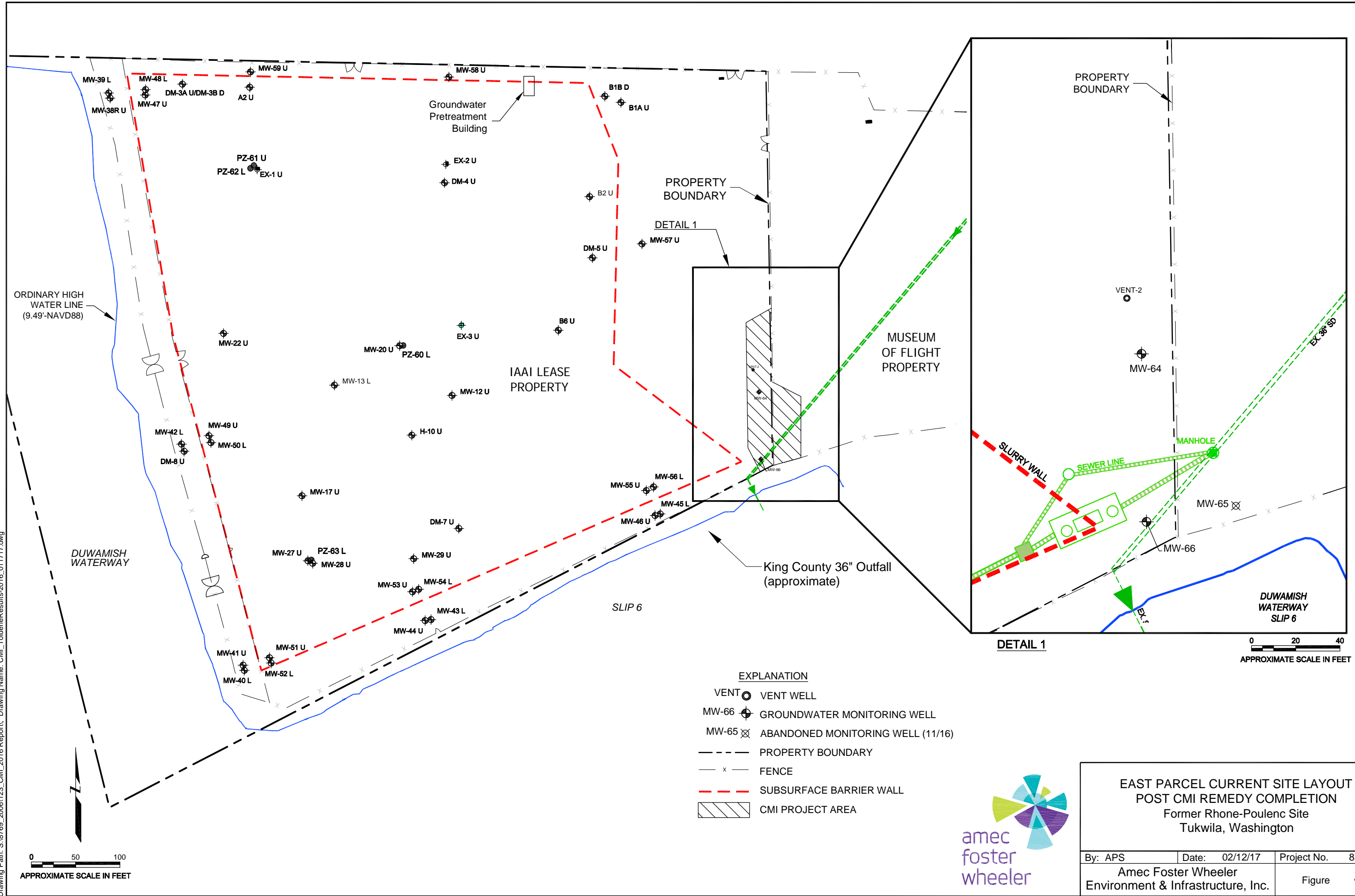
NOTE: 1. One-half of the detection limit was used for all values not detected.
 2. Elevations in feet measured relative to North American Vertical Datum of 1988 (NAVD88)

TOLUENE CONCENTRATIONS and WATER LEVELS VS. TIME: MW-64, 65, and 66
 Former Rhone-Poulenc Site
 Tukwila, Washington



Project No.
8769
 Figure No.
9

Plot Date: 02/12/17 - 7:56pm. Plotted by: adam.stenberg
 Drawing Path: S:\8769_2006\123_CMI_2016 Report\ Drawing Name: CMI_TolueneResults-2016_011717.dwg



0 50 100
 APPROXIMATE SCALE IN FEET

0 20 40
 APPROXIMATE SCALE IN FEET

- EXPLANATION**
- VENT ● VENT WELL
 - MW-66 ⊕ GROUNDWATER MONITORING WELL
 - MW-65 ⊗ ABANDONED MONITORING WELL (11/16)
 - - - PROPERTY BOUNDARY
 - x - FENCE
 - - - SUBSURFACE BARRIER WALL
 - ▨ CMI PROJECT AREA



EAST PARCEL CURRENT SITE LAYOUT POST CMI REMEDY COMPLETION Former Rhone-Poulenc Site Tukwila, Washington		
By: APS	Date: 02/12/17	Project No. 8769
Amec Foster Wheeler Environment & Infrastructure, Inc.		Figure 10



ATTACHMENT A

Well Decommissioning Logs



amec
foster
wheeler

WELL DECOMMISSIONING RECORD

Site Name: <i>Former Rhone Patenc CMI</i>	Well I.D.: <i>MW-65</i>
Site Location: <i>9229 E. Marginal Way S. Tukwila, WA</i>	Driller: <i>Curtis</i>
Drilling Co.: <i>Cascade</i>	Inspector: <i>S. Welter</i>
	Date: <i>11/23/16</i>

DECOMMISSIONING DATA
(Fill in all that apply)

OVERDRILLING

Interval Drilled	
Drilling Method(s)	
Borehole Dia. (in.)	
Temporary Casing Installed? (y/n)	
Depth temporary casing installed	
Casing type/dia. (in.)	
Method of installing	

CASING PULLING

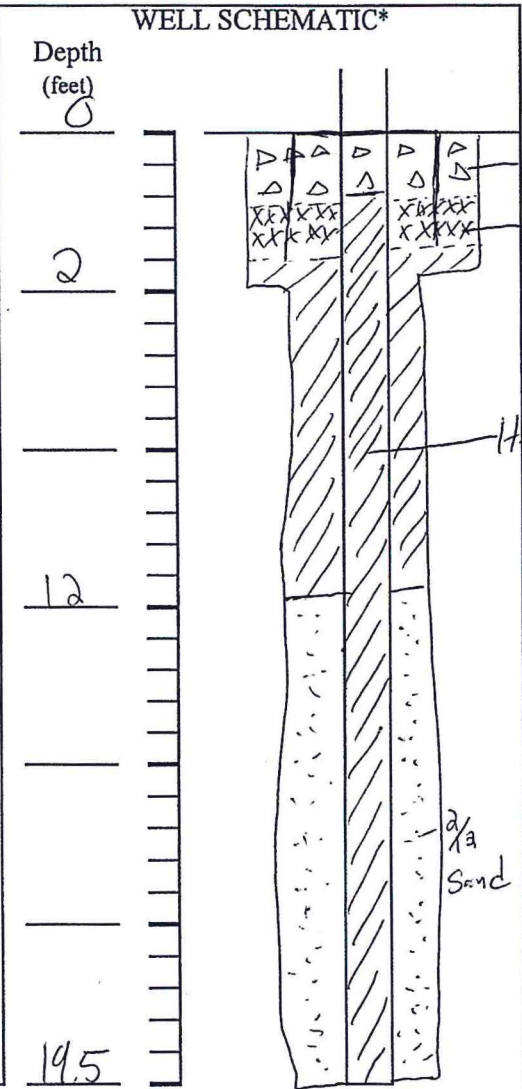
Method employed	
Casing retrieved (feet)	
Casing type/dia. (in)	

CASING PERFORATING

Equipment used	
Number of perforations/foot	
Size of perforations	
Interval perforated	

GROUTING

Interval grouted (FBLs)	<i>0-1</i>
# of batches prepared	<i>1</i>
For each batch record:	
Quantity of water used (gal.)	<i>2.0</i>
Quantity of cement used (lbs.)	<i>15</i>
Cement type	<i>Quikrete</i>
Quantity of bentonite used (lbs.)	<i>25</i>
Quantity of calcium chloride used (lbs.)	
Volume of grout prepared (gal.)	<i>1.5</i>
Volume of grout used (gal.)	<i>1.5</i>



COMMENTS:

- Pump pulled out & returned to treatment Ecology tag ID- BAB-127 building

* Sketch in all relevant decommissioning data, including: interval overdrilled, interval grouted, casing left in hole, well stickup, etc.



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wheeler

WELL DECOMMISSIONING RECORD

Site Name: <i>Former Rhine Pavilion CMT</i>	Well I.D.: <i>AS-1</i>
Site Location: <i>9229 E. Marginal Way S. Tukwila, WA</i>	Driller: <i>Curtis</i>
Drilling Co.: <i>Cascade</i>	Inspector: <i>S. Weller</i>
	Date: <i>11/2/16</i>

DECOMMISSIONING DATA (Fill in all that apply)	WELL SCHEMATIC*																	
<p>OVERDRILLING</p> <p>Interval Drilled <table border="1" style="width: 100px; height: 20px;"><tr><td></td><td></td></tr></table></p> <p>Drilling Method(s) <table border="1" style="width: 100px; height: 20px;"><tr><td></td><td></td></tr></table></p> <p>Borehole Dia. (in.) <table border="1" style="width: 100px; height: 20px;"><tr><td></td><td></td></tr></table></p> <p>Temporary Casing Installed? (y/n) <table border="1" style="width: 100px; height: 20px;"><tr><td></td><td></td></tr></table></p> <p>Depth temporary casing installed <table border="1" style="width: 100px; height: 20px;"><tr><td></td><td></td></tr></table></p> <p>Casing type/dia. (in.) <table border="1" style="width: 100px; height: 20px;"><tr><td></td><td></td></tr></table></p> <p>Method of installing <table border="1" style="width: 100px; height: 20px;"><tr><td></td><td></td></tr></table></p>															<p>Depth (feet)</p> <p>0</p> <p>2</p> <p>20.5</p> <p>25.5</p> <p>Quikrete Cement</p> <p>Portland Cement/Bentonite Grout</p> <p>Hydrated Medium Bentonite Chips</p> <p>2/10 Sand</p>			
<p>CASING PULLING</p> <p>Method employed <table border="1" style="width: 100px; height: 20px;"><tr><td></td><td></td></tr></table></p> <p>Casing retrieved (feet) <table border="1" style="width: 100px; height: 20px;"><tr><td></td><td></td></tr></table></p> <p>Casing type/dia. (in.) <table border="1" style="width: 100px; height: 20px;"><tr><td></td><td></td></tr></table></p>																		
<p>CASING PERFORATING</p> <p>Equipment used <table border="1" style="width: 100px; height: 20px;"><tr><td></td><td></td></tr></table></p> <p>Number of perforations/foot <table border="1" style="width: 100px; height: 20px;"><tr><td></td><td></td></tr></table></p> <p>Size of perforations <table border="1" style="width: 100px; height: 20px;"><tr><td></td><td></td></tr></table></p> <p>Interval perforated <table border="1" style="width: 100px; height: 20px;"><tr><td></td><td></td></tr></table></p>																		
<p>GROUTING</p> <p>Interval grouted (FBLs) <table border="1" style="width: 100px; height: 20px;"><tr><td><i>0-24</i></td><td></td></tr></table></p> <p># of batches prepared <table border="1" style="width: 100px; height: 20px;"><tr><td><i>1</i></td><td></td></tr></table></p> <p>For each batch record:</p> <p>Quantity of water used (gal.) <table border="1" style="width: 100px; height: 20px;"><tr><td><i>2.5</i></td><td></td></tr></table></p> <p>Quantity of cement used (lbs.) <table border="1" style="width: 100px; height: 20px;"><tr><td><i>30</i></td><td></td></tr></table></p> <p>Cement type <table border="1" style="width: 100px; height: 20px;"><tr><td><i>Quikrete</i></td><td></td></tr></table></p> <p>Quantity of bentonite used (lbs.) <table border="1" style="width: 100px; height: 20px;"><tr><td><i>30</i></td><td></td></tr></table></p> <p>Quantity of calcium chloride used (lbs.) <table border="1" style="width: 100px; height: 20px;"><tr><td><i>—</i></td><td></td></tr></table></p> <p>Volume of grout prepared (gal.) <table border="1" style="width: 100px; height: 20px;"><tr><td><i>1.6</i></td><td></td></tr></table></p> <p>Volume of grout used (gal.) <table border="1" style="width: 100px; height: 20px;"><tr><td><i>1.6</i></td><td></td></tr></table></p>	<i>0-24</i>		<i>1</i>		<i>2.5</i>		<i>30</i>		<i>Quikrete</i>		<i>30</i>		<i>—</i>		<i>1.6</i>		<i>1.6</i>	
<i>0-24</i>																		
<i>1</i>																		
<i>2.5</i>																		
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<i>Quikrete</i>																		
<i>30</i>																		
<i>—</i>																		
<i>1.6</i>																		
<i>1.6</i>																		
<p>COMMENTS:</p> <p><i>Ecology tag ID- 13AB 365</i></p>	<p>* Sketch in all relevant decommissioning data, including: interval overdrilled, interval grouted, casing left in hole, well stickup, etc.</p>																	



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WELL DECOMMISSIONING RECORD

Site Name: <i>Former Rhone Potenc CMI</i>	Well I.D.: <i>A.S-2</i>
Site Location: <i>9209 E. Marginal Way S. Tukwila, WA</i>	Driller: <i>Curtis</i>
Drilling Co.: <i>Cascade</i>	Inspector: <i>S. Welter</i>
	Date: <i>11/2/16</i>

DECOMMISSIONING DATA
(Fill in all that apply)

OVERDRILLING

Interval Drilled	
Drilling Method(s)	
Borehole Dia. (in.)	
Temporary Casing Installed? (y/n)	
Depth temporary casing installed	
Casing type/dia. (in.)	
Method of installing	

CASING PULLING

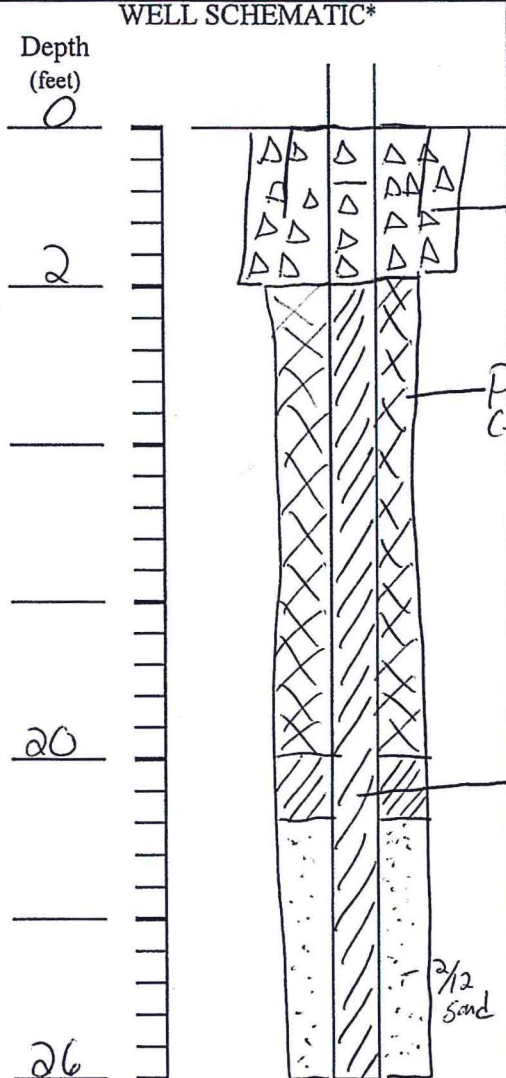
Method employed	
Casing retrieved (feet)	
Casing type/dia. (in)	

CASING PERFORATING

Equipment used	
Number of perforations/foot	
Size of perforations	
Interval perforated	

GROUTING

Interval grouted (FBS)	<i>0-2 ft</i>
# of batches prepared	<i>1</i>
<u>For each batch record:</u>	
Quantity of water used (gal.)	<i>3.0</i>
Quantity of cement used (lbs.)	<i>30</i>
Cement type	<i>Quikrete</i>
Quantity of bentonite used (lbs.)	<i>32</i>
Quantity of calcium chloride used (lbs.)	<i>—</i>
Volume of grout prepared (gal.)	<i>1.6</i>
Volume of grout used (gal.)	<i>1.6</i>



COMMENTS:

Ecology tag ID- BA13 356

* Sketch in all relevant decommissioning data, including: interval overdrilled, interval grouted, casing left in hole, well stickup, etc.



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WELL DECOMMISSIONING RECORD

Site Name: <i>Former Rhine Poulenc CMT</i>	Well I.D.: <i>AS-3</i>
Site Location: <i>9229 E. Marginal Way S Tukwila, WA</i>	Driller: <i>Curtis</i>
Drilling Co.: <i>Cascade</i>	Inspector: <i>S. Welter</i>
	Date: <i>11/23/16</i>

DECOMMISSIONING DATA
(Fill in all that apply)

OVERDRILLING

Interval Drilled	
Drilling Method(s)	
Borehole Dia. (in.)	
Temporary Casing Installed? (y/n)	
Depth temporary casing installed	
Casing type/dia. (in.)	
Method of installing	

CASING PULLING

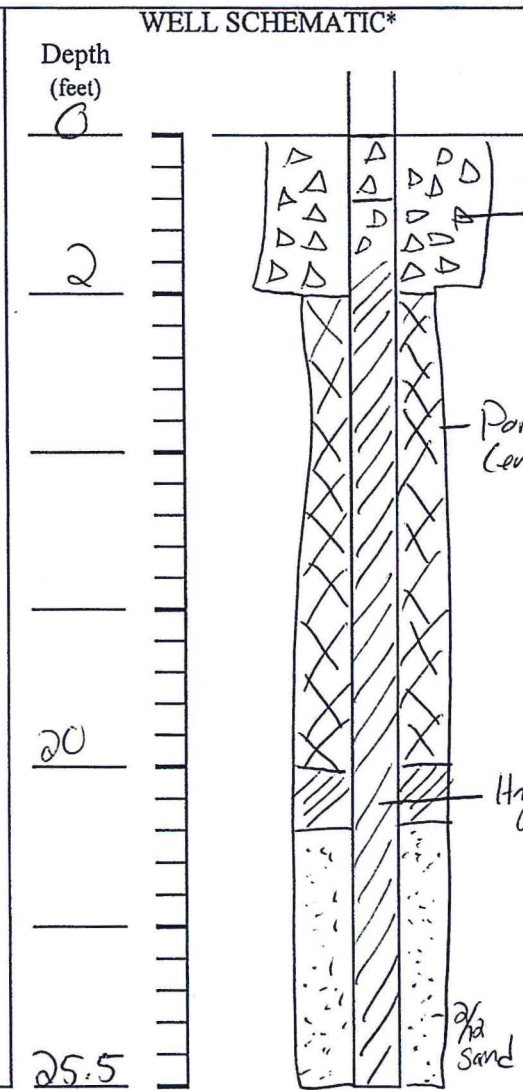
Method employed	
Casing retrieved (feet)	
Casing type/dia. (in)	

CASING PERFORATING

Equipment used	
Number of perforations/foot	
Size of perforations	
Interval perforated	

GROUTING

Interval grouted (FBLs)	<i>0-2</i>
# of batches prepared	<i>1</i>
For each batch record:	
Quantity of water used (gal.)	<i>2.5</i>
Quantity of cement used (lbs.)	<i>30</i>
Cement type	<i>Quikrete</i>
Quantity of bentonite used (lbs.)	<i>30</i>
Quantity of calcium chloride used (lbs.)	<i>—</i>
Volume of grout prepared (gal.)	<i>1.4</i>
Volume of grout used (gal.)	<i>1.6</i>



*Quikrete
Cement*

*Portland 1-11
Cement/Bentonite
Grout*

*Hydrated
medium
Bentonite
chips*

*2/12
Sand*

COMMENTS:
Well box destroyed; no surface monument
Ecology tag ID- BAB 358

* Sketch in all relevant decommissioning data, including:
interval overdrilled, interval grouted, casing left in hole,
well stickup, etc.



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WELL DECOMMISSIONING RECORD

Site Name: <i>Former Rhine Pooling CMI</i>	Well I.D.: <i>AS-4</i>
Site Location: <i>9229 E. Marginal Way S. Tukwila, WA</i>	Driller: <i>Curtis</i>
Drilling Co.: <i>Cascade</i>	Inspector: <i>S. Welter</i>
	Date: <i>11/2/16</i>

DECOMMISSIONING DATA
(Fill in all that apply)

OVERDRILLING

Interval Drilled	
Drilling Method(s)	
Borehole Dia. (in.)	
Temporary Casing Installed? (y/n)	
Depth temporary casing installed	
Casing type/dia. (in.)	
Method of installing	

CASING PULLING

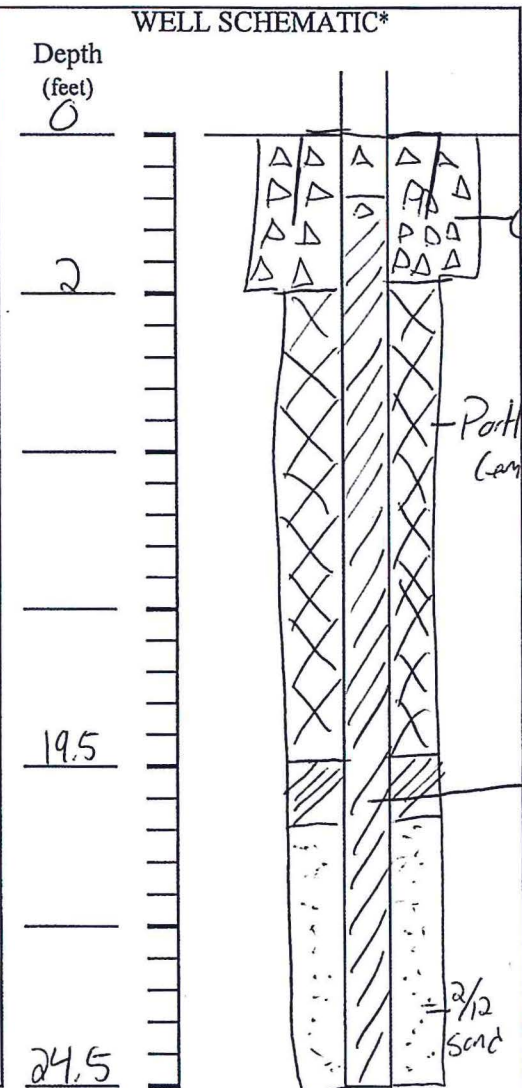
Method employed	
Casing retrieved (feet)	
Casing type/dia. (in.)	

CASING PERFORATING

Equipment used	
Number of perforations/foot	
Size of perforations	
Interval perforated	

GROUTING

Interval grouted (FBLs)	<i>0-24'</i>
# of batches prepared	<i>1</i>
<u>For each batch record:</u>	
Quantity of water used (gal.)	<i>2.5</i>
Quantity of cement used (lbs.)	<i>30</i>
Cement type	<i>Quikrete</i>
Quantity of bentonite used (lbs.)	<i>28</i>
Quantity of calcium chloride used (lbs.)	<i>—</i>
Volume of grout prepared (gal.)	<i>1.6</i>
Volume of grout used (gal.)	<i>1.6</i>



COMMENTS:

Ecology tag ID- BAI3 364

* Sketch in all relevant decommissioning data, including: interval overdrilled, interval grouted, casing left in hole, well stickup, etc.



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WELL DECOMMISSIONING RECORD

Site Name: <i>Former Rhone Palenc CMT</i>	Well I.D.: <i>AS-5</i>
Site Location: <i>9004 E. Marginal Way S. Tukwila, WA</i>	Driller: <i>Curtis</i>
Drilling Co.: <i>Cascade</i>	Inspector: <i>S. Welter</i>
	Date: <i>11/23/16</i>

DECOMMISSIONING DATA
(Fill in all that apply)

OVERDRILLING

Interval Drilled	
Drilling Method(s)	
Borehole Dia. (in.)	
Temporary Casing Installed? (y/n)	
Depth temporary casing installed	
Casing type/dia. (in.)	
Method of installing	

CASING PULLING

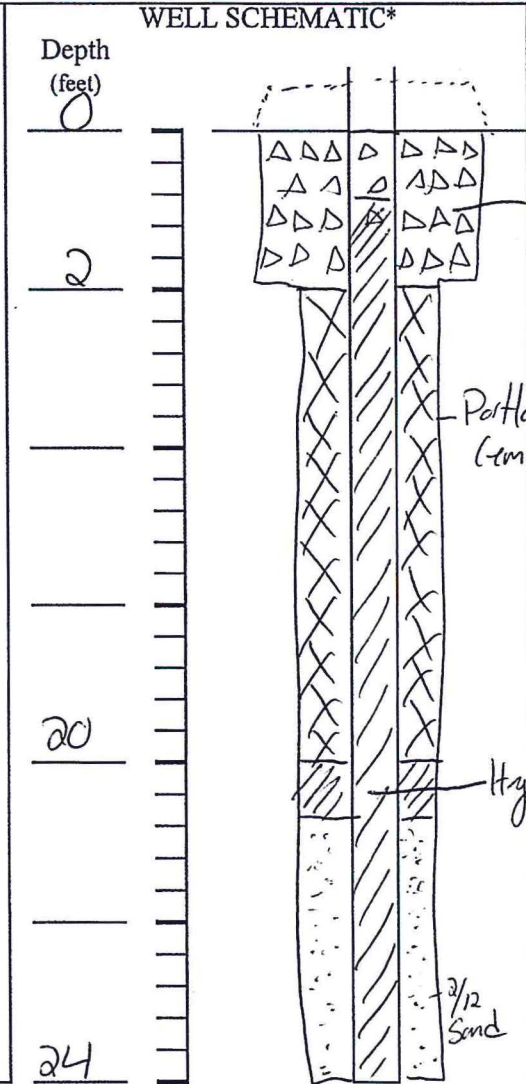
Method employed	
Casing retrieved (feet)	
Casing type/dia. (in.)	

CASING PERFORATING

Equipment used	
Number of perforations/foot	
Size of perforations	
Interval perforated	

GROUTING

Interval grouted (FBLs)	<i>0-24</i>
# of batches prepared	<i>1</i>
<u>For each batch record:</u>	
Quantity of water used (gal.)	<i>2.5</i>
Quantity of cement used (lbs.)	<i>30</i>
Cement type	<i>Quikrete</i>
Quantity of bentonite used (lbs.)	<i>27</i>
Quantity of calcium chloride used (lbs.)	<i>—</i>
Volume of grout prepared (gal.)	<i>1.6</i>
Volume of grout used (gal.)	<i>1.6</i>



COMMENTS:

Ecology tag ID- BAB 359

Above ground box (green) removed

* Sketch in all relevant decommissioning data, including: interval overdrilled, interval grouted, casing left in hole, well stickup, etc.



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WELL DECOMMISSIONING RECORD

Site Name: <i>Former Rhone Poulenc CMI</i>	Well I.D.: <i>AS-6</i>
Site Location: <i>9229 E Marginal Way S. Tukwila, WA</i>	Driller: <i>Curtis</i>
Drilling Co.: <i>Cascade</i>	Inspector: <i>S. Walter</i>
	Date: <i>11/23/16</i>

DECOMMISSIONING DATA
(Fill in all that apply)

OVERDRILLING

Interval Drilled	
Drilling Method(s)	
Borehole Dia. (in.)	
Temporary Casing Installed? (y/n)	
Depth temporary casing installed	
Casing type/dia. (in.)	
Method of installing	

CASING PULLING

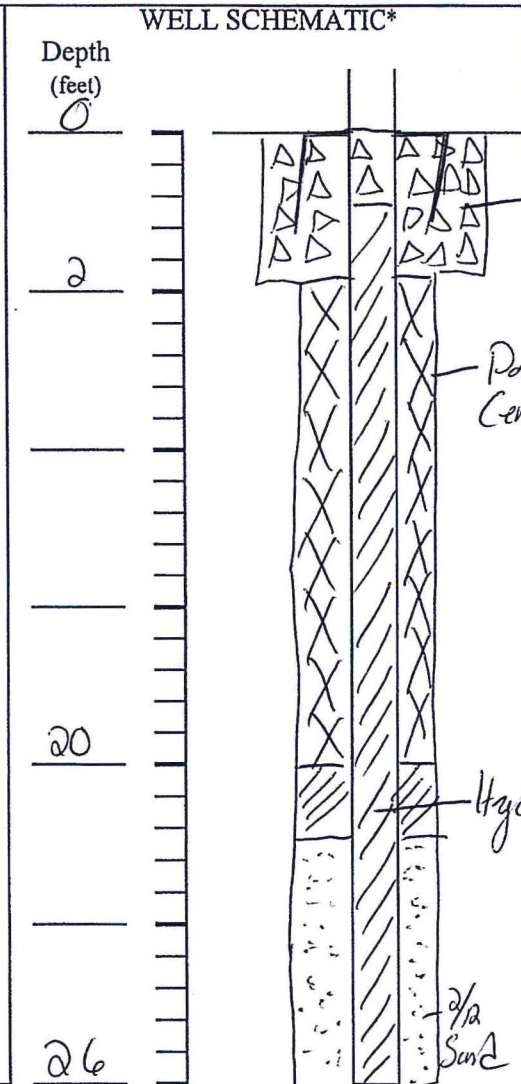
Method employed	
Casing retrieved (feet)	
Casing type/dia. (in.)	

CASING PERFORATING

Equipment used	
Number of perforations/foot	
Size of perforations	
Interval perforated	

GROUTING

Interval grouted (FBSL)	<i>0-24</i>
# of batches prepared	<i>1</i>
<u>For each batch record:</u>	
Quantity of water used (gal.)	<i>30</i>
Quantity of cement used (lbs.)	<i>30</i>
Cement type	<i>(Quikrete)</i>
Quantity of bentonite used (lbs.)	<i>32</i>
Quantity of calcium chloride used (lbs.)	<i>—</i>
Volume of grout prepared (gal.)	<i>1.6</i>
Volume of grout used (gal.)	<i>1.6</i>



COMMENTS:

Ecology tag ID- BAB 360

* Sketch in all relevant decommissioning data, including: interval overdrilled, interval grouted, casing left in hole, well stickup, etc.



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WELL DECOMMISSIONING RECORD

Site Name: <i>Former Rhone Paulenc CMT</i>	Well I.D.: <i>AS-7</i>
Site Location: <i>9229 E. Marginal Way S. Tukwila, WA</i>	Driller: <i>Curtis</i>
Drilling Co.: <i>Cascade</i>	Inspector: <i>S. Welto</i>
	Date: <i>11/2/16</i>

DECOMMISSIONING DATA (Fill in all that apply)	WELL SCHEMATIC*																							
<p>OVERDRILLING</p> <p>Interval Drilled <table border="1" style="width: 100px; height: 20px;"><tr><td style="text-align: center;">1</td></tr></table></p> <p>Drilling Method(s) <table border="1" style="width: 100px; height: 20px;"><tr><td style="text-align: center;">1</td></tr></table></p> <p>Borehole Dia. (in.) <table border="1" style="width: 100px; height: 20px;"><tr><td style="text-align: center;">1</td></tr></table></p> <p>Temporary Casing Installed? (y/n) <table border="1" style="width: 100px; height: 20px;"><tr><td style="text-align: center;">1</td></tr></table></p> <p>Depth temporary casing installed <table border="1" style="width: 100px; height: 20px;"><tr><td style="text-align: center;">1</td></tr></table></p> <p>Casing type/dia. (in.) <table border="1" style="width: 100px; height: 20px;"><tr><td style="text-align: center;">1</td></tr></table></p> <p>Method of installing <table border="1" style="width: 100px; height: 20px;"><tr><td style="text-align: center;">1</td></tr></table></p> <p>CASING PULLING</p> <p>Method employed <table border="1" style="width: 100px; height: 20px;"><tr><td style="text-align: center;">1</td></tr></table></p> <p>Casing retrieved (feet) <table border="1" style="width: 100px; height: 20px;"><tr><td style="text-align: center;">1</td></tr></table></p> <p>Casing type/dia. (in.) <table border="1" style="width: 100px; height: 20px;"><tr><td style="text-align: center;">1</td></tr></table></p> <p>CASING PERFORATING</p> <p>Equipment used <table border="1" style="width: 100px; height: 20px;"><tr><td style="text-align: center;">1</td></tr></table></p> <p>Number of perforations/foot <table border="1" style="width: 100px; height: 20px;"><tr><td style="text-align: center;">1</td></tr></table></p> <p>Size of perforations <table border="1" style="width: 100px; height: 20px;"><tr><td style="text-align: center;">1</td></tr></table></p> <p>Interval perforated <table border="1" style="width: 100px; height: 20px;"><tr><td style="text-align: center;">1</td></tr></table></p> <p>GROUTING</p> <p>Interval grouted (FBLs) <table border="1" style="width: 100px; height: 20px;"><tr><td style="text-align: center;">0-244</td></tr></table></p> <p># of batches prepared <table border="1" style="width: 100px; height: 20px;"><tr><td style="text-align: center;">1</td></tr></table></p> <p>For each batch record:</p> <p>Quantity of water used (gal.) <table border="1" style="width: 100px; height: 20px;"><tr><td style="text-align: center;">2.5</td></tr></table></p> <p>Quantity of cement used (lbs.) <table border="1" style="width: 100px; height: 20px;"><tr><td style="text-align: center;">30</td></tr></table></p> <p>Cement type <table border="1" style="width: 100px; height: 20px;"><tr><td style="text-align: center;">Quikrete</td></tr></table></p> <p>Quantity of bentonite used (lbs.) <table border="1" style="width: 100px; height: 20px;"><tr><td style="text-align: center;">28</td></tr></table></p> <p>Quantity of calcium chloride used (lbs.) <table border="1" style="width: 100px; height: 20px;"><tr><td style="text-align: center;">—</td></tr></table></p> <p>Volume of grout prepared (gal.) <table border="1" style="width: 100px; height: 20px;"><tr><td style="text-align: center;">1.6</td></tr></table></p> <p>Volume of grout used (gal.) <table border="1" style="width: 100px; height: 20px;"><tr><td style="text-align: center;">1.6</td></tr></table></p>	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0-244	1	2.5	30	Quikrete	28	—	1.6	1.6	<p>Depth (feet)</p> <p>0</p> <p>2</p> <p>20</p> <p>25</p> <p>Quikrete cement</p> <p>Portland Cement/Bentonite Grout</p> <p>Hydrated Bentonite medium chips</p> <p>3/4 Sand</p>
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<p>COMMENTS:</p> <p><i>Explory tag ID - BAB 353</i></p>	<p>* Sketch in all relevant decommissioning data, including: interval overdrilled, interval grouted, casing left in hole, well stickup, etc.</p>																							



amec
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wheeler

WELL DECOMMISSIONING RECORD

Site Name: <i>Former Rhone Poulenc CMI</i>	Well I.D.: <i>Vent-1</i>
Site Location: <i>9229 E. Marginal Way S. Tukwila, WA</i>	Driller: <i>Curtis</i>
Drilling Co.: <i>Cascade</i>	Inspector: <i>S. Walker</i>
	Date: <i>11/2/16</i>

DECOMMISSIONING DATA
(Fill in all that apply)

OVERDRILLING

Interval Drilled	
Drilling Method(s)	
Borehole Dia. (in.)	
Temporary Casing Installed? (y/n)	
Depth temporary casing installed	
Casing type/dia. (in.)	
Method of installing	

CASING PULLING

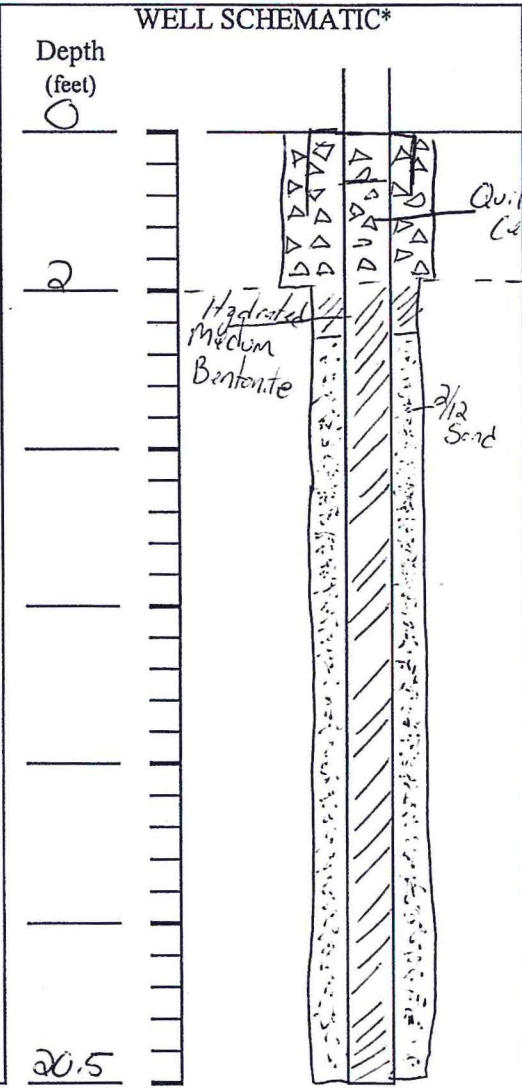
Method employed	
Casing retrieved (feet)	
Casing type/dia. (in.)	

CASING PERFORATING

Equipment used	
Number of perforations/foot	
Size of perforations	
Interval perforated	

GROUTING

Interval grouted (FBLs)	<i>0-2ft</i>
# of batches prepared	<i>1</i>
<u>For each batch record:</u>	
Quantity of water used (gal.)	<i>2.5</i>
Quantity of cement used (lbs.)	<i>30</i>
Cement type	<i>Quikrete</i>
Quantity of bentonite used (lbs.)	<i>27</i>
Quantity of calcium chloride used (lbs.)	<i>—</i>
Volume of grout prepared (gal.)	<i>1.6</i>
Volume of grout used (gal.)	<i>1.6</i>



COMMENTS:

Ecology tag ID- BAB 354

* Sketch in all relevant decommissioning data, including: interval overdrilled, interval grouted, casing left in hole, well stickup, etc.

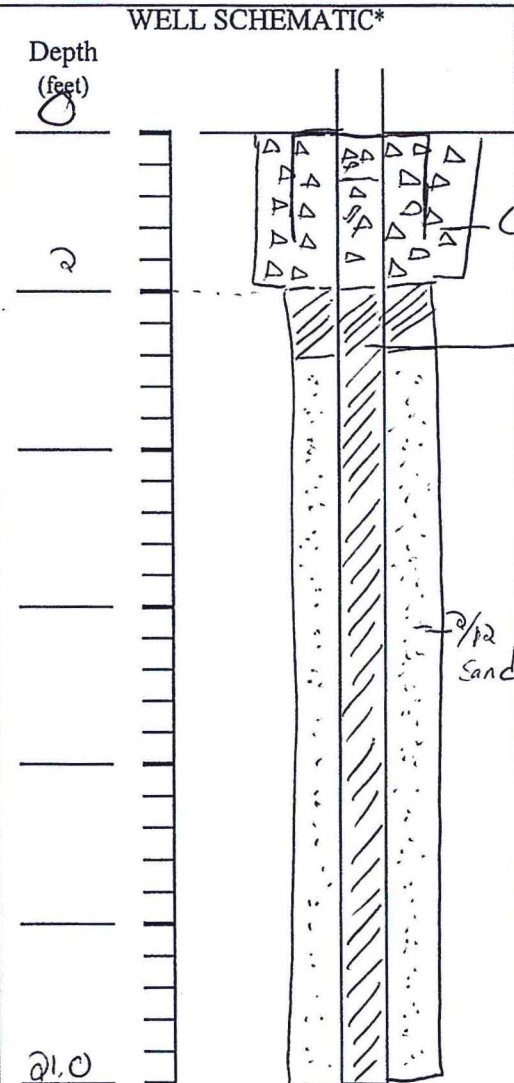


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wheeler

WELL DECOMMISSIONING RECORD

Site Name: <i>Former Rhine Poulenc CMI</i>	Well I.D.: <i>Vent-3</i>
Site Location: <i>9229 E. Marginal Way S. Tukwila, WA</i>	Driller: <i>Curtis</i>
Drilling Co.: <i>Cascade</i>	Inspector: <i>S. Walter</i>
	Date: <i>11/2/16</i>

DECOMMISSIONING DATA (Fill in all that apply)	
<u>OVERDRILLING</u>	
Interval Drilled	
Drilling Method(s)	
Borehole Dia. (in.)	
Temporary Casing Installed? (y/n)	
Depth temporary casing installed	
Casing type/dia. (in.)	
Method of installing	
<u>CASING PULLING</u>	
Method employed	
Casing retrieved (feet)	
Casing type/dia. (in)	
<u>CASING PERFORATING</u>	
Equipment used	
Number of perforations/foot	
Size of perforations	
Interval perforated	
<u>GROUTING</u>	
Interval grouted (FBLs)	<i>0-2ft</i>
# of batches prepared	<i>1</i>
For each batch record:	
Quantity of water used (gal.)	<i>2.5</i>
Quantity of cement used (lbs.)	<i>30</i>
Cement type	<i>Quikrete</i>
Quantity of bentonite used (lbs.)	<i>28</i>
Quantity of calcium chloride used (lbs.)	<i>—</i>
Volume of grout prepared (gal.)	<i>1.6</i>
Volume of grout used (gal.)	<i>1.6</i>



COMMENTS:

Erodion tag ID - BAB 362

* Sketch in all relevant decommissioning data, including: interval overdrilled, interval grouted, casing left in hole, well stickup, etc.



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wheeler

WELL DECOMMISSIONING RECORD

Site Name: <i>Former Rhone Poulenc CMI</i>	Well I.D.: <i>Vent 4</i>
Site Location: <i>9004 E. Marginal Way S. Tukwila, WA</i>	Driller: <i>Cascade-Curtis</i>
Drilling Co.: <i>Cascade</i>	Inspector: <i>S. Welter</i>
	Date: <i>11/2/16</i>

DECOMMISSIONING DATA (Fill in all that apply)	WELL SCHEMATIC*																																														
<p>OVERDRILLING</p> <p>Interval Drilled <table border="1" style="width: 100px; height: 15px;"><tr><td></td><td></td></tr></table></p> <p>Drilling Method(s) <table border="1" style="width: 100px; height: 15px;"><tr><td></td><td></td></tr></table></p> <p>Borehole Dia. (in.) <table border="1" style="width: 100px; height: 15px;"><tr><td></td><td></td></tr></table></p> <p>Temporary Casing Installed? (y/n) <table border="1" style="width: 100px; height: 15px;"><tr><td></td><td></td></tr></table></p> <p>Depth temporary casing installed <table border="1" style="width: 100px; height: 15px;"><tr><td></td><td></td></tr></table></p> <p>Casing type/dia. (in.) <table border="1" style="width: 100px; height: 15px;"><tr><td></td><td></td></tr></table></p> <p>Method of installing <table border="1" style="width: 100px; height: 15px;"><tr><td></td><td></td></tr></table></p> <p>CASING PULLING</p> <p>Method employed <table border="1" style="width: 100px; height: 15px;"><tr><td></td><td></td></tr></table></p> <p>Casing retrieved (feet) <table border="1" style="width: 100px; height: 15px;"><tr><td></td><td></td></tr></table></p> <p>Casing type/dia. (in.) <table border="1" style="width: 100px; height: 15px;"><tr><td></td><td></td></tr></table></p> <p>CASING PERFORATING</p> <p>Equipment used <table border="1" style="width: 100px; height: 15px;"><tr><td></td><td></td></tr></table></p> <p>Number of perforations/foot <table border="1" style="width: 100px; height: 15px;"><tr><td></td><td></td></tr></table></p> <p>Size of perforations <table border="1" style="width: 100px; height: 15px;"><tr><td></td><td></td></tr></table></p> <p>Interval perforated <table border="1" style="width: 100px; height: 15px;"><tr><td></td><td></td></tr></table></p> <p>GROUTING</p> <p>Interval grouted (FBS) <table border="1" style="width: 100px; height: 15px;"><tr><td><i>0-2 ft</i></td><td></td></tr></table></p> <p># of batches prepared <table border="1" style="width: 100px; height: 15px;"><tr><td><i>1</i></td><td></td></tr></table></p> <p>For each batch record:</p> <p>Quantity of water used (gal.) <table border="1" style="width: 100px; height: 15px;"><tr><td><i>2.5</i></td><td></td></tr></table></p> <p>Quantity of cement used (lbs.) <table border="1" style="width: 100px; height: 15px;"><tr><td><i>20</i></td><td></td></tr></table></p> <p>Cement type <table border="1" style="width: 100px; height: 15px;"><tr><td><i>Quikrete</i></td><td></td></tr></table></p> <p>Quantity of bentonite used (lbs.) <table border="1" style="width: 100px; height: 15px;"><tr><td><i>24</i></td><td></td></tr></table></p> <p>Quantity of calcium chloride used (lbs.) <table border="1" style="width: 100px; height: 15px;"><tr><td><i>—</i></td><td></td></tr></table></p> <p>Volume of grout prepared (gal.) <table border="1" style="width: 100px; height: 15px;"><tr><td><i>1.6</i></td><td></td></tr></table></p> <p>Volume of grout used (gal.) <table border="1" style="width: 100px; height: 15px;"><tr><td><i>1.6</i></td><td></td></tr></table></p>																													<i>0-2 ft</i>		<i>1</i>		<i>2.5</i>		<i>20</i>		<i>Quikrete</i>		<i>24</i>		<i>—</i>		<i>1.6</i>		<i>1.6</i>		<p>Depth (feet)</p> <p><i>Quikrete cement</i></p> <p><i>Hydrated Medium Bentonite chips</i></p> <p><i>2/12 Sand</i></p> <p><i>19.4</i></p> <p><i>20.0</i></p>
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<p>COMMENTS:</p> <p><i>Ecology tag ID - BAB 355</i></p>	<p>* Sketch in all relevant decommissioning data, including: interval overdrilled, interval grouted, casing left in hole, well stickup, etc.</p>																																														

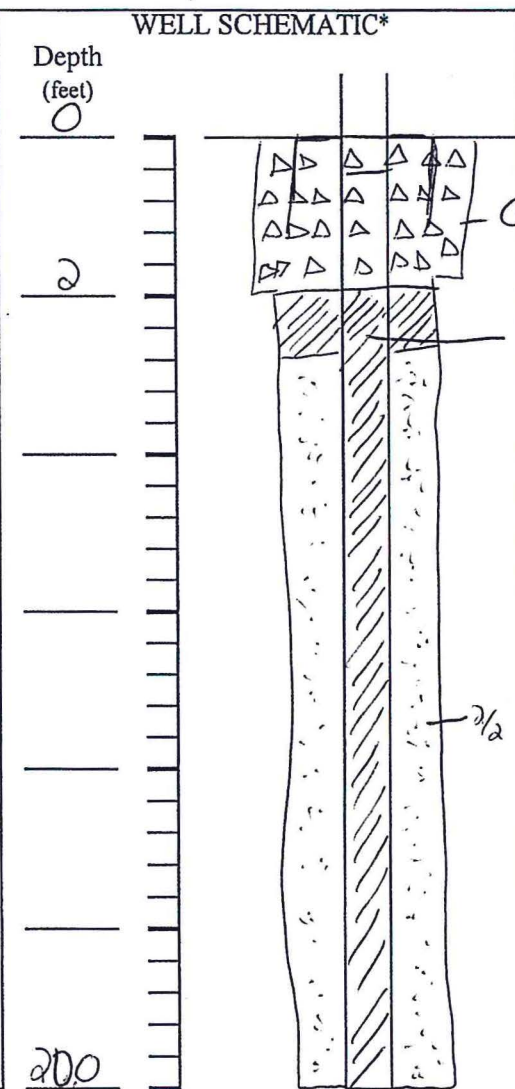


amec
foster
wheeler

WELL DECOMMISSIONING RECORD

Site Name: <i>Former Rhine Pooler CMT</i>	Well I.D.: <i>vent 5</i>
Site Location: <i>9229 E Margal Way S. Tukwila, WA</i>	Driller: <i>Curtis</i>
Drilling Co.: <i>Cascade</i>	Inspector: <i>S. Welter</i>
	Date: <i>11/23/16</i>

DECOMMISSIONING DATA (Fill in all that apply)			
<u>OVERDRILLING</u>			
Interval Drilled	<table border="1"><tr><td></td><td></td></tr></table>		
Drilling Method(s)	<table border="1"><tr><td></td><td></td></tr></table>		
Borehole Dia. (in.)	<table border="1"><tr><td></td><td></td></tr></table>		
Temporary Casing Installed? (y/n)	<table border="1"><tr><td></td><td></td></tr></table>		
Depth temporary casing installed	<table border="1"><tr><td></td><td></td></tr></table>		
Casing type/dia. (in.)	<table border="1"><tr><td></td><td></td></tr></table>		
Method of installing	<table border="1"><tr><td></td><td></td></tr></table>		
<u>CASING PULLING</u>			
Method employed	<table border="1"><tr><td></td><td></td></tr></table>		
Casing retrieved (feet)	<table border="1"><tr><td></td><td></td></tr></table>		
Casing type/dia. (in.)	<table border="1"><tr><td></td><td></td></tr></table>		
<u>CASING PERFORATING</u>			
Equipment used	<table border="1"><tr><td></td><td></td></tr></table>		
Number of perforations/foot	<table border="1"><tr><td></td><td></td></tr></table>		
Size of perforations	<table border="1"><tr><td></td><td></td></tr></table>		
Interval perforated	<table border="1"><tr><td></td><td></td></tr></table>		
<u>GROUTING</u>			
Interval grouted (FBSL)	<i>0-2ft</i>		
# of batches prepared	<i>1</i>		
For each batch record:			
Quantity of water used (gal.)	<i>2.5</i>		
Quantity of cement used (lbs.)	<i>30</i>		
Cement type	<i>Quikrete</i>		
Quantity of bentonite used (lbs.)	<i>25</i>		
Quantity of calcium chloride used (lbs.)	<i>—</i>		
Volume of grout prepared (gal.)	<i>1.6</i>		
Volume of grout used (gal.)	<i>1.6</i>		



COMMENTS:
Ecology tag ID- BALS-357

* Sketch in all relevant decommissioning data, including: interval overdrilled, interval grouted, casing left in hole, well stickup, etc.



amec
foster
wheeler

WELL DECOMMISSIONING RECORD

Site Name: <i>Former Rhose Poulenc CMT</i>	Well I.D.: <i>Vent-6</i>
Site Location: <i>9729 E Marginal Way S. Tukwila, WA</i>	Driller: <i>Cortis</i>
Drilling Co.: <i>Cascade</i>	Inspector: <i>S. Walter</i>
	Date: <i>11/23/16</i>

DECOMMISSIONING DATA (Fill in all that apply)	WELL SCHEMATIC*																																					
<p>OVERDRILLING</p> <p>Interval Drilled <table border="1" style="width: 100px; height: 20px;"><tr><td></td><td></td></tr></table></p> <p>Drilling Method(s) <table border="1" style="width: 100px; height: 20px;"><tr><td></td><td></td></tr></table></p> <p>Borehole Dia. (in.) <table border="1" style="width: 100px; height: 20px;"><tr><td></td><td></td></tr></table></p> <p>Temporary Casing Installed? (y/n) <table border="1" style="width: 100px; height: 20px;"><tr><td></td><td></td></tr></table></p> <p>Depth temporary casing installed <table border="1" style="width: 100px; height: 20px;"><tr><td></td><td></td></tr></table></p> <p>Casing type/dia. (in.) <table border="1" style="width: 100px; height: 20px;"><tr><td></td><td></td></tr></table></p> <p>Method of installing <table border="1" style="width: 100px; height: 20px;"><tr><td></td><td></td></tr></table></p> <p>CASING PULLING</p> <p>Method employed <table border="1" style="width: 100px; height: 20px;"><tr><td></td><td></td></tr></table></p> <p>Casing retrieved (feet) <table border="1" style="width: 100px; height: 20px;"><tr><td></td><td></td></tr></table></p> <p>Casing type/dia. (in.) <table border="1" style="width: 100px; height: 20px;"><tr><td></td><td></td></tr></table></p> <p>CASING PERFORATING</p> <p>Equipment used <table border="1" style="width: 100px; height: 20px;"><tr><td></td><td></td></tr></table></p> <p>Number of perforations/foot <table border="1" style="width: 100px; height: 20px;"><tr><td></td><td></td></tr></table></p> <p>Size of perforations <table border="1" style="width: 100px; height: 20px;"><tr><td></td><td></td></tr></table></p> <p>Interval perforated <table border="1" style="width: 100px; height: 20px;"><tr><td></td><td></td></tr></table></p> <p>GROUTING</p> <p>Interval grouted (FBLs) <table border="1" style="width: 100px; height: 20px;"><tr><td><i>0-2 ft</i></td></tr></table></p> <p># of batches prepared <table border="1" style="width: 100px; height: 20px;"><tr><td><i>1</i></td></tr></table></p> <p>For each batch record:</p> <p>Quantity of water used (gal.) <table border="1" style="width: 100px; height: 20px;"><tr><td><i>2.5</i></td></tr></table></p> <p>Quantity of cement used (lbs.) <table border="1" style="width: 100px; height: 20px;"><tr><td><i>30</i></td></tr></table></p> <p>Cement type <table border="1" style="width: 100px; height: 20px;"><tr><td><i>Quikrete</i></td></tr></table></p> <p>Quantity of bentonite used (lbs.) <table border="1" style="width: 100px; height: 20px;"><tr><td><i>28</i></td></tr></table></p> <p>Quantity of calcium chloride used (lbs.) <table border="1" style="width: 100px; height: 20px;"><tr><td></td></tr></table></p> <p>Volume of grout prepared (gal.) <table border="1" style="width: 100px; height: 20px;"><tr><td><i>1.6</i></td></tr></table></p> <p>Volume of grout used (gal.) <table border="1" style="width: 100px; height: 20px;"><tr><td><i>1.6</i></td></tr></table></p>																													<i>0-2 ft</i>	<i>1</i>	<i>2.5</i>	<i>30</i>	<i>Quikrete</i>	<i>28</i>		<i>1.6</i>	<i>1.6</i>	<p>Depth (feet)</p> <p><i>0</i></p> <p><i>2</i></p> <p><i>21</i></p> <p><i>Quikrete Cement</i></p> <p><i>Hydrated medium Bentonite chips</i></p> <p><i>fine sand</i></p>
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COMMENTS:

Ecology tag ID- BAB-361

* Sketch in all relevant decommissioning data, including: interval overdrilled, interval grouted, casing left in hole, well stickup, etc.



amec
foster
wheeler

WELL DECOMMISSIONING RECORD

Site Name: <i>Former Rhone Poulenc CMI</i>	Well I.D.: <i>Vent -7</i>
Site Location: <i>9224 E. Marginal Way S. Tukwila, WA</i>	Driller: <i>Curtis</i>
Drilling Co.: <i>Cascade</i>	Inspector: <i>S. Welter</i>
	Date: <i>11/2/16</i>

DECOMMISSIONING DATA (Fill in all that apply)	WELL SCHEMATIC*														
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<p>CASING PULLING</p> <p>Method employed <table border="1" style="width: 100px; height: 20px;"><tr><td></td><td></td></tr></table></p> <p>Casing retrieved (feet) <table border="1" style="width: 100px; height: 20px;"><tr><td></td><td></td></tr></table></p> <p>Casing type/dia. (in.) <table border="1" style="width: 100px; height: 20px;"><tr><td></td><td></td></tr></table></p>															
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COMMENTS:
Ecology tag ID- BAI3 352

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